

Running head: USING SOCIAL MEDIA TO COMMUNICATE DURING EMERGENCIES

Using Social Media to Communicate with the Occupants  
of Large Residential Buildings during Fire Emergencies.

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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 the language, ideas, expressions, or writings of another.

Signed: \_\_\_\_\_

### Abstract

In 2011, the occupants of a residential high-rise building in downtown Austin brought a life-safety concern to the attention of the Austin Fire Department (AFD). The problem was that AFD has limited ability to communicate with the occupants of large residential buildings during fire emergencies. Using the descriptive method of research, a five-month pilot program utilizing Twitter to communicate with the occupants of three large residential buildings during fire emergencies was developed and implemented. The pilot program was designed to answer these research questions concerning the use of social media to communicate with the occupants of large residential buildings during fire emergencies; how effective is it, what difficulties are associated with it and how well do AFD members and the building occupants accept it? In addition, research was also conducted to discover if and how other fire departments utilize social media for communicating with occupants of large residential buildings.

The purpose of this research was to determine if social media could be utilized by AFD to effectively communicate with the occupants of large residential buildings during fire emergencies. The results indicated that Twitter can successfully be utilized for this purpose. However, there were several difficulties identified with this form of communication, both human-related and technological. In order to successfully continue the AFD Twitter program, recommendations were made to increase the number of building occupants participating in the program, reassign the responsibility of sending the messages and reduce the number of messages sent during an emergency.

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Introduction

Research has proven that building occupants frequently ignore or respond slowly to a fire alarm (Proulx, 2007). Many building occupants wait for additional instructions before taking action during a fire emergency (Groner, 2005). When a fire occurs in a large, multi-story residential building this problem is even more significant because of the number of lives at risk and the time it takes to evacuate this type of building. It is critical that a fire department be able to communicate with the occupants during a fire emergency to provide life safety directions in addition to the fire alarm warning signal. The problem is that the Austin Fire Department (AFD) has limited ability to communicate with the occupants of large residential buildings during fire emergencies. The purpose of this research is to determine if social media can be utilized by AFD to effectively communicate with the occupants of large residential buildings during fire emergencies. This research project will use the descriptive research method to answer these questions; (a) how do other fire departments utilize social media for communicating with the occupants of large residential buildings during fire emergencies? (b) how effective is social media when used to communicate with the occupants of large residential buildings during fire emergencies? (c) what difficulties are associated with using social media to communicate with the occupants of large residential buildings during fire emergencies? (d) how well do the members of AFD accept the use of social media as a communication method during emergencies? (e) how well do the citizens of Austin accept the use of social media as a communication method during emergencies?

## Background and Significance

AFD is a large urban fire department serving the citizens who reside in Austin, the capital city of the state of Texas. The department currently operates 45 fire stations plus an aircraft firefighting station at Austin-Bergstrom International Airport. A workforce of approximately 1100 fire fighters and civilians are employed by AFD (City of Austin, n.d.). The mission of AFD is the preservation of life and property. The goals of AFD are: (a) deliver comprehensive safety services of the highest quality, (b) support and maintain a safe, healthy, well-trained and high performing workforce, (c) provide high-quality first responder service as part of an integrated emergency medical care system, (d) be community resources for life safety knowledge and information about AFD services, (e) attract and retain a qualified and diverse workforce and (f) be accountable to our community for demonstrable results.

As of April, 2011, the City of Austin had a population of 812,025 (City of Austin, 2011). Especially significant is the population growth and revitalization of the downtown area. The city is well on its way to achieving the goal of 25,000 downtown residents by the year 2015, an increase of 20,000 residents from the year 2006 (Gregor, 2006). Gregor also describes the quandary associated with increasing the downtown population, “basic three-dimensional geometry dictates that limited sites and small building footprints translate to taller structures, to produce the same volume of living units. Cities worldwide with constrained urban areas reckon with a similar Tokyo Effect.” From a fire safety perspective, one item of concern with this growth is density. Density is the number and size of buildings that can be constructed based on the size of the land. According to the City of Austin’s Downtown Austin Plan (2008), “Austin uses Floor Area Ratios (FAR) as the principal measure of density throughout the city. This is a system that determines allowable floor area as a ratio of the site area” (p. 41). For example, if a

construction site is 10,000 square feet with a FAR of 3.0, a total of 30,000 square feet would be permitted for construction on the site. If the building constructed covered the entire site, three stories would be needed to provide the FAR allowable square feet. Buildings constructed on land designated commercial business district (CBD) may have a FAR of 8.0 and do not have any restrictions on building height. Buildings constructed on land designated as downtown mixed use (DMU) may have a FAR of 5.0 and have a maximum building height restriction of one hundred and twenty feet (City of Austin, 2008). These building requirements encourage a high density of tall buildings in the downtown area.

Some buildings are even permitted to be constructed beyond their allowable maximum density. One recent example in downtown Austin is the 360 Condominium Tower. This residential structure was built on land the size of three quarters of a downtown block and to the height of 563 feet. The building has a “FAR of 15.2 which represents approximately 86,000 square feet of additional development beyond the allowable maximum permitted by the CBD zoning” (City of Austin, 2008, p.43). This exceedingly high level of density was allowed as a result of negotiations with neighborhood groups and city council approval. Fire departments must be concerned with the density of buildings not only for the possible spread of fire from one building to another but also for the concerns that arise with a significant population residing in a large, tall building. According to Joe Montez, the manager of the 360 Condominium Tower, over seven hundred people live in that 43-story building (personal communication, May 25, 2011). Obviously, evacuating seven hundred people from a high-rise building during a fire emergency would be an incredible challenge and, consequentially, a life safety risk.

The first warning of a fire emergency in any modern, large residential building is most likely going to be the building’s fire alarm system. However, many building occupants will

ignore a fire alarm and wait for additional information before taking actions that may save their lives (Proulx, 2007). It is often a struggle for fire officials to convince building occupants to have confidence in the fire alarm system and to act as if every fire alarm is an indication of a true fire emergency. This is especially true for buildings that have frequent false alarms. In 2011, this problem was brought to the attention of AFD by the occupants of The Gables Park Plaza, an eight-story residential apartment building in downtown Austin. After a rash of false alarms and then one actual fire, the residents of this building were concerned for their safety and requested a meeting with fire department officials to address the problem. At this meeting, the occupants clearly explained that they wanted better communication from the fire department. The occupants requested additional information concerning the specific actions to take when the fire alarm sounds, notice of when it is safe to return to the building after the fire alarm sounds and an explanation of the cause of a fire alarm including the actions being taken to prevent additional false alarms. This author, along with other fire department officials, promised the building occupants that AFD would explore methods for better communicating with them during fire emergencies.

It is important for AFD to recognize the increased life safety hazard created by the high-density construction downtown, especially residential buildings, and the critical need for improved communications with these building occupants during a fire emergency to ensure that they take the correct actions. Not doing so could have a tragic outcome if a fire was to occur in one of these large residential buildings and the occupants did not take the correct actions during the emergency. Addressing this issue directly relates to the AFD mission of preserving life and the goals of delivering comprehensive safety services of the highest quality and being accountable to our community for demonstrable results. This research directly relates to the

Executive Analysis of Emergency Service Operations in Emergency Management course objective to “recognize the common public protective actions such as evacuation and in-place sheltering during large-scale emergencies” (U.S. Department of Homeland Security, 2011, p. SM 10-2). In addition, this research is consistent with the United States Fire Administration goal of “reducing risk at the local level through prevention and mitigation” (U.S. Fire Administration, 2011, p. II-2).

### Literature Review

The number one priority for emergency responders is life safety (U.S. Department of Homeland Security, 2011). This is often accomplished by removing those in danger through an evacuation. Evacuations are more frequent than most people realize. Hundreds of times a year, thousands of people are evacuated for natural and man-made disasters (U.S. Department of Homeland Security, 2011). When evacuations become necessary, it is the responsibility of local officials to alert those being evacuated and to provide information necessary for safe evacuation. Early warning and clear communication of this critical information is an important strategy to save lives (Collins & Kapucu, 2008). Furthermore, two recent major disasters, the September 11 terror attacks and hurricane Katrina, have caused emergency managers to be even more aware of the lifesaving importance of effectively communicating during an evacuation to ensure the safety of those being evacuated (Goss, 2010).

For large-scale, community-wide evacuations, there are several methods of providing notice of evacuation; sirens, NOAA weather radios, reverse 911 and media alerts (Collins & Kapucu, 2008). All of these methods have their own specific advantages and disadvantages. However, because of their far-reaching and mass notification intentions, none of these methods are particularly useful for localized evacuations of smaller areas such as a high-rise building.

This does not mean that the need for methods of communication for this type of evacuation is any less important for life safety; it only indicates that other methods must be utilized. There is abundant data that demonstrate the life safety risk associated with high-rise buildings. For example, in the years 2005 through 2009, fire departments in the United States responded to an average of 15,700 fires in high-rise buildings per year that caused an annual average of 53 civilian fire deaths and 546 civilian fire injuries (Hall, 2011).

The NFPA Life Safety Code 101 (2012) requires high-rise buildings to install and maintain several fire protection systems including a fire alarm system. The City of Austin fire code also requires a fire alarm system in most large multi-family residential type buildings that are not high-rise buildings (International Code Council, 2009). Therefore, the first warning of a fire emergency in large residential buildings is usually the audible and visual signals of the fire alarm system. One may think that the requirement for an alarm system to immediately notify building occupants of a fire emergency would successfully achieve the goal of evacuation warning and communication. However, research has found this not to be true. In one study, after a fire alarm activation, the building occupants took two-thirds of their evacuation time milling about looking for additional information (Winerman, 2004). Even worse, researchers have found that in some buildings the occupants completely ignored the fire alarm and continued with their activities (Proulx, 2000). In 2010, research was conducted to determine the effectiveness of fire alarms in off-campus student housing buildings for the University of Texas in Austin. Of the 15 fire alarms observed, 12 buildings had an evacuation rate of less than 50 percent and of those, 5 had no occupants evacuate the building at all (Watson, 2010).

Groner (2005) believes that the reason building occupants do not immediately evacuate when the fire alarm sounds is because they lack enough information to make the right decision.

In other words, their actions are delayed as a result of attempting to gather additional information before deciding on what actions to take. When this additional information is not available, occupants often do nothing (Winerman, 2004). Additionally, Proulx (2007) found that occupants need additional cues such as the smell of smoke, direction to leave from another person, or the sound of fire trucks before they believe a true fire emergency exists. This is further supported by the recent research in Austin which found that over 90 percent of those surveyed believed that the reason occupants do not evacuate the building is because they think it is just another false alarm (Watson, 2010).

Because it is human nature to gather more information before making a decision in an ambiguous situation (Groner, 2005), it is understandable that additional information should be communicated to the occupants of a building in addition to the sounding of a fire alarm. Kuligowski (2009) found that when occupants receive additional information from an official source, such as a fire warden, the likelihood of a correct interpretation of the emergency situation significantly increases. This is the reason that many fire departments, including AFD, have procedures which require fire fighters to communicate with the occupants during a fire emergency. The information typically communicated includes which floors are being evacuated, which stairs to use and which stairs not to use, where to go after evacuating, etc. (Austin Fire Department, 2011). In fact, the public education information contained in the AFD Hi-Rise Evacuation Plan (n.d.) states that when a fire alarm sounds in the building, the occupants on a floor where the alarm is not sounding should “await further instructions from the Fire Command Station” (p. 7). This is a common procedure used in high-rise buildings to avoid overcrowding of the stairs which would occur if the occupants throughout the entire building were to attempt to evacuate at the same time. According to the National Fire Protection Association (NFPA) (n.d.),

“nearly every city with high-rise buildings has embraced the staged evacuation or staged relocation concept when it comes to high-rise buildings.” In this NFPA evacuation model, occupants on the floor where the fire alarm has originated and the occupants on the floors immediately above and below are notified of the problem. These occupants are then given further directions to move down the stairs to a refuge floor or to leave the building.

It is clear that in addition to the audible and visual fire alarm signals, more information must be communicated to the building occupants to ensure that they take the correct life-saving actions. First, they must be provided additional information so that they correctly interpret the fire alarm as a true emergency. Second, they may need additional directions during the evacuation to ensure that they are acting according to the plan developed by the fire officials on scene. There is also an expectation that fire departments communicate with building occupants after a fire alarm activation. According to the research on fire alarm activations conducted in Austin, when asked for methods to ensure people evacuate the building when the fire alarm sounds, 87 percent of the occupants selected “have fire department explain the cause of the alarm” (Watson, 2010, p. 31). This is consistent with the findings of Proulx (2000) that fire fighters can instill confidence in fire alarms by informing the occupants of the cause of a false alarm and the actions being taken to correct the problem.

As previously mentioned, the methods commonly used for communication during large-scale evacuations are not typically applicable for evacuation communications with occupants during a fire emergency in a large residential building. One of the most common methods used to communicate with the occupants inside a high-rise building is an emergency communication public address system. However, the requirement for this type of communication system is only for structures that are high-rise buildings according to the life safety code (NFPA, 2012). There

are many large residential buildings that are not required to have a communication system but still have a significant life safety risk and the need for communication with the occupants during a fire emergency. For example, in Austin, there is an eight-story building with over 400 occupants that is not a high-rise building according to the fire code and therefore, does not have an emergency communication public address system (Brandi Gutierrez, personal communication, May 25, 2011). Even in high-rise buildings that have an emergency public address system, there are limitations because the occupants may have difficulty hearing the information (Kuligowski, 2009). Therefore, a need exists for a reliable and effective method of communication to provide this additional information to the occupants during an emergency.

Social media is a fairly new method of communication which has emerged and is quickly beginning to be utilized for many unique applications. Social media can be defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user-generated content” (Kaplan & Haenlein, 2010, p. 59). Some of the most popular social media include Facebook, Twitter, MySpace, LinkedIn, Plaxo, YouTube, blogs and texting (Werner, 2011). Social media are often seen as an interactive forum and not as a “top-down official alert system” (Security Director’s Report, 2009, p.3). However, Goss (2010) believes social media could be used to make evacuations easier and safer for both victims and emergency responders. Twitter may be the social media tool that can most easily be used as an alert system and, in fact, has been successfully used by the Los Angeles Fire Department (LAFD) to provide updates to their community after a commuter rail crash (Security Director’s Report, 2009). Shark (2010) further describes Twitter as the social media method for “efficient supplemental communication” because the messages sent through Twitter are restricted to 140 characters (p. 50).

There are several other examples of fire departments using social media. The Monrovia, California Fire Department uses both Facebook and Twitter to communicate the dangers of wildfires to the residents of their city (Haberle, 2010). In New Jersey, the West Patterson Volunteer Fire Department posted a video on YouTube to reach out to prospective recruits for their junior volunteer fire fighter program (Cunningham, 2009). The Washington D.C. Fire Department uses Twitter to provide information about ongoing incidents to keep citizens informed of emergency activity in their neighborhood (Craig, 2011). In Canada, the Calgary Fire Department created a Facebook site for recruitment and the Baie Verte Fire Department in Newfoundland used Facebook for fundraising after their fire hall was destroyed (McGoldrick, n.d.). There are also public safety agencies on the federal level, such as the Federal Emergency Management Agency (FEMA) and the National Weather Service, using Facebook to distribute information including public service announcements before, during and after a disaster (Smith, 2010). However, this literature review did not find any published materials that identified another fire department using social media specifically for the purpose of communicating with the occupants of large residential buildings during a fire emergency.

As with any new practice, there are often difficulties associated with implementation. For example, the reliability of social media was questioned after the Twitter site was shut down temporarily due to a denial-of-service (Security Director's Report, 2009). According to Tinker (2009), three main difficulties for adopting social media as a form of communication are leadership buy-in, sustainability and information technology and access issues. Fire department members who are responsible for using social media as a method of communication for their department must be aware of potential problems such as releasing confidential information, violating privacy laws, exhibiting inappropriate behavior and providing incorrect information

(Werner, 2011). Another frequent difficulty according to Smith (2010) is the determination of which employees may access the department's social media site and when they may access it.

Since social media's introduction as a new method of communication, it has taken time for people to begin using it and fully accept it as a form of communication (Conner, 2011). For the purpose of this research, we are specifically focusing on the use of social media as a form of communication during an emergency between emergency responders and the citizens in danger. Therefore, this new form of communication must be accepted by both the sender of the message, fire department personnel, and the receivers of the message, the citizens. A recent study conducted by the Pew Internet & American Life Project found that in December of 2008, 11 percent of all Internet users communicated with Twitter or another similar service which is an increase from 6 percent just a few months earlier in May of that same year (Fox & Lenhart, 2009). Furthermore, Fox and Lenhart found that "for many Twitter users, learning about and sharing relevant and recent nuggets of information is a primary utility of the service" (p. 4). This would lead one to believe that Twitter users would be a prime group to target for the use of social media as a new form of emergency communication. This is further supported by research conducted on the Los Angeles Fire Department (LAFD) Twitter program. The LAFD Twitter program sends official short messages of emergency dispatches and updates of incidents throughout Los Angeles. The LAFD Twitter account has 7399 followers and sent over 3700 tweets as of February, 28, 2010 (Latonerno & Shklovski, 2009). From the large number of followers, it can be inferred that the LAFD Twitter program is well accepted and the information being communicated is being received by a significant number of their citizens.

The LAFD Twitter program also provides insight for the acceptance of social media by fire department members. The members responsible for sending the LAFD Twitter messages

were “self-taught and largely unsophisticated” in the use of these kinds of new technologies (Latonerno & Shklovski, 2009, p. 7). In other words, when the program first began, the LAFD members had not accepted social media as a form of communication for their department. However, with will, determination and organizational backing, the LAFD program was capable of succeeding (Latonerno & Shklovski, 2009).

In summary, the principles of early warning and the communication of an evacuation plan are known to save lives. In a large residential building during a fire emergency, the fire alarm is the most common method of warning the occupants of the danger. However, many researchers have found that building occupants often need additional information before taking the correct protective actions (Groner, 2005; Kuligowski, 2009; Proulx, 2007; Watson, 2010). Traditional methods of communicating evacuation information such as sirens, reverse 911 and NOAA weather radios are not useful for a smaller-scale, one building type emergency. Although a fairly new form of communication, social media is being explored as an option. Several fire departments have begun using social media as a method of communication for emergencies (Craig, 2011; Haberle, 2010). As to be expected, when implementing new methods, difficulties often arise. These difficulties include ensuring proper use of the media, technological issues and employee controls and direction for use. As with any new technology, there must be acceptance by the users which is still an ongoing process for emergency communication and social media.

This research was directly influenced by the information obtained in this literature review. To address the AFD problem of having limited ability to communicate with the occupants of large residential buildings during fire emergencies, a pilot program was developed and implemented to evaluate the use of social media for this purpose. The literature review

influenced the procedures developed for the pilot program and the type of social media utilized during the implementation of the pilot program.

### Procedures

To answer the research questions using the descriptive method of research, a pilot program for using social media to communicate with the occupants of large residential buildings during fire emergencies was developed and implemented.

#### *Pilot Program Development*

On March 11, 2011, this author sent an email to the AFD Public Information Officer, Michelle DeCrane, to ask permission to use social media for communicating with occupants of large residential buildings during fire emergencies. Ms. DeCrane replied that it was against City of Austin policy for AFD to utilize social media for the needs of just one city department. This author replied back to Ms. DeCrane further explaining the need to conduct this research due to recent complaints by citizens about the lack of communication by AFD. Ms. DeCrane agreed to bring this request to Fire Chief Rhoda Mae Kerr and her executive team at their next meeting.

On March 17, Fire Chief Rhoda Mae Kerr and her executive team discussed this topic and approved this author to conduct research using social media to communicate with occupants of large residential buildings. One member of the AFD executive team, Assistant Fire Chief Doug Fowler, was assigned as the executive sponsor for this program and directed to determine if any other fire department had a similar program. On April 27, Chief Fowler sent an email to fifty other fire departments across the country. The emails were sent to members of those fire departments for which Chief Fowler had their email address from previous communications. The email sent by Chief Fowler contained the following content:

Here in Austin we are revising portions of our high-rise policy. One issue that has cropped up is communication with the hundreds to thousands of people who live or work in a high-rise when it experiences an incident. Specifically, once we get those folks out of harms way, how can we best communicate with them that it is safe to go back into the building, or that we are working on a specific problem and we are not yet sure when they can return. One idea is to use social media – Twitter, Facebook, or whatever new medium pops up. The idea is to use our public information officer to provide this communication. Do you have any experience in this area?

The information obtained from the responses to this email was used to answer this research question; how do other fire departments utilize social media for communicating with the occupants of large residential buildings during fire emergencies?

On May 19, the first AFD meeting was held to develop a plan to conduct this research. Members of AFD were selected to represent different groups within the department at the meeting. In addition to this author and Chief Fowler, Division Chief Mike Frick was selected to represent the operations division, Battalion Chiefs Thayer Smith and Palmer Buck were selected to represent the public information officer (PIO) group and the department's videographer, Phillip Lybrand, was selected due to his social media knowledge. At this first meeting, of which would later be called the Twitter Group, several items were decided. First, AFD would create a pilot program to evaluate the use of social media for communicating with the occupants of large residential buildings during a fire emergency. Based on the recommendation from Mr. Lybrand and the results of the literature review for this research, Twitter was chosen as the social media tool to be used for this pilot program. The main reasons for selecting Twitter were its growing popularity, its capability to quickly send concise messages and its capability to send messages as

both web content and text messages to cell phones. Next, the group agreed to utilize the pilot program at three different types of large residential buildings in the downtown area. For each building, AFD would create a Twitter account to be used for communication specifically with the occupants of that building. To ensure that there was no confusion concerning the proper use of the Twitter accounts, the Twitter sites would indicate that it is not a substitute for calling 911 and not intended to be a method for two-way communication. The basic outline for the operation of the pilot program was also developed. For any fire alarm activation or reported fire at one of the three buildings selected for this program, the on-call PIO would be notified along with the assigned companies responding to the alarm. The PIO would send out messages via Twitter, also called tweets, to the building occupants. The incident commander and the PIO would work together to send additional messages to the occupants to keep them informed of the situation. After each use of Twitter for communication, a questionnaire would be used to gather information to determine the effectiveness of the pilot program.

On May 25, this author made initial contact with three building managers to explain this pilot program and to determine if they would be interested in participating in this program with AFD. The three buildings were selected due to a past history of fire alarm activations and differing building occupant demographics. The 360 Condominium Tower, located at 360 Nueces, is a 43-story building of privately owned condominiums with approximately 700 occupants. Gables Park Plaza, located at 115 Sandra Muraida Way, is an 8-story up-scale apartment building with approximately 400 occupants. The Block on Rio, located at 2819 Rio Grande, is a 6-story off-campus student housing apartment building for the University of Texas with approximately 300 occupants. All three of the building managers agreed to participate in the

pilot program. However, the manager of the 360 Condominium Tower also needed the condo owner board to agree to the program.

On May 30, Mr. Lybrand created the Twitter account for 360 Nueces and emailed the web address ([https://twitter.com/AFD\\_360Nueces](https://twitter.com/AFD_360Nueces)) to the Twitter Group for review. On June 6, the Twitter Group held a second meeting. The members discussed the 360 Nueces Twitter site and agreed to develop two similar sites for the other two buildings. Chief Fowler informed the group that the City of Austin Chief Communications Officer had approved the pilot program with the condition that the use of social media for the program complied with the City of Austin policy (see Appendix A for the City of Austin Social Media Guidelines).

All members of the Twitter Group registered for individual Twitter accounts so that they could “follow” the AFD Twitter accounts for the buildings. Follower is a Twitter term used to identify Twitter users who choose to receive tweets from another selected Twitter user. Also on June 6, the AFD Communications Chief informed the Twitter Group that fire dispatch could support the paging of the on-call PIO for incidents at the three buildings.

On June 8, the 360 Nueces Twitter account was locked due to a spam Twitter account with similar name. Mr. Lybrand contacted Twitter to unlock the account and reset the password. Also on June 8, Mr. Lybrand created the Twitter accounts for the buildings at 115 Sandra Muraida Way ([https://twitter.com/AFD\\_115](https://twitter.com/AFD_115)) and 2819 Rio Grande ([https://twitter.com/AFD\\_2819RG](https://twitter.com/AFD_2819RG)). On June 9, this author sent an email to the three building managers to inform them of the progress of the pilot program and to make them aware that they would be contacted again near the end of June to review the fully developed pilot program procedures and discuss their responsibilities for the program.

On June 19, this author developed and emailed a draft of the pilot program procedures to Twitter Group. The procedures include the on-call PIO using Twitter to send a minimum of five messages to the occupants of the building to which AFD is responding, both for fire alarm activations and reports of an actual fire at any one of the three selected buildings. The minimum five messages to communicate are; (a) to notify the occupants of the fire emergency and the actions to take, (b) to notify the occupants of the arrival of AFD and initial actions being taken, (c) to notify the occupants when they may return in to the building, (d) to explain to the occupants the cause of the fire emergency and (e) to evaluate this pilot program (see Appendix B for the complete Twitter pilot program procedures). The procedures also included a list of prepared messages that could be used by the PIO to communicate via Twitter to ensure consistency in the messages being sent and to reduce the possibility of sending inaccurate or improper information (see Appendix C for the Twitter pilot program prepared messages). The Twitter Group collaborated by email and finalized the pilot program procedures. The group also completed the list of building management responsibilities for this program (see Appendix D for the Twitter pilot program building management responsibilities). On June 28, Chief Fowler approved the procedures and the prepared messages. He then gave permission to move forward with the implementation of the pilot program.

On June 29 and June 30, this author met with building managers to explain the pilot program procedures including their responsibilities. All three building managers agreed to participate with the Twitter pilot program and to fulfill the building management responsibilities for their respective building. Also on June 29, this author sent a list of action items that needed to be completed for the pilot program to begin on August 1. The Twitter Group decided that a Battalion Chief should be assigned and the Shift Commander notified for any incidents at the

three pilot program buildings. This is to ensure that the procedures for the pilot program are followed. The need for chief officer training for the pilot program was also identified. On July 11, Chief Fowler presented the Twitter pilot program to the 360 Nueces condo owner board. The program was well-received and approval to continue was granted. On July 14, Mr. Lybrand created a Google Docs site for copying and pasting the prepared message into Twitter.

On July 18, the third Twitter Group meeting was conducted and the pilot program procedures were reviewed one final time. The PIO and battalion chief training for the pilot program was scheduled. A flyer was developed for distributing to the occupants of each building to encourage participation in the pilot program (see Appendix E for the three Twitter pilot program flyers). Also at the meeting, questionnaires were developed to gather feedback from the building occupants, the incident commander and the PIO for each time Twitter is used for communication (see Appendix F for the building occupant questionnaire and Appendix G for the incident commander/PIO questionnaire). The questionnaires were designed to provide data to answer these research questions; how effective is social media when used to communicate with the occupants of large residential buildings during fire emergencies, what difficulties are associated with using social media to communicate with the occupants of large residential buildings during fire emergencies, how well do the members of AFD accept the use of social media as a communication method during emergencies and how well do the citizens of Austin accept the use of social media as a communication method during emergencies?

During the week of July 19, training for the chief officers on all three shifts was conducted (see Appendix H for the complete chief officer training presentation). Also, on July 25, the training for the members of the PIO group was conducted (see Appendix I for the complete PIO training presentation). The training for the PIOs included the practice of copying

the prepared Twitter messages from Google Docs and sending the messages via Twitter from both a computer and a smart phone.

On July 20, this author and Chief Fowler presented the Twitter pilot program at a meeting for the occupants of 360 Nueces. The AFD Twitter flyer was used as the outline for the presentation. On July 24, this author developed an AFD Special Order that would be used to officially implement the Twitter pilot program. Chief Fowler approved the distribution of this special order and it was released on July 29, 2011 (see Appendix J for the special order).

On July 27, the necessary changes were made to the AFD CAD dispatching and paging system to meet the requirement of the Twitter pilot program procedures. This also included the following note in the CAD system that would be displayed on the mobile data computer of a fire apparatus when assigned to an incident at any of the three buildings participating in the pilot program: “\*\*TWITTER PILOT PROGRAM LOCATION\*\* – FOR ALARM ACTIVATIONS, REQUEST AERIAL AND TAC CHANNEL. REPORT ON SCENE AND PROVIDE SIZE-UP UPON ARRIVAL.”

On July 30, this author sent the first “Twitter Program Update” email to all members of the Twitter Group, all members of the PIO group, all chief officers and all shifts of the three stations nearest the three buildings participating in the pilot program. This email provided additional information about the program such as the dates of fire drills at the buildings, explanation of the paging for the pilot program and future dates of importance for the program.

#### *Pilot Program Implementation*

On August 1, the AFD Twitter pilot program officially started for the buildings located at 360 Nueces and 115 Sandra Muraida Way. The implementation of the building at 2819 Rio Grande was delayed until September 1 at the building manager’s request. The delay request was due to their high turnover of residents at the beginning of the school year. On Aug 2, a fire drill was conducted at 360 Nueces which also included communicating with Twitter according to the

pilot program procedures. The members of the Twitter Group that were present discussed the fire drill results and were satisfied with the pilot program procedures. The group agreed that no changes to the procedures were needed. Later that evening, this author, Chief Fowler and Chief Frick met with the residents of 115 Sandra Muraida Way to discuss the implementation of the pilot program.

On August 3, this author sent the second “Twitter Program Update” email which included the results of the fire drill and the initial responses to the questionnaire by the occupants of 360 Nueces. On August 9, a fire drill was conducted at 115 Sandra Muraida Way which included communicating with Twitter according to the pilot program procedures. The members of the Twitter Group that were present discussed the fire drill results and were satisfied with the pilot program procedures. The group agreed that no changes to the procedures were needed.

During the month of August, when a fire alarm activation or other type of fire emergency was reported at 360 Nueces or 115 Sandra Muraida Way, the Twitter pilot program procedures were followed by the AFD members responding to the incident. After each incident, the building occupants where the incident occurred received a message via Twitter asking them to provide feedback by completing a short questionnaire. The Twitter message contained a link to the building occupant questionnaire which was hosted on the Survey Monkey web site. Also, soon after each incident at which the Twitter procedures were utilized, this author sent an email to the incident commander and the PIO who performed the Twitter procedures. The email contained a link to the incident commander/PIO questionnaire which was hosted on the Survey Monkey web site.

On August 18<sup>th</sup>, this author sent the third “Twitter Program Update” email which included the results of the fire drill and the initial responses to the questionnaire by the occupants

of 115 Sandra Muraida Way. On August 29, the fourth meeting of the Twitter Group was conducted. The first month of the pilot program was reviewed and it was decided that no changes were necessary before implementing the program at the third building. On August 30, this author sent the fourth “Twitter Program Update” email which described the details of an incident at 115 Sandra Muraida Way at which Twitter was used for communication. The email also included a reminder that the implementation date of the Twitter pilot program for 2819 Rio Grande was September 1.

On September 1, the Twitter pilot program was implemented for the building at 2819 Rio Grande. That evening, the meeting to present the program to the building occupants was canceled because no occupants attended. On September 8, the fire drill with Twitter communication for 2819 Rio Grande was canceled due to the large wildfires that occurred in central Texas over the 2011 Labor Day weekend. The fire drill was rescheduled for October 5.

On September 20, the Twitter Group agreed by email to add one additional procedure to the Twitter pilot program. On the first day of each month, AFD would send via Twitter a message to all three of the buildings to test the system. The message would also include a fire safety related tip. The purpose of the monthly test message was to provide a method for the occupants following the AFD Twitter accounts to ensure that they would actually receive the text message on their cell phone during a true emergency. On September 23, this author sent an email to the building managers of the three buildings to inform them of the decision to send monthly test messages.

On September 29, this author sent the fifth “Twitter Program Update” email which contained a reminder about the rescheduled fire drill at 2819 Rio Grande. On October 1, the first

monthly test message was sent, “#AFDMonthlyTest. October is Fire Prevention Month. Make sure you properly extinguish all smoking materials, especially cigarettes!”

On October 5, a fire drill was conducted at 2819 Rio Grande which also included communicating with Twitter according to the pilot program procedures. The members of the Twitter Group that were present discussed the fire drill results and were satisfied with the pilot program procedures. The group agreed that no changes to the procedures were needed.

On November 1, the second monthly test message was sent, “#AFDMonthlyTest. When u “fall back” on Nov. 6 test your smoke alarms & replace batteries. They’re the cheapest life insurance money can buy!” On December 1, the third monthly test message was sent, “#AFDMonthlyTest. Be safe this holiday season: extinguish candles, give plenty of room around space heaters and keep those trees watered!”

On December 13, this author sent the sixth “Twitter Program Update” email which contained a reminder to continue the pilot program as directed until provided further instructions. On December 31, the pilot program time period for gathering data ended. However, the pilot program procedures were continued until the Twitter Group could review the results and make a recommendation to the AFD executive team.

The procedures for this research do contain limitations. First, this research was conducted to evaluate the use of social media for communicating with occupants but only Twitter was utilized. It is possible that other forms of social media would provide different results. Second, the proper implementation of the procedures for this pilot program relies heavily on the actions of the individual members involved in each incident. Since each incident occurred randomly over a five month time period, it is reasonable to conclude that there were some differences in the application of the procedures depending on the individuals involved. Finally, the hyperlinks to

the questionnaires used to obtain data to answer the research questions were sent via email and Twitter. These links could have easily been forwarded and the questionnaires completed by someone other than the intended persons.

## Results

Using the descriptive research method, this author was able to obtain useful data to answer the five research questions.

*Research question one: How do other fire departments utilize social media for communicating with the occupants of large residential buildings during fire emergencies?*

The results from Chief Fowler's email to members of other fire departments answers this research question. Of the 50 emails sent, Chief Fowler received 23 responses. Table 1 indicates the use of social media by those 23 fire departments.

Table 1

*Results for fire department response to inquiring about their social medial use.*

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Fire Department	Social Media Use
Albuquerque, NM	Twitter for public information updates.
Alexandria, VA	Facebook and eNews for communication during incidents.
Amarillo, TX	None.
Anne Arundel County, MD	Facebook for public safety messages.
Baltimore County, MD	Twitter for office of emergency management notifications.
Columbus, OH	None.
Corpus Christi, TX	None.
Dallas, TX	Twitter and Facebook for OEM notifications.
El Paso, TX	None.

Glendale, AZ	None.
Jersey City, NJ	None.
Kansas City, MO	None.
Memphis, TN	None.
Nashville, TX	None.
North Las Vegas, NV	None.
Raleigh, NC	None.
Sacramento, CA	None.
San Jose, CA	Twitter for media updates.
Shreveport, LA	None.
Sioux Falls, SD	None.
St. Louis, MO	None.
Tucson, AZ	None.
Salt Lake City, UT	Twitter for wildfire incidents.

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Seven of the departments use social media for some purpose but none of the 23 fire departments use social media specifically to communicate with the occupants of large residential buildings during fire emergencies.

*Results of the Twitter pilot program.*

The AFD Twitter pilot program, which used Twitter to communicate with the occupants of large residential buildings during fire emergencies, was conducted over approximately a five month period. During this time frame, there were 12 incidents at which Twitter was used for

communication, including the fire drills for each building. The date, location and type of each incident are shown in Table 2.

Table 2

*Incidents at which the Twitter procedures were utilized.*

No.	Date	Building	Incident Type
1	August 2, 2011	360 Nueces	Fire Drill
2	August 7, 2011	115 Sandra Muraida Way	High-Rise Alarm
3	August 9, 2011	115 Sandra Muraida Way	Fire Drill
4	August 24, 2011	115 Sandra Muraida Way	Elevator Rescue
5	September 30, 2011	360 Nueces	Fire Alarm
6	October 3, 2011	360 Nueces	Fire Alarm
7	October 5, 2011	2819 Rio Grande	Fire Drill
8	October 8, 2011	360 Nueces	Fire Alarm
9	November 30, 2011	360 Nueces	Fire Alarm
10	December 8, 2011	360 Nueces	Fire Alarm
11	December 8, 2011	360 Nueces	Fire Alarm
12	December 15, 2011	360 Nueces	Fire Alarm

After each use of Twitter for communication during an incident, the building occupants, the incident commanders and the PIOs were asked to complete a questionnaire. The results of the questionnaires can be used to answer the remaining research questions.

*Research question two: How effective is social media when used to communicate with the occupants of large residential buildings during fire emergencies?*

When the building occupants were asked if they received Twitter messages from AFD as expected during the emergency, 45 (91.8%) answered that they did. Of those who indicated that they did not receive the messages as expected, technical difficulties on the part of the occupant was the most common cause. When asked if they believed that this method of communication was effective, 45 (91.8%) responded that they did believe it was effective. Those who indicated that they did not believe it was effective cited two reasons; technical difficulties on the part of the occupant and a time lag between the fire alarm sounding and receiving the Twitter messages.

When the AFD incident commander and PIO were asked if using Twitter was an effective method for communicating with the occupants, the results were mixed. Of the 14 AFD members that completed the questionnaires, 3 (21.4%) either agreed or strongly agreed that the method of communication was effective. Similarly, 3 (21.4%) either disagreed or strongly disagreed that this was an effective method of communication. Also, 3 (21.4%) responded that they neither agreed nor disagreed with the statement. The largest number of the respondents, 5 (35.7%), indicated that they were unsure or that this statement was not applicable to their incident. The additional comments entered to further explain their answer for this question provides insight as to the reason for the wide variety of answers. Many of the comments indicated a lack of information necessary to determine if communication was effective. The PIO using Twitter to send the messages was not at the incident location and did not have any method for gauging the effectiveness of the messages or even if the messages had been received by the building occupants. The incident commanders were on scene the majority of the time but they also often lacked feedback to determine the effectiveness of the communication. One incident commander commented that the method of communication was effective because of actual confirmation with a building occupant who received the messages.

Therefore, the answer to this research question is yes, this method of communication is effective for the occupants who received the messages. For the AFD members in the roles of the incident commander and PIO, the determination of effectiveness could not be made unless a direct confirmation of messages being received was performed.

*Research question three: What difficulties are associated with using social media to communicate with the occupants of large residential buildings during fire emergencies?*

When the occupants were asked if there were difficulties associated with using Twitter for communication, 44 (89.8%) indicated that there were no difficulties. However, 5 (10.2%) indicated that they did have some difficulties. Again, the difficulties were of a technical nature on the part of the occupant. For example, one occupant had difficulty selecting the correct Twitter settings to receive the messages as text messages on a cell phone. Another occupant had difficulties because of using software on a cell phone that was incompatible with receiving text messages from Twitter.

When the AFD incident commanders and PIOs were asked if they agreed with the statement that there were no difficulties using Twitter for communication, 6 (42.8%) agreed or strongly agreed, 5 (35.7%) disagreed or strongly disagreed and 3 (21.4%) were unsure or they believed that the question was not applicable for their incident. The majority of the comments from the respondents were concerning the difficulties associated with the PIO sending the messages. Most often, the problems occurred because the on-call PIO was officially off-duty and the expectation to immediately respond and send Twitter messages caused complications. These complications included events such as not being in a location that was conducive to sending the messages and not being fully aware of what was actually occurring at the incident scene.

Therefore, the answer to this research question is that there are several difficulties associated with using Twitter for communicating with building occupants. First, there are difficulties associated with the occupants such as a lack of social media knowledge and incompatible software. Second, there are difficulties associated with the AFD procedures that are mostly related to using the on-call PIO as the sender of the Twitter messages for AFD.

*Research question four: How well do the members of AFD accept the use of social media as a communication method during emergencies?*

When the AFD incident commander and PIO were asked if AFD should continue using Twitter for communicating with occupants during an emergency, 7 (50%) agree and 3 (21.4%) strongly agreed. The remaining 4 (28.6%) either disagreed or strongly disagreed. Some of the comments indicated acceptance for social media, such as “I think using social media is a great way to get our messages out. Occupants are already using these systems, so AFD tapping into those systems to release info is necessary.” However, there are also comments that indicate non-acceptance, such as “I don't see people to be as likely to check their Twitter feeds in a timely fashion to where it would be an effective method to communicate time sensitive information.” Additionally, when asked if AFD should expand this type of communication for other types of emergencies, 10 (71.5%) agreed or strongly agreed that the use of social media by AFD should be expanded. Only 3 (21.4%) disagreed or strongly disagreed. There were comments that suggested utilizing a different social media form besides Twitter and for requiring a different AFD member to send the messages such as a fire dispatcher. Therefore, the answer to this research question is ambiguous. It appears that some members of AFD readily accept the use of social media for communications while others do not.

*Research question five: How well do the citizens of Austin accept the use of social media as a communication method during emergencies?*

When the occupants were asked if AFD should continue using Twitter for communicating with occupants during an emergency, 48 (98%) said yes, they would like for the program to continue. Only 1 occupant (2%) indicated that they would not like AFD to continue using this form of communication. Many of the comments submitted by the occupants also showed strong support for this program, such as “Keep it going. It will take time to get 100% commitment. Great program”, “This is a very useful program that helps me feel safe when living in such a large building.”, and “This service is awesome, great idea!” These results indicate an acceptance of social media as a communication method by the occupants who are participating in the program. However, there were comments with suggestions to modify some of the procedures for this communication. For example, one occupant said “They need to be consolidated. Less tweets. Especially at night. People will stop using this if it is too distracting so late at night.”

One other measure that might be able to provide additional data to answer this research question is the number of building occupants participating in the Twitter pilot program. A possible method for determining the number of participants is to count the number of building occupants “following” the AFD Twitter account for their building. The Twitter account for 360 Nueces has 188 followers. The AFD Twitter account for 115 Sandra Muraida Way has 60 followers. The AFD Twitter account for 2819 Rio Grande has 30 followers. However, because there is no requirement to accurately identify yourself when creating a Twitter account, it is not possible to determine how many of these followers are truly building occupants that are participating in the program. In fact, there are many followers whose Twitter account information indicates that they are not building occupants. People such as local media members,

local real estate agents and AFD members are also among those following the AFD Twitter counts. Therefore, there is no accurate method for determining the number of building occupants actually participating in the program. Although, it is true that the participation level for each building is less than the number of followers for that building's Twitter account. The 360 Nueces building has approximately 700 occupants and 188 followers for that building's Twitter account. Understanding that all of those followers are not building occupants, the percentage of that building's occupants following their Twitter account must be less than 27 percent. Using the same method, the percentage of occupants following the 115 Sandra Muraida Way account must be less than 15 percent of the building's 400 occupants and the percentage of occupants following the 2819 Rio Grande account must be less than 10 percent of the 300 occupants.

#### Discussion

The results obtained to the first research question, "How do other fire departments utilize social media for communicating with the occupants of large residential buildings during fire emergencies?" is consistent with the findings of the literature review. Of the 23 fire departments that responded to the inquiry about social media use, only 7 of the departments currently use social media. Of those departments, the use of social media was limited to public education or providing updates on large-scale incidents that affected their community. This is similar to the Twitter use by the Los Angeles Fire Department to provide updates to the community after a commuter rail crash (Security Director's Report, 2009) and the wildfire warnings for the residents of Monrovia, California (Haberle, 2010). Both the results of this research and the literature review did not identify any other fire department using social media specifically for the purpose of communicating with the occupants of large residential buildings during fire emergencies.

When considering the effectiveness of social media when used for communication, Shark (2010) described Twitter as an efficient communication method when used as an alert system. The AFD Twitter pilot program results prove this to be true with 45 (91.8%) of the questionnaire respondents from the buildings indicating that they received the Twitter messages from AFD as expected during the emergency. This means that these building occupants received the additional information necessary for them to choose the correct actions to take during the emergency because the information was received from an official source (Kuligowski, 2009), provided the additional cues for the occupants to believe that this was a true emergency (Watson, 2010) and gave specific directions for the correct actions to take (Proulx, 2007). Furthermore, having this effective means of receiving this official, additional information would most likely lead to better decision making during the emergency and most likely would save lives (Groner, 2005). Therefore, it is not surprising that 45 (91.8%) of the building occupants felt that this form of communication was effective. However, their confidence in this form of communication may easily be lost if the messages are not perceived to be true and accurate. For example, one occupant commented that there was a significant time lag between the fire alarm activation and receiving the AFD Twitter messages. If this occurred several times, the occupants might lose confidence in the information being provided by AFD and return to delaying their response to the alarm while gathering additional information (Winerman, 2004), or even worse, ignoring the alarm all together (Proulx, 2000).

For the AFD incident commanders and PIOs, the effectiveness of this form of communication is not as clear. The majority of AFD members responding to the questionnaire (35.7%) indicated that they were unsure if the Twitter messages were an effective form of communication. Although, this may also be consistent with other means of communication used

by fire departments during an emergency. For example, high-rise structures are required to have emergency public address communication systems (NFPA, 2012). When a fire fighter uses this system to provide directions to the occupants of the high-rise building, there is no feedback mechanism for the fire fighter to know if the occupants have received the information or if they are following the directions provided. This lack of confirmation that a message was received and followed does not necessarily indicate that the form of communication was ineffective.

When using social media for communicating with the occupants of large residential buildings during fire emergencies, one must assess the difficulties associated with using that form of communication. Tinker (2009) stated that the three main difficulties for adopting social media as a form of communication are leadership buy-in, sustainability and information technology and access issues. From the results of this research, leadership buy-in was not a problem. Both the leaders of AFD and the building managers of all three buildings recognized the value of this pilot program and agreed to their respective set of responsibilities to conduct the program. There were, however, signs of sustainability problems. When asked if there were difficulties using this form of communication, 35.7 percent of AFD members responding stated that there were difficulties. Additional comments from the AFD public information officers further identified that the difficulties were associated with the expectations that the PIO send the messages quickly upon notification of the incident at one of the three buildings. This conflicts with the normal practice of being on-call which allows time to get prepared before responding to a request to perform a PIO function. Additionally, the PIO was at a remote site when sending the messages and this led to a lack of knowledge about the particulars of the incident. There were also difficulties associated with access issues on the part of the building occupants. 10.2 percent of the occupant respondents indicated that they had difficulties associated with choosing the

correct Twitter settings to access the information as they intended or that their choice of software prevented access to the information.

Werner (2011) identified other difficulties associated with the use of social media including releasing confidential information, violating privacy laws, exhibiting inappropriate behavior and providing incorrect information. None of these problems occurred during the AFD Twitter pilot program. Similarly, there were no difficulties with the determination of whom and when employees may access the department's social media site (Smith, 2010). The lack of difficulties in these areas can most likely be attributed to the pilot program procedures which clearly indicated what information was to be communicated and by whom. In addition, the use of prepared messages further reduced the possibility of releasing inappropriate or confidential information.

Finally, this research attempted to determine the acceptance of social media as a form of emergency communication. For this program to be successful, this new form of communication must be accepted by both the sender and the receiver, fire department personnel and the building occupants. Fox & Lenhart (2009) found the number of Internet users who obtained relevant information from Twitter significantly and quickly increasing. Therefore, it would stand to reason that Twitter users would be the most accepting of the AFD Twitter pilot program form of communication. Though this specific information was not obtained from this research, there are comparable approximate percentages of AFD Twitter followers, less than 17 percent for all three buildings combined, and the 11 percent of all Internet users who have communicated with Twitter (Fox & Lenhart, 2009). This may explain why 45 (91.8%) of the building occupants agreed that this was an effective form of communication and 48 (98%) indicated that they would like for AFD to continue the program. The building occupants responding to the questionnaire

indicate an overwhelming acceptance of this form of communication. However, that number is just a small fraction of the overall number of building occupants. This research did not attempt to measure the acceptance of this program by all building occupants, just those participating in the Twitter pilot program.

Similarly, the acceptance of this form of communication was not evaluated for all members of AFD, just those members who were the incident commander or PIO for incidents when Twitter was used for communication. Of these members, 4 (28.6%) either disagreed or strongly disagreed with continuing this AFD Twitter pilot program and 3 (21.4%) disagreed or strongly disagreed with expanding the AFD use of social media as a form of communications for other types of emergencies. Although this is less than a majority of the AFD members who were participants in the program, it is still a significant number considering that these members were specifically trained and presented the reasons for using social media as a method of communication. However, their opinions may be influenced by the same lack of technological sophistication that Latonerno & Shklovski (2009) found when the LAFD Twitter program began.

Overall, the implications for AFD are clear. The AFD Twitter program proved that social media can be utilized by AFD to communicate with the occupants of large residential buildings during fire emergencies. However, AFD should be concerned with the low percentage of building occupants that participated in the program. Although there was very positive feedback from the building occupants that responded to the questionnaire, it must be remembered that the feedback was from a small fraction of the total number of occupants in the buildings overall. It is very possible that if the number of participants in the program increased to a larger percentage of the total building occupants, the feedback from the occupants may have been less positive and more difficulties may have been identified.

### Recommendations

The results of this research can be used to make recommendations to address the problem of AFD's limited ability to communicate with the occupants of large residential buildings during fire emergencies. The results indicate that social media can successfully be utilized by AFD to effectively communicate with the occupants of large residential buildings during fire emergencies. However, changes do need to be made to ensure the successful continuation of the AFD Twitter program.

First, and most importantly, the number of building occupants participating in the program must be increased. As the number of Internet users who communicate with Twitter increases, there should also be a corresponding increase of building occupants who accept that method of receiving important information. Additional efforts must also be made by AFD to increase the number of participants through public education sessions and by attending building meetings to promote the program. Also, there must be some method included in the program for accurately measuring the number of occupants participating in the program for each building since the number of Twitter followers did not provide accurate data. Furthermore, AFD should determine the level of participation that is required for a building's Twitter program to be considered viable.

Second, the difficulties associated with the PIO sending the Twitter messages must be addressed. The main difficulty arose because of the conflict between the PIO on-call status and the need for an immediate response to send the Twitter messages. The simple solution is to change the responsibility of sending the messages from the on-call PIO to an AFD member that is on-duty. However, determining which on-duty AFD member has the capability and time available to fulfill that responsibility is not as simple. One possible solution is a fire dispatcher.

Another possibility is the creation of an on-duty PIO position that would be staffed 24 hours a day as with other emergency responder positions. Both of these other options would need to be further explored before a final recommendation can be made.

Finally, based on the feedback from the building occupants, the number of messages sent should be reduced. The current messages should be consolidated so that only one or two messages are sent at the time of the emergency. This would reduce the amount of time and effort it takes an AFD member to send the messages. It would also limit the possibility of the building occupants becoming annoyed by the messages, especially at night, and choosing to no longer participate in the program. Additional follow up messages, such as the cause of a false fire alarm and additional safety related message could be sent after the emergency has ended and during daytime hours.

Overall, this pilot program for using social media to communicate with the occupants of large residential buildings during fire emergencies was fairly successful, especially considering that there was no fire department found utilizing social media specifically for this purpose to use as a model. Further research is still needed in evaluating the effectiveness of other types of social media besides Twitter. The basic frame work of this AFD program could be used with other types of social media such as Facebook. Additionally, research is also needed to determine if and how receiving this information via social media during a fire emergency actually influences human behavior. This research was limited to evaluating the effectiveness of using social media to communicate the information. An assumption was made that the building occupants would make better decisions once receiving that information. Further research is needed to determine if this was a correct assumption. Finally, anecdotal evidence from this research indicates that there may be a significant time delay in the reporting of fire alarm activations to the AFD dispatch

center. Additional research is needed to determine if this is a true problem and, if so, how it might be addressed.

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## Appendix A

## City of Austin Social Media Guidelines

CITY of AUSTIN Administrative Bulletin	
<b>Title</b>	<b>City of Austin Social Media Guidelines</b>
<b>Administrative Bulletin Number</b>	08-05
<b>Effective Date</b>	March 24, 2011
<b>Revised</b>	___ Annually <b>xx</b> As Needed
<b>Prepared by</b>	City Manager's Office Communications & Public Information
<b>Original Date</b>	<u>3/24/2011</u>
<b>Revised</b>	<u>NA</u>
<b>Manager's Approval</b>	



## PURPOSE

Third-party social media sites have become a valuable resource for sharing of information with the community, and as such should be a component of the City of Austin's overall communications strategy. This administrative bulletin is designed to provide reasonable and flexible guidelines for the use of social media as a communications tool.

## POLICY

It is the policy of the City of Austin that any use of social media shall be coordinated through the Communications and Public Information Office, and shall conform to specific standards in terms of content and administration in order to ensure that sites meet appropriate legal and professional standards.

This policy applies to all City of Austin departments, offices and their subdivisions.

## DEFINITIONS

**Social Media** are third-party websites which allow for the creation of content and dialogue around a specific issue or area of interest.

**City Social Media Sites** are those pages, sections or posting locations in Social Media websites that are established or maintained by an employee of the City who is authorized to do so as part of the employee's job, and that are used to conduct City business, communicate with officeholders or City staff, and/or communicate with or gather feedback from residents and other interested parties.

**City Social Media Content** is information posted or provided to a City Social Media Site by a City employee (or authorized representative) when such activity is a part of the employee's job duties.

## ROLES AND RESPONSIBILITIES

It is the responsibility of the Department Director to ensure that employees are aware of these guidelines for creating and maintaining social media resources. Carrying out the procedures outlined may be the responsibility of departmental public information staff, Web SPOCS, or another member of staff designated by departmental management.

The Department Records Administrator is responsible for ensuring that all City records created or maintained on City Social Media Sites are retained according to the Department Records Control Schedule and are properly preserved or disposed of.

The executive liaison to each Boards and Commission is responsible for notifying his/her manager of any Board and Commission request for Social Media resources, and to coordinate the activity with the Communication and Public Information Office.

City Employees are responsible for ensuring all contributions to social media sites adhere to the standards of conduct as outlined in this policy.

The Communications and Public Information Office will be the coordinating authority for review, approval, monitoring and governance of any approved City social media sites.

## CORRESPONDING PROCEDURES AND POLICIES

All applicable City of Austin policies and administrative bulletins governing employee conduct and communications apply in the administration of this policy. In addition, requirements of the Texas Public Information Act must be met in the administration of City social media sites, as referenced in the policy.

## PROCEDURE

### **I. General Governance of City Social Media Sites:**

- A. City Social Media Sites may contain information that represents the City's position on policy issues and/or the positions of its leadership, or may create the appearance of representing such positions. For this reason, all City Social Media Sites will be approved by the Chief Communications Director and the Web Content Manager in advance of creating the site. Those wishing to launch new City Social Media sites and/or pages should make their business case to CPIO using the online "Social Media Resource Request" form available on the CPIO Intranet page.
- B. All City Social Media Site login and password information will be shared with the CPIO Web Content Manager and the CPIO Media Relations Manager.
- C. No City Social Media Site will be approved without the designation of a specific departmental representative assigned responsibility for maintenance of the resource.
- D. Employees creating or posting information to a City Social Media Site must conduct themselves at all times as representatives of the City and in accord with all relevant Human Resources policies and administrative bulletins.
- E. Employees found in violation of any part of this policy may be subject to disciplinary action, up to and including termination.

- F. The Chief Communications Director may disable a City Social Media site or prohibit posting of City Social Media Content to a site at any time or for any reason, including without limitation any violation of any part of this policy, unprofessional use of the resource, lack of use or disinterest by the public, or a department's failure to maintain the site.
- G. Any employee using Social Media Sites, whether as an administrator or as a responder to a posting, will follow these guiding principles:
  1. Unless posting or responding as the site administrator, employees should maintain transparency by using his/her given name and job title, and by being clear about his/her role in regards to the subject.
  2. Write and post about his/her area of expertise, especially as related to the City and daily assignment(s). When writing about a topic for which an employee is not the City's expert, make this clear to readers.
  3. Keep postings factual and accurate. If a mistake is made, admit to it and post a correction as soon as possible.
  4. Reply to comments in a timely manner, when a response is appropriate. When disagreeing with others' opinions or providing comments, be sure that the comments are meaningful, respectful and relevant to the topic.
  5. Understand that postings are widely accessible, not retractable, and retained or referenced for a long period of time, so consider content carefully.
  6. Ensure comments do not violate the city's privacy, confidentiality and applicable legal guidelines for external communication. Never comment on anything related to legal matters, litigation or any parties with whom the City may be in litigation without the appropriate approval.
  7. Refrain from the expression of personal opinions or positions regarding policies, programs or practices of other public agencies, political organizations, private companies or non-profit groups.

## **II. Design and Content of City Social Media Sites:**

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- A. City Social Media Sites should be should be focused and limited in scope and topic, and should complement rather than replace the City's existing web resources. General "departmental" pages and associated content should be managed within the current City websites.
- B. Information that is proprietary, copyrighted, attorney-client privileged, subject to state or federal privacy laws, and information not subject to disclosure under the Texas Public Information Act should NOT be posted on a City Social Media Site. Any questions concerning this standard should be directed to the Chief Communications Director.
- C. A clear statement of the intent, purpose and subject matter of the site, as well as a statement clearly articulating that all content and comments posted to the site are subject to public disclosure laws, should be clearly posted on any City Social Media Site.
- D. All City Social Media Sites shall clearly indicate the portion of the Social Media site that is maintained by the City and shall have appropriate City contact information prominently displayed.

- E. Links placed to a City Social Media Site should link to a resource on [www.austintexas.gov](http://www.austintexas.gov), a City-owned Web site, a state, federal or local government site, an educational Web site (.edu) or an organization with an official partnership or supportive business relationship with a City department or program. Exceptions to this rule will be at the discretion of the CPIO, based on the relevance and appropriateness of the request.
- F. Design elements (logos, background, images) should be appropriate to the subject matter and consistent with the City's design guidelines, which are available on the CPIO Intranet site.

### **III. Public Comments and Interactive Features:**

---

- A. City Social Media Site accounts must be set up in a way that either maximizes public comments or limits the resource to organizational postings only.
- B. Membership to a City Social Media Site should not be required in order for the public to post comments. If this is not possible, then a City e-mail contact must be posted as an alternative for providing comments.
- C. Interactivity and commenting on sites fall within three distinct categories:
  1. "Push" sites which do not allow public comments.
  2. "Limited forum" sites that clearly define a specific topic for discussion.
  3. "Open forum" sites that do not limit the topic of discussion.
- D. A City department that creates a City Social Media Site that permits interactivity and comments should provide a disclaimer on the site that posted comments do not necessarily reflect the views or position of the City. Editing of public comments posted on an "open forum" by the Department that maintains the site is permitted if the comments:
  1. Clearly violate the site's terms of service;
  2. Contain information about City business or operations that is confidential and non-public;
  3. Would reasonably be considered pornographic, obscene, or defamatory in nature;
  4. Directly promote or advocate violence or the threat of violence;
  5. Are solicitations of commerce or promotion of private business enterprises;
  6. Contain or link to inappropriate sexual content;
  7. Encourage or promote illegal activity;
  8. Include information that may compromise the safety or security of the public or public systems; or
  9. Appear to violate the legal ownership interest of any other party.
- E. In addition to the above, editing of comments in a "limited forum" is permitted if comments are clearly off-subject, based on the posted scope and topic.
- F. If photos, video, or other media are solicited through a site, all must be accepted and posted unless they fail to meet the guidelines stated above.
- G. All public comments and posted media files inclusive of any edited content must be archived and stored in accord with requirements of Texas and federal laws and City records retention policies.

#### **IV. Centralized Social Media Resources for Twitter and YouTube:**

---

- A. Unless a business case is made and approved for a separate account, City Social Media Content posted on Twitter or YouTube should be coordinated through the City's central resource for these tools.
- B. The City's official Twitter site is [@austintexasgov](https://twitter.com/austintexasgov) ([www.twitter.com/austintexasgov](http://www.twitter.com/austintexasgov)). Use of this resource is governed by the following guidelines:
1. Departments or programs should contact the Corporate Media Relations Manager or Corporate Web Content Manager in the Communications and Public Information Office to coordinate posts to the resource.
  2. To allow for after-hours use, login and password information for [@austintexasgov](https://twitter.com/austintexasgov) will be shared with the City's public safety PIOs, Austin Energy and Austin Water Utility. Other requests for login access will be considered on a case by case basis.
  3. A separate account may be approved if there is a limited, defined interest group for the targeted information. If approved, these accounts must be set up to "follow" all other City Twitter resources.
  4. City of Austin Twitter accounts should only "follow" official governmental or educational Twitter accounts, or accounts owned by an organization with an official partnership or supportive business relationship with a City department or program.
- C. The City is maintaining an official City YouTube channel that will serve as a central repository for City-related videos, programs and Public Service Announcements (PSAs). Use of this resource is governed by the following guidelines:
1. Departments and programs may request a "playlist" be created to feature their videos. Approval of playlists will be made by CPIO in collaboration with the requesting department.
  2. The Channel 6 Manager will determine if submitted content is suitable for posting to the channel. Copies of all video content shall be stored and maintained separately by Channel 6 staff for the purposes of records retention.

#### **V. Use of Social Media by permanent Boards and Commissions, and other temporary task forces and advisory bodies created by City Council (collectively, Boards) including committees created by such Boards:**

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- A. The City of Austin recognizes the value that Social Media may offer to the City's Boards, and has developed guidelines for use of these tools in the conduct of work that supports their advisory role to the City Council.
- B. Due to open meetings requirements, individual members of a Board are prohibited from participating in postings or discussion threads on Social Media sites created and maintained by the group that they are a member of.

- C. Any use of Social Media Sites shall not serve as a replacement for postings and notifications required to be posted to City Clerk and/or City of Austin websites.
- D. Boards wishing to initiate Social Media Sites should do so by formal action of the Board, and follow requirements for approval and governance outlined in Section I of this policy.
- E. Committees of Boards are required to use the main resource established and approved by the "parent" Board.
- F. Boards may utilize Social Media for gathering of public input and fostering of public discussion related to the advisory role they have been assigned by City Council, provided that the use conforms to policies described in Sections I-IV of this policy, and that they meet the following additional requirements:
  - 1. The request for input or posting of discussion items is approved in a formal action of the Board at a posted meeting.
  - 2. The request for input or posting of discussion items does not relate to any solicitation that is identified as being in the "No Contact Period" by the City Purchasing Office or Contract and Land Management Department.
- G. "Regular business" is defined as the standard and routine activity of any Board, and generally includes agendas, minutes, presentations documents and backup items created during the course of regular Board proceedings. This may also include responses or clarifications of items of fact related to the Board (dates, times, published data, etc.). Regular business of the Board may be posted to approved Social Media Sites by the appropriate staff liaison without formal action of the Board, provided that posted documents are also available on the City's website. In general, it is preferred that a Board Social Media Site simply provide a link back to information and documents posted on the City website.
- H. Under no circumstance should a Board direct staff to post statements of personal opinion held by individual members.

FORMS

City of Austin Social Media Resource Request Form (online only):

<http://cityspace.ci.austin.tx.us/departments/pio/city-of-austin-social-media-resource-request-form>

Texas Public Information Act:

<http://www.statutes.legis.state.tx.us/SOTWDocs/GV/htm/GV.552.htm>

## Appendix B

### Twitter Pilot Program Procedures

To evaluate the use of social media as a method to provide evacuation messages to the citizens of Austin, Twitter will be utilized by AFD to communicate with the residents of three buildings during fire alarm activations or actual fire emergencies.

#### *Selected Buildings*

- 360 Nueces – 43 story residential building (high-rise by fire code)
- 115 Sandra Muraida Way – 8 story apartment building (not a high-rise by fire code)
- 2819 Rio Grande – 6 story student apartment building (not a high-rise by fire code)

#### *Procedures*

When AFD Fire Dispatch receives a report of a fire alarm in one of the three selected buildings, a Fire Alarm incident will be dispatched:

- The Engine Company assigned to the fire alarm activation will request an aerial and a FireTac channel. Upon arrival, the Officer will report on-scene, assume Command and provide a size-up on the FireTac channel
- The on-call PIO, Battalion 1 and the Shift Commander will be alerted by pager. Battalion 1 will self-assign and respond to the fire alarm activation along with the assigned units. If Battalion 1 is not available, Battalion 1 should determine if the Shift Commander can respond or may request that another BC be assigned to the incident.

When AFD Fire Dispatch receives a report of a fire in one of the three selected buildings, a High-Rise Alarm incident will be dispatched:

- Two Battalion Chiefs will be assigned to the incident and the Shift Commander notified as per current protocol.
- The on-call PIO will be paged.
- Normal High-Rise procedures will be followed.

For both fire alarm activations and high-rise alarms, the on-call PIO will use Twitter to send a minimum of five messages (tweets) to the residents of the building to which AFD is responding. The PIO should use the prepared messages when possible (refer to Prepared Messages document).

The minimum five messages to communicate are:

1. To notify the residents of the fire emergency and actions to take.
2. To notify the residents of the arrival of AFD and initial actions being taken.
3. To notify the residents when they may return in to the building.
4. To explain to the residents the cause of the fire emergency.

5. To evaluate this pilot program. (Wait until daytime hours.)

The PIO should report on the FireTac channel after the first two messages have been sent. Then the PIO should monitor the radio and obtain information from Command concerning the incident to send out the appropriate additional messages. For situations other than a false fire alarm, the messages will need to be created by Command and PIO. There is a limit of 140 characters including spaces for Twitter messages.

If an initial Twitter message from the PIO is not sent within three minutes, the BC or Shift Commander should ask Fire Dispatch to page the on-call PIO. If the PIO still does not respond, the BC or Shift Commander should call:

1. Palmer Buck: XXX-XXXX
2. Thayer Smith: XXX-XXXX
3. Chris Watson: XXX-XXXX

These Twitter Pilot Program procedures are only required for fire alarm activations or reports of a fire at these selected buildings. If another type of incident occurs and Command would like to use this process for communication, the BC should ask Fire Dispatch to page the on-call PIO and have him/her contact the BC by cell phone to explain the communications needs.

For each use of Twitter to communicate during an incident, the PIO and Incident Commander will be required to complete a short survey to provide feedback on this pilot program.

## Appendix C

### Twitter Pilot Program Prepared Messages

*1. To notify the residents of the fire emergency and actions to take.*

There is a fire alarm in your building. Alarm sounding on your floor? Evacuate the building. If not, stay put. Smoke or fire? Call 911.

(135 Characters)

*2. To notify the residents of the arrival of AFD and initial actions being taken.*

AFD has arrived. We are investigating. Fire alarm sounding on your floor? Evacuate the building. If not, stay put. Smoke or fire? Call 911.

(139 Characters)

*3. To notify the resident when they may return in to the building.*

You may return to your building. Cause of the fire alarm will be provided soon. Thanks for cooperating during this emergency.

(125 Characters)

*4. To notify the resident of the cause of the fire emergency.*

Cause of the recent fire alarm in your building was a system malfunction. The building management is taking actions to correct the problem.

(139 Characters)

Cause of the recent fire alarm in your building was burned food. Use exterior openings to ventilate burned food smoke not your hallway door.

(140 Characters)

Cause of the recent fire alarm in your building was a small fire that was quickly extinguished. Sprinklers save lives!!

(120 Characters)

Cause of recent fire alarm in your building was tampering with the system. This is a crime. Have information? Contact building management.

(139 Characters)

*5. To evaluation this pilot program.*

Help us evaluate using Twitter during a fire emergency, please take this short survey. Thanks!

<http://t.co/rhW3qcB>

(115 Characters)

## Appendix D

### Twitter Pilot Program Building Management Responsibilities

#### *Program Purpose*

To evaluate the use of social media as a method to provide evacuation messages to the citizens of Austin, Twitter will be utilized by AFD to communicate with the occupants of three buildings during fire alarm activations or actual fire emergencies.

#### *Program Description*

When a fire alarm or actual fire is reported in one of the pilot program buildings, AFD will use Twitter to communicate with the residents. There will be a minimum of five messages:

1. To notify the residents of the fire emergency and actions to take.
2. To notify the residents of the arrival of AFD and initial actions being taken.
3. To inform the residents when they may return in to the building.
4. To explain the cause of the fire emergency.
5. To evaluate this pilot program. (daytime hours)

Additional messages may be communicated depending on the incident.

#### *Building Management Responsibilities*

- Agree to a specific time frame for the pilot program. AFD would prefer to conduct this pilot program through the end of this year.
- Schedule a meeting for AFD to introduce this pilot program to the residents. The meeting should last about one hour and may be scheduled at a time identified as best for the residents to attend.
- Use established management communication methods to encourage residents to follow AFD's Twitter account so that they receive the emergency messages. This may include sending an email, posting the information on a Facebook site, new resident packet, etc.
- Conduct a fire drill with the assistance of AFD to practice the buildings evacuation process and the AFD Twitter communication method. Residents will be informed of this fire drill at the initial meeting.
- Encourage residents to complete the online surveys after each incident to provide feedback and allow AFD to evaluate the pilot program.
- Notify AFD pilot program contact with any questions or concerns.
- At the end of the pilot program, provide feedback to assist AFD with evaluating the program.

Appendix E

Twitter Pilot Program Flyers



# Follow AFD on Twitter!!



## Why?

- Beginning August 1<sup>st</sup>, receive tweets from the Austin Fire Department (AFD) for fire alarms or other fire emergencies in your building at 360 Nueces.
- Know what you should do during the emergency, when it is safe to re-enter the building and what caused the alarm or fire.

## How?

- To receive this information, you must have a Twitter account and follow "AFD\_360Nueces". [http://twitter.com/@AFD\\_360Nueces](http://twitter.com/@AFD_360Nueces)
- Make sure you elect to receive AFD tweets as text messages sent to your mobile device.
- Do not restrict the AFD tweets to only daytime....fires happen at night also!

## Now What?

- There will be a fire drill conducted to test this system. You will receive a tweet to notify you when the fire drill will occur.
- This is a pilot program. After each use of Twitter, AFD will send a tweet with a link for you to provide feedback by completing a short survey. Your input will help us determine if we should continue with this form of communication.
- Please do not tweet at AFD\_360Nueces. Call 911 for emergencies and use these AFD contacts for questions...
  - Chief Chris Watson: [chris.watson@ci.austin.tx.us](mailto:chris.watson@ci.austin.tx.us)
  - Chief Doug Fowler: [doug.fowler@ci.austin.tx.us](mailto:doug.fowler@ci.austin.tx.us)



# Follow AFD on Twitter!!



## Why?

- Beginning August 1<sup>st</sup>, receive tweets from the Austin Fire Department (AFD) for fire alarms or other fire emergencies in your building at 115 Sandra Muraida Way.
- Know what you should do during the emergency, when it is safe to re-enter the building and what caused the alarm or fire.

## How?

- To receive this information, you must have a Twitter account and follow "AFD\_115SM". [http://twitter.com/@AFD\\_115SM](http://twitter.com/@AFD_115SM)
- Make sure you elect to receive AFD tweets as text messages sent to your mobile device.
- Do not restrict the AFD tweets to only daytime....fires happen at night also!

## Now What?

- There will be a fire drill conducted to test this system. You will receive a tweet to notify you when the fire drill will occur.
- This is a pilot program. After each use of Twitter, AFD will send a tweet with a link for you to provide feedback by completing a short survey. Your input will help us determine if we should continue with this form of communication.
- Please do not tweet at AFD\_115SM. Call 911 for emergencies and use these AFD contacts for questions...
  - Chief Chris Watson: [chris.watson@ci.austin.tx.us](mailto:chris.watson@ci.austin.tx.us)
  - Chief Doug Fowler: [doug.fowler@ci.austin.tx.us](mailto:doug.fowler@ci.austin.tx.us)



# Follow AFD on Twitter!!



## Why?

- Beginning September 1<sup>st</sup>, receive tweets from the Austin Fire Department (AFD) for fire alarms or other fire emergencies in your building at 2819 Rio Grande.
- Know what you should do during the emergency, when it is safe to re-enter the building and what caused the alarm or fire.

## How?

- To receive this information, you must have a Twitter account and follow "AFD\_2819RG". [http://twitter.com/@AFD\\_2819RG](http://twitter.com/@AFD_2819RG)
- Make sure you elect to receive AFD tweets as text messages sent to your mobile device.
- Do not restrict the AFD tweets to only daytime....fires happen at night also!

## Now What?

- There will be a fire drill conducted to test this system. You will receive a tweet to notify you when the fire drill will occur.
- This is a pilot program. After each use of Twitter, AFD will send a tweet with a link for you to provide feedback by completing a short survey. Your input will help us determine if we should continue with this form of communication.
- Please do not tweet at AFD\_2819RG. Call 911 for emergencies and use these AFD contacts for questions...
  - Chief Chris Watson: [chris.watson@ci.austin.tx.us](mailto:chris.watson@ci.austin.tx.us)
  - Chief Doug Fowler: [doug.fowler@ci.austin.tx.us](mailto:doug.fowler@ci.austin.tx.us)

Appendix F

Building Occupant Questionnaire

Please help AFD evaluate our Twitter Pilot Program by completing this questionnaire.

1. What is the address of your building?
  - 360 Nueces
  - 115 Sandra Muraida Way
  - 2819 Rio Grande
  
2. Which best describes your association with this building?
  - Resident
  - Employee
  - Guest
  - Other (please specify)
  
3. Did you receive Twitter messages from AFD as expected during this emergency?
  - Yes
  - No - If No, please explain.
  
4. Were there any problems associated with using Twitter for communication during this emergency?
  - Yes
  - No - If No, please explain.
  
5. Do you believe that this method of communication is effective?
  - Yes
  - No - If No, please explain.
  
6. Would you like AFD to continue using Twitter for this type of communication?
  - Yes
  - No - If No, please explain.
  
7. Do you have any other comments or suggestions?

## Appendix G

### Incident Commander/PIO Questionnaire

Please indicate how much you agree with the following statements about your recent incident at which Twitter was used for communicating with the building residents:

1. What is the address of the building for this incident?
  - 360 Nueces
  - 115 Sandra Muraida Way
  - 2819 Rio Grande
  
2. Were you PIO or Command?
  - Command
  - PIO
  
3. Using Twitter was an effective method for communicating with the occupants. In other words, it accomplished what it was intended to do.
  - Strongly agree
  - Agree
  - Neutral
  - Disagree
  - Strongly disagree
  - If you disagree or strongly disagree, please explain
  
4. There were no difficulties associated with using Twitter for communicating with the occupants.
  - Strongly agree
  - Agree
  - Neutral
  - Disagree
  - Strongly disagree
  - If you disagree or strongly disagree, please explain
  
5. AFD should continue using Twitter for communicating with occupants during an emergency.
  - Strongly agree
  - Agree
  - Neutral

- Disagree
  - Strongly disagree
  - If you disagree or strongly disagree, please explain
6. AFD should consider expanding the use of Twitter for communicating with citizens for other emergency situations.
- Strongly agree
  - Agree
  - Neutral
  - Disagree
  - Strongly disagree
  - If you disagree or strongly disagree, please explain
7. Do you have any other comments or suggestions concerning the use of social media for communicating during an emergency?

## Appendix H

### Chief Officer Training Presentation

#### AFD Twitter Pilot Program

#### *Battalion Chief Training*

*July 2011*

*What is it???*

*How will AFD use it??*

*Why will AFD use it??*

Twitter – What is it?

- *A free social networking and microblogging service that enables its users to send and read messages known as tweets.*
- *These tweets can be received as texts on a cell phone.*
- *Messages are limited to 140 characters or less (including spaces).*

Twitter – How will AFD use it?

- *To send messages to the occupants of large residential buildings specific to fire alarm activations and fire incidents in their building.*

Twitter – Why will AFD use it?

- *To Ensure Life Safety*
  - Research has shown that people do not respond appropriately to fire alarms alone.
  - Additional communication, specific to the incident, can often ensure the correct actions are taken.
  - Also, providing an explanation for a false alarm can restore confidence in the fire alarm system.

Twitter – Why will AFD use it?

- *To Provide Better Customer Service*
  - In a recent meeting, the residents of a large residential building asked for better communication from AFD during a fire alarm.
  - They want to know....
    - What is going on?
    - When is it safe to go back in?
    - What caused the fire alarm?
    - What is being done about it?

Twitter – Why will AFD use it?

- *To Assist with Tactical Operations*

- Imagine you respond to a working fire in an 8 story building that does not qualify as a high-rise according to the fire code....this means that the building is not required to have a public address system.
- It is the middle of the night, half of the occupants are ignoring the fire alarm....assuming it is another false alarm.

#### Twitter – Why will AFD use it?

- *To Assist with Tactical Operations (cont.)*
  - How will you communicate with the hundreds of people that are still in there?
  - How will you tell them that this is a REAL FIRE and not just a false alarm?
  - How will they know which stairwell they should use?
  - How will they know where you want them to go once they evacuate?

#### Twitter – Why will AFD use it?

- *To Assist with Tactical Operations (cont.)*
  - With everyone having a cell phone these days, wouldn't it be great if you could send text messages immediately to their cell phones?
  - They would all know exactly what you want them to know.
  - This is what Twitter can do.....we just need to learn to use it.

#### Twitter Pilot Program

- *Beginning August 1<sup>st</sup>, AFD will test the use of Twitter to communicate with the residents of three large residential buildings as a pilot project:*
  - 360 Nueces – 360 Condos
    - Approx. 700 occupants
  - 115 Sandra Muraida Way – Gable Park Plaza
    - Approx. 400 occupants
  - 2819 Rio Grande – The Block on Rio Grande
    - Approx. 300 occupants

#### Twitter Pilot Program Overview

- *For any fire alarm or report of actual fire at these three locations:*
  - The on-call PIO will be responsible for sending out the messages (tweets).
  - The on-scene Incident Commander is responsible for informing the PIO of the messages to be communicated.
  - It is preferred to have a BC as Command so that a cell phone can be used to talk with the PIO if necessary.

#### Twitter Pilot Program Procedures

- *Refer to Handout*
- *You will also need to train your Captains on these procedures.*

#### Notification

- *When a fire alarm is reported at one of these three addresses, the PIO Group, Battalion 1 and the Shift Commander will also be paged.*

- *When an actual fire is reported at one of these three addresses, this group is already notified according to current dispatch protocol.*

#### Messages

- *Using Twitter, the on-call PIO will send a minimum of five messages (tweets) to the residents of the building to which AFD is responding.*
- *The PIO should use the prepared messages when possible. (refer to handout)*
- *The minimum five messages to communicate are.....*

#### Message #1

- *To notify the residents of the fire emergency and actions to take.*
  - Sent upon notification of the incident for any fire alarm or report of fire.
  - Works for high-rise and non high-rise.
  - Must be sent within three minutes. If not, PIO should be paged again.
  - Provides initial directions to occupants.

#### Message #2

- *To notify the residents of the arrival of AFD and initial actions being taken.*
  - Requires first arriving company to report on scene and give a size-up.
  - This will be discussed in a special order but may need prompting.
  - Provides follow-up initial directions.

#### Message #3

- *To notify the residents when they may return in to the building.*
  - Sent after determining the incident to be a false alarm or small fire quickly controlled.

#### Message #4

- *To explain to the residents the cause of the fire emergency.*
  - May use one of several prepared or may need to modify for specific situation.
  - Restores confidence in the fire alarm system.
  - Provides additional fire safety message.

#### Message #5

- *To evaluate this pilot program.*
  - Wait until daytime hours.
  - The message will link to a short survey to allow the occupants to provide feedback.

#### Additional Messages

- *As Command, you may ask the PIO to send additional messages as necessary to direct the occupants and ensure that they are kept informed of the situation.*
- *Remember, each message is limited to 140 characters. Be concise...*

#### Additional Messages

- *If you would like to use this Twitter process for communicating with the occupants for another type of incident at one of these three locations, ask Fire Dispatch to page the on-call PIO and have him/her contact you by cell phone.*

### Command and PIO Survey

- *After each use of Twitter, the Incident Commander and the PIO will complete a short survey to help evaluate this program.*
- *The survey link will be provided to you in a future email.*
- *Your feedback is necessary to decide whether or not this program is successful and if it should be continued and/or expanded.*

### More About Twitter??

- *As an Incident Commander, the previous information is all you NEED to know about the Twitter Pilot Program.*
- *However, if you would like to understand more about Twitter and actually receive the AFD messages on your phone, refer to the "Follow AFD on Twitter" document.*

Questions?

*Ready to Tweet?*

## Appendix I

### PIO Training Presentation

#### AFD Twitter Pilot Program

##### *PIO Training*

*July 2011*

*What is it???*

*How will AFD use it??*

*Why will AFD use it??*

Twitter – What is it?

- *A free social networking and microblogging service that enables its users to send and read messages known as tweets.*
- *These tweets can be received as texts on a cell phone.*
- *Messages are limited to 140 characters or less (including spaces).*

Twitter – How will AFD use it?

- *To send messages to the occupants of large residential buildings specific to fire alarm activations and fire incidents in their building.*

Twitter – Why will AFD use it?

- *To Ensure Life Safety*
  - Research has shown that people do not respond appropriately to fire alarms alone.
  - Additional communication, specific to the incident, can often ensure the correct actions are taken.
  - Also, providing an explanation for a false alarm can restore confidence in the fire alarm system.

Twitter – Why will AFD use it?

- *To Provide Better Customer Service*
  - In a recent meeting, the residents of a large residential building asked for better communication from AFD during a fire alarm.
  - They want to know....
    - What is going on?
    - When is it safe to go back in?
    - What caused the fire alarm?
    - What is being done about it?

Twitter – Why will AFD use it?

- *To Assist with Tactical Operations*

- Imagine AFD responds to a working fire in an 8 story building that does not qualify as a high-rise according to the fire code....this means that the building is not required to have a public address system.
- It is the middle of the night, half of the occupants are ignoring the fire alarm....assuming it is another false alarm.

#### Twitter – Why will AFD use it?

- *To Assist with Tactical Operations (cont.)*
  - How will we communicate with the hundreds of people that are still in there?
  - How will we tell them that this is a REAL FIRE and not just a false alarm?
  - How will they know which stairwell they should use?
  - How will they know where to go once they evacuate?

#### Twitter – Why will AFD use it?

- *To Assist with Tactical Operations (cont.)*
  - With everyone having a cell phone these days, wouldn't it be great if we could send text messages immediately to their cell phones?
  - They would all know exactly what we want them to know.
  - This is what Twitter can do.....we just need to learn to use it.

#### Twitter Pilot Program

- *Beginning August 1<sup>st</sup>, AFD will test the use of Twitter to communicate with the residents of three large residential buildings as a pilot project:*
  - 360 Nueces – 360 Condos
    - Approx. 700 occupants
  - 115 Sandra Muraida Way – Gable Park Plaza
    - Approx. 400 occupants
  - 2819 Rio Grande – The Block on Rio Grande
    - Approx. 300 occupants

#### Twitter Pilot Program Overview

- *For any fire alarm or report of actual fire at these three locations:*
  - The on-call PIO will be responsible for sending out the messages (tweets).
  - The on-scene Incident Commander is responsible for informing the PIO of the messages to be communicated.
  - It is preferred to have a BC as Command so that a cell phone can be used to talk with the PIO if necessary.

#### Twitter Pilot Program Procedures

##### *Refer to Handout*

##### Notification

- *When a fire alarm is reported at one of these three addresses, the PIO Group, Battalion 1 and the Shift Commander will also be paged.*

- *When an actual fire is reported at one of these three addresses, this group is already notified according to current dispatch protocol.*

#### Messages

- *Using Twitter, the on-call PIO will send a minimum of five messages (tweets) to the residents of the building to which AFD is responding.*
- *The PIO should use the prepared messages when possible. (refer to handout)*
- *The minimum five messages to communicate are.....*

#### Message #1

- *To notify the residents of the fire emergency and actions to take.*
  - Sent upon notification of the incident for any fire alarm or report of fire.
  - Works for high-rise and non high-rise.
  - Must be sent within three minutes. If not, PIO should be paged again.
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#### Message #2

- *To notify the residents of the arrival of AFD and initial actions being taken.*
  - Requires first arriving company to report on scene and give a size-up.
  - This will be discussed in a special order but may need prompting.
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- *To notify the residents when they may return in to the building.*
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#### Message #4

- *To explain to the residents the cause of the fire emergency.*
  - May use one of several prepared or may need to modify for specific situation.
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#### Message #5

- *To evaluate this pilot program.*
  - Wait until daytime hours.
  - The message will link to a short survey to allow the occupants to provide feedback.

#### Additional Messages

- *Command, may ask you to send additional messages as necessary to direct the occupants and ensure that they are kept informed of the situation.*
- *Remember, each message is limited to 140 characters. Be concise...*

#### Additional Messages

- *If Command would like to use this Twitter process for communicating with the occupants for another type of incident at one of these three locations, ask Fire Dispatch to page the on-call PIO and have you contact him/her by cell phone.*

### Command and PIO Survey

- *After each use of Twitter, the Incident Commander and the PIO will complete a short survey to help evaluate this program.*
- *The survey link will be provided to you in a future email.*
- *Your feedback is necessary to decide whether or not this program is successful and if it should be continued and/or expanded.*

### More About Twitter??

- *As PIO, you will need to know these additional procedures for the Twitter Pilot Program.*
  - Logging in and sending tweets from the AFD accounts.*
  - Copying and pasting the prepared messages from both a computer and phone.*

### More About Twitter??

- *You do not need your own Twitter accounts for this program.*
- *However, if you would like to understand more about Twitter and actually receive the AFD messages on your phone, refer to the "Follow AFD on Twitter" document.*

### Logging into AFD Accounts

- *PIOs will have the username and password to each of the three accounts for the three locations.*
- *Your smart phone can be set up to remain logged in to these accounts.*
- *Be very careful to send tweets from the right account...especially if you have a personal Twitter account.*

### Sending Tweets from AFD

- *The "prepared messages" will be available on Google Docs.*
- *On both a computer and phone, you will be able to copy and paste these messages into Twitter.*

### Tweets back at AFD

- *We are discouraging the residents from "tweeting at" these AFD accounts.*
- *We want them to use 911 to report emergencies or send emails to the program contacts with questions.*
- *But...when logged in, you may receive a tweet sent to an AFD account. Please handle appropriately or refer to proper person.*

### Questions?

### Ready to Tweet?

Appendix J

Twitter Pilot Program Special Order



**SPECIAL ORDER**

**Disposal Date:**  
January 31, 2012

**TO:** All Fire Department Personnel

**FROM:** Doug Fowler, Assistant Chief

**DATE:** July 27, 2011

**SUBJECT:** Twitter Pilot Program

In an effort to better serve and communicate with our citizens that live in large residential buildings, AFD is implementing a pilot program to evaluate the use of Twitter for providing information during fire alarms and other fire emergencies in their building.

Three buildings have agreed to conduct this pilot program with AFD:

- 360 Nueces St.: 360 Condos - Start date August 1<sup>st</sup>.
- 115 Sandra Muraida Way: Gables Park Plaza - Start date August 1<sup>st</sup>.
- 2819 Rio Grande St.: The Block on Rio Grande – Start date September 1<sup>st</sup>.

During this pilot program, these following actions are required of a company officer assigned to an alarm activation at one of these buildings after its program start date:

- Request an aerial (as per Special Order dated 7/1/11)
- Request a set of tactical radio channels
- Upon arrival, report on scene and provide a size-up on the assigned tactical channel.

Also, the following personnel have these responsibilities for this pilot program:

- On-call PIO: send messages as indicated by program procedures and requested by Command.
- Battalion 1/Shift Commander: Ensure that a chief officer responds to any incident at which Twitter will be used for communication.
- Incident Commander: On the tactical channel or by cell phone, provide the PIO with information necessary to send messages.

The pilot program will continue through this calendar year and will be evaluated in early 2012. These pilot program procedures will remain in effect until further notice.