

EFFECTS OF STADIUM EVACUATION

Effects of Stadium Evacuation on the Stadium and the Immediate Area:

Identifying Cascading Effects of a Mass Evacuation of a Stadium and Preparedness and

Mitigation Measures

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where language of other 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

The Green Bay Fire Department (GBFD) has not fully analyzed the effects of a mass evacuation of Lambeau Field on the stadium and the surrounding area. The purpose of the research is to determine what the effects of a mass evacuation of Lambeau Field may be so that appropriate preparation and mitigation processes can be implemented. This Applied Research Project (ARP) used descriptive research methods to provide recommendations for additional preparatory and mitigation measures that could enhance an evacuation plan.

The procedures used for this ARP were a literature review, distribution of a questionnaire to other cities with National Football League stadiums, and specific questions directed to law enforcement agencies that respond to Lambeau Field. Questionnaire responses were collected and analyzed electronically. Responses from law enforcement were received in personal communications. Project research questions are: What are the potential effects of a mass evacuation of Lambeau Field on the stadium? What are the potential effects of a mass evacuation of Lambeau Field on the city? Are preparatory or mitigating measures already in place to minimize the effects of a mass evacuation on the stadium and the city? What additional preparatory or mitigating measures could be implemented to minimize the effects of a mass evacuation on the stadium and the city?

Plans prepared specifically for Lambeau Field follow accepted guidelines for stadium evacuations. Additionally, planning, response and mitigation efforts are in line with those of other departments based on responses to the questionnaire. The research indicates that the impact on the city and stadium will probably be minimal and short in duration. Five recommendations have been provided to improve evacuation planning for Lambeau Field.

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Effects of Stadium Evacuation

Introduction

“Evacuations can protect citizens against a wide range of emergencies.” (Perry & Lindell, 2007) That statement summarizes the effectiveness of evacuations. Many images come to mind when envisioning what an evacuation is. Hordes of people chaotically fleeing an area, leaving behind all but the bare essentials. Graphic images of thousands of people streaming out of New York City on September 11, 2001 and stories of refugees in large groups looking for a place to settle after Hurricane Katrina struck New Orleans in 2005 have shaped what people think of evacuations. However, evacuations are meant as protective measures. The unfortunate images associated with evacuations may cause public safety officials to avoid them for fear of making the situation seemingly worse.

Evacuations can be associated with many different situations, including the evacuation of a city, county, or town. Evacuations are also frequently associated with buildings. Families plan for the evacuation of their homes and workers plan for the evacuation of the workplace. Few residential structures or workplaces will require the evacuation of more than a few hundred people. Even fewer will result in evacuee numbers in the thousands. While these evacuations are occasionally planned and possibly practiced by the evacuees, it is not common for people to plan for the evacuations of places they visit, especially stadiums.

The evacuation of a stadium may force tens of thousands of evacuees out into the streets of a city with little notice. Such an evacuation may have a major impact on the stadium and the city. Damage to property and personal injury could result if appropriate measures are not in place to handle the evacuation of a stadium. Depending on the situation, public safety officials may not

be able to stay ahead of the evacuation. According to Carol Hart (as cited by Gratz, Church, & Noble, 2004) fans at a Virginia Tech football game in 2000 self-evacuated after lightning struck very near the stadium. Fans crowded the stadium concourse and packed the exits of the seating area so that no one else could leave the stadium, leaving them out in the open. The problem is that the Green Bay Fire Department has not fully analyzed the effects of a mass evacuation of Lambeau Field on the stadium and the surrounding area.

The purpose of the research is to determine what the effects of a mass evacuation of Lambeau Field may be so that appropriate preparation and mitigation processes can be implemented. Descriptive research was used to examine the current situation and determine what actions could be taken to improve it. The research will address the following questions: What are the potential effects of a mass evacuation of Lambeau Field on the stadium? What are the potential effects of a mass evacuation of Lambeau Field on the city? Are preparatory or mitigating measures already in place to minimize the effects of a mass evacuation on the stadium and the city? What additional preparatory or mitigating measures could be implemented to minimize the effects of a mass evacuation on the stadium and the city?

Background and Significance

The City of Green Bay is approximately 46 square miles located in Brown County at the southern end of the Bay of Green Bay at the mouth of the Fox River, the river dividing the City East and West. Green Bay firefighters directly protect over 104,000 residents of the city while also responding to a population of approximately 240,000 people within Brown County when requested. In addition to protecting several international manufacturers and the port of Green

Bay, GBFD also protects Lambeau Field, a nationally recognized sporting venue. Green Bay is the largest community in northeast Wisconsin and the third largest in the state of Wisconsin.

The GBFD operates out of seven fire stations staffed by 185 career employees. Primary services to the community are provided by 172 line positions. The remaining 13 positions provide administrative and support functions. The department provides a variety of services including fire and injury prevention, fire suppression, technical rescue, hazardous materials, and advanced life support services. Green Bay firefighters and paramedics responded to over 10,000 calls for service in 2011. Since 2009, the department has participated in the Mutual Aid Box Alarm System agreement with all other communities in the county (Daul, 2008). Since signing the agreement, the department has requested and provided aid as necessary.

Many special events occur within the city of Green Bay annually. Most of the events are outdoors and usually cover several city blocks or entire regions of the city. Some of the events include art and music festivals, holiday celebrations, sporting tournaments, marathons, and events sponsored by various community organizations. Few of the events exceed 10,000 people in attendance, with the exception of the Independence Day celebration, which usually exceeds 100,000 attendees spread over an area of approximately four city blocks (Carew, 2011)

As home to the Green Bay Packers football team, every year the city hosts no fewer than 11 National Football League (NFL) events with the potential for more depending on the team's record (Green Bay Packers, 2010). All of these events occur at Lambeau Field, a municipally owned stadium that is leased to the team. In addition to NFL events the stadium has hosted various events including other sporting events and a large welcome home ceremony for Vietnam veterans. In 2011, a concert headlining recording artist Kenny Chesney became the first concert

held at the stadium. The concert brought over 45,000 attendees to the stadium (Meinert, 2011). The current capacity of Lambeau Field is 73,142, though a renovation is underway that will expand the capacity (Green Bay Packers, 2012).

During some of these events it has become necessary to partially evacuate the stadium and delay the event after the stadium gates have been opened to allow people to enter. On September 9, 2007, the activation of a fire sprinkler initiated an evacuation announcement that sounded throughout the stadium just prior to kickoff of an NFL football game (PWT36, September 22, 2007). In both 2008 and 2009, over 50,000 fans were evacuated from the stadium bowl during the “Green Bay Packers Family Night” event due to severe weather (Nelesen, 2009). Again in August 2011, fans attending the Family Night event were evacuated from the bowl due to severe weather (@RedCrossWWC, 2011; Dougherty, 2011).

The 2008, 2009, and 2011 bowl evacuations were all partial evacuations in which people were directed to exit the bowl and then remained in the stadium concourses to seek shelter from the storms and lightning. The 2007 incident involving the fire sprinkler did not result in an evacuation even though the evacuation message sounded. People in the stadium failed to react appropriately to the evacuation message (shelley2126, 2007). A copy of this message can be found in Appendix D. This incident prompted officials to modify evacuation procedures (PWT36, 2007, September 22). One media outlet reported that the incident was enough to cause considerable concern over the ability of government officials to handle an evacuation of the stadium (Wagner, 2007).

The task of ensuring the safety of all event-goers rests on the municipality hosting an event. In most cases, the host of the event is clearly defined but the impact of an event can reach

beyond municipal boundaries. The probability that an evacuation of Lambeau Field will have an impact beyond the city limits is more pronounced when considering that the stadium, while in the City of Green Bay, is surrounded on three sides by the Village of Ashwaubenon. Based on the previous instances of partial evacuations of the stadium it is plausible to consider that a full evacuation may be necessary during some event. If a full-scale evacuation of the stadium occurs, it will affect multiple jurisdictions. An event of this magnitude that is almost certain to affect multiple jurisdictions will tax the GBFD as an organization.

Events in other areas of the country have shown that if an adequate plan is not in place to handle major evacuations that can be anticipated, public safety will be in jeopardy and confidence in the organization will be eroded. In a report titled “A Failure of Initiative,” a select congressional committee cited multiple examples of the erosion of confidence in local, state, and federal officials after Hurricane Katrina struck the Gulf Coast in 2006 (United States House of Representatives, 2006). In 2011, the failure to plan for the evacuation of a jail on Riker’s Island in New York caused public outcry against government officials (Hing, 2011). The mishandling of a high profile evacuation could cause a degradation of confidence in the GBFD and the city of Green Bay as an organization. Such a degradation of confidence may then decrease the effectiveness of the GBFD in day-to-day activities such as code enforcement, public education, and emergency operations.

A report issued in 2010 estimated the economic impact of the Green Bay Packers to the area as \$282 million annually. The same report estimated that during the 2009-2010 football season, 3,900 media clips related to the Green Bay Packers were viewed by over 271 million people. The value of that media coverage is estimated at \$14.2 million (AECOM Technical Services Inc. (AECOM), 2010). An event requiring the full evacuation of the stadium could

result in significant media coverage that may have negative effects economically in the area. If appropriate preparedness and mitigation efforts are in place prior to such an event, the economic impact could be mitigated.

This applied research project displays relevance to the coursework of the *Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM)*, R306 course of the National Fire Academy's Executive Fire Officer Program (EFOP) (National Fire Academy, 2011). Specifically, this research project is relevant to the following objectives of the *EAFSOEM* curriculum:

Unit 2: Community Hazards Emergency Response-Capability Assurance Process explained how to identify shortfalls within a community's resources to respond to major incidents. The unit also discussed how to determine what resources are available both publicly and privately to enhance response capabilities.

Unit 3: NIMS, Stafford Act, and FEMA Recovery reinforced the need to use and understand accepted methods of incident management and the principles of preparedness, response, mitigation, and recovery as they relate the management of large scale incidents.

Unit 5: The Emergency Operations Center and External Assistance explains how the different elements of an emergency operations center will support the Incident Management Team in a large-scale incident, particularly through the utilization of an established emergency operations plan.

Unit 9: Criswell Chemical Exercise stressed the interaction between an Incident Management Team, the Emergency Operations Center and policymakers. An event resulting in

an evacuation that crosses jurisdictional boundaries will require significant coordination within and Integrated Emergency Management System as discussed in this unit.

Unit 10: Earthquake Simulation demonstrated the use of an Incident Complex approach to incident command. An evacuation of the scale discussed in the project could require the use creation of an Incident Complex. Unit 10 also discussed various options of public protection other than evacuation, such as sheltering in place. Sheltering in place has been used as a protective measure in partial evacuations of the stadium.

Unit 12: Hurricane Preplan stressed the importance of engaging in planning efforts to ensure rapid response and mitigation in the event of a large scale incident. All events that may lead to the evacuations discussed in this project are known in advance of the event occurring and therefore should be planned for.

Analyzing what the impact of a full scale evacuation of the Lambeau Field on the stadium and the surrounding area will show what preparation and mitigation factors must be addressed prior to the situation occurring. Determining whether or not those preparation and mitigation factors are in place will define what steps need to be taken to minimize the impact of an evacuation. These issues correlate directly to the mission of the United States Fire Administration as it directly supports USFA Strategic Initiatives Goal 1: reduce risk at the local level through prevention and mitigation. This project also supports Goals 2 and 3: improve local planning and preparedness, and improve the fire and emergency services capability for response to and recovery from all hazards, respectively (United States Fire Administration, 2010).

Literature Review

The literature review will include existing relevant research in the area of evacuations, evacuation preparedness, and compliance with evacuation orders. Available literature relating to actual evacuations of stadiums or other large structures will also be discussed in the literature review. A review of the existing plans for emergency operations at the Stadium is also relevant. Evacuations of large structures, specifically stadiums, are not necessarily common occurrences and as such the actions of people directed to evacuate will vary. A review of the existing body of knowledge pertaining to thought patterns and processes of people involved in unexpected and stressful situations such as an evacuation will be critical to understanding the cascade effects of an evacuation.

The concept of evacuation is generally understood based on the definition of the word evacuate, which is “to withdraw from a place in an organized way especially for protection” (Merriam-Webster Incorporated, 2012). However, the reactions that individuals have when directed to evacuate an area or building, especially when the evacuation is not expected, may vary widely. In the book *Flirting with Disaster*, Sandra K. Schneider states that when unanticipated events occur, normal interactions between people may cease and be replaced with new and unexpected interactions. These interactions are not fully predictable, but they become manifest in distinct ways including aimless wandering in search of explanation or guidance, screaming, and hysterical crying. The development of new norms as a result of an unanticipated situation is referred to as collective behavior (Schneider, 1995). Collective behavior occurs when social actions are no longer guided by the usual conventions (Turner, 2010). The unexpected and possibly irrational behavior of large crowds or mobs could be attributed to collective behavior.

Schneider (1995) explains that there are four basic categories of collective behaviors: milling, rumor circulation, keynoting, and emergent norms. Milling occurs immediately after the event and is defined by people attempting to determine what behaviors are appropriate for the unexpected situation. Rumor circulation begins quickly as people look for an explanation of what has happened; rumors develop more quickly when information from authorities is lacking. As rumors develop and are circulated, one or two of them evolve into the primary rumor and develop momentum; this is called keynoting. Lastly, once keynoting begins to provide direction to affected people, new methods of interacting with others and the environment become the emergent norms.

Research also suggests that if the affected individuals in a crowd are not known to each other at some level, it is less likely that they will rely on each other for assistance during an unanticipated event. Schneider (1995) suggests that this will cause normally accepted behaviors to erode even more quickly. The development of collective behavior is facilitated by this expedited transition to emergent norms.

Some argue that the expectation of panic and disorder after a major incident is not based in fact. Behavior sometimes categorized as panic is nothing more than a normal response based on fear (Auf der Heide, 2004). A rational act may include fleeing from a disaster; Auf der Heide argues that panic only exists if the flight is hysterical and does not have direction or purpose. Auf der Heide writes that there is also a misconception of “disaster syndrome,” which is characterized by “psychological incapacitation.” This occurs only during extreme disaster and is usually a brief state.

The compliant or non-compliant response of a single individual to a given situation is based entirely on his or her perception of the situation. People who survive in life-threatening situations perceive the situation correctly and act appropriately, while those who perish do not (Gonzales, 2005). Additionally, people are routinely in a state of “inattention blindness” wherein their attention is focused on something and they fail to recognize or perceive the most obvious signs of danger (Green, 2009).

Even those who recognize obvious signs of danger may not act appropriately according to research in the field of survival. People faced with dangerous situations outside of what they normally experience may suffer from a syndrome called the “Incredulity Response” (Sherwood, 2009). This response is the typical “this can’t be happening” type of thought pattern. Sherwood cites the experience of Dr. John Leach during the Kings Cross fire of 1987. Kings Cross underground rail station in London, England is one of the busiest stops on London’s rail system, serving over 100,000 passengers during peak hours. The fire at Kings Cross is presumed to have started after a smoker carelessly discarded a match; 31 people perished as a result (London Fire Brigade, 2007). According to Sherwood, Dr. Leach was in Kings Cross station when he noticed black smoke beginning to fill the underground area. Leach quickly exited but noted that trains continued to arrive and passengers exited the trains into the burning station. Furthermore, commuters continued to enter the station from the streets as if nothing were wrong, despite the black smoke billowing up from the steps descending into the station. Dr. Leach stated that commuters entered the station to board a train while droves of commuters, some of whom were actually in flames, attempted to escape (Sherwood, 2009).

Another possibility is that people will recognize the dangerous situation, but instead of believing it is not happening, they just do nothing. Sherwood (2009) cites Lee Clarke, a Rutgers

University Sociologist, to explain the concept of “behavioral inaction,” a phenomenon in which people do nothing until they are told what to do. Behavioral inaction results when a person’s brain is unable to match the current situation with a memory of a similar situation. If there is no memory to use to determine what the appropriate course of action should be, the result is inaction (Sherwood, 2009). In these cases, non-compliance with evacuation orders may not be recognized by those being non-compliant. In 1988, following the Kings Cross fire, Sugiman and Misumi (as cited in Vaught et al., 2000) studied the behaviors of people caught in underground mine fires and pointed to the importance of directing evacuees. The research showed that in some cases it was more effective to have a person physically lead evacuees from a danger area than to have that person direct evacuees using a loud voice and gestures. Sugiman and Misumi (as cited in Bolton, 2007) found that evacuees followed instructions of police and firefighters in uniform better than they did if those giving instructions were in a different uniform.

Another possible result of issuing a decision to evacuate is “shadow” evacuation. Shadow evacuation occurs when people outside of the area or building affected decide to evacuate without being told to do so (Goldblatt, 2004). Shadow evacuation can cause additional traffic congestion that cause people in the affected area to have more difficulty evacuating. Goldblatt implies that planning for shadow evacuees is an important part of evacuation planning.

Shadow evacuation occurs when people hear a warning and decide to follow it even though they aren’t in any danger. Spontaneous evacuation is another potential result of an emergency requiring evacuation. Spontaneous evacuation occurs when people evacuate before an official warning is issued. This may occur based on what people see or what they perceive the problem to be. Spontaneous evacuation occurs in almost every evacuation (Sorensen & Vogt, 2006).

Much of the existing research on evacuation of structures is related to the workplace. The success of an evacuation from a building depends on the actions of officials, staff of a facility, and the evacuees. A successful evacuation plan includes the following: emergency escape routes; naming and training an evacuation team; procedures for employees who must remain to operate critical equipment; procedures to account for all occupants; communications devices and alternatives to initiate evacuation; communications devices and alternatives to alert fire and police; and rehearsal, drill and evaluation (Eisenberg, et al., 2005). To ensure success, it is recommended that evacuation drills in the workplace be practiced regularly with the frequency depending on employee turnover within a given area (Eisenberg, et al., 2005).

One of the most well known examples of evacuation of large buildings occurred on September 11, 2001 when terrorists attacked multiple locations in the United States using commercial jetliners. The evacuation of 8,000 to 12,000 people from the two World Trade Center towers in New York was successful, despite the deaths of almost 3,000 additional people. Almost every person who could escape the buildings did so, including 99 percent of the occupants below the aircraft impact area (Cauchon, 2001). The success of the 2001 evacuations is due in part to the lessons learned from previous evacuations of the World Trade Center (WTC). In February 1993, terrorists detonated a bomb in the basement of the WTC, killing six people and causing smoke to spread throughout both towers. The ensuing evacuation took some occupants in excess of three hours. Power interruptions caused low or no visibility, instructions could not be given to occupants because communications equipment was damaged, and most occupants had not participated in evacuation drills and were not familiar with routes and procedures (Proulx & Fahy, 2003).

After the 1993 bombing of the WTC, significant changes to the evacuation plan were implemented. Redundant power sources and back-up communications equipment were available. Evacuation routes had been more clearly marked with signage and photo luminescent paint. Fire Wardens were established on each floor and evacuation drills were held every six months (Cauchon, 2001; Proulx & Fahy, 2003).

Evacuation of individuals with special needs presents particular challenges in any evacuation scenario. The National Fire Protection Association (NFPA) (2007) establishes five categories of disabilities that could impact a person's ability to evacuate a building: mobility impairments, visual impairments, hearing impairments, speech impairments, and cognitive impairments. An interview of Hurricane Katrina evacuees found that over 40 percent of people who did not evacuate were physically unable to leave or were caring for someone with a disability (U.S. Department of Transportation, 2009). Special needs populations often make up a disproportionately large number of victims in disastrous situations. Preparation and training to manage special needs individuals during evacuations is a primary reason for increased injury or death in this population (Edson, John, & Webb, 2007). Attempting to wait for first responders to arrive and render assistance during a building evacuation would probably be a last resort for a person with special needs and his or her assistant. It is also noteworthy that if those assisting a person with special needs choose to remain with that person and delay their own evacuation, the life safety risk is doubled (National Fire Protection Association, 2007).

An example from the WTC evacuations illustrates the difficulties evacuating special needs occupants and a method for addressing their needs. After the WTC attack in 1993, every physically disabled person in the buildings was given an evacuation chair (Cauchon, 2001). One paraplegic survivor from the 2001 WTC evacuation was also evacuated during the 1993

bombing. In 1993, it took over six hours for him to evacuate from the 69th floor of the building. In 2001, it took just 30 minutes from the same floor using the evacuation chair (Proulx & Fahy, 2003).

The NFPA (2007) Emergency Evacuation Planning Guide for People with Disabilities also defines the elements of information needed by evacuees. The first element is notification of the emergency situation. The second is way finding, which defines the way out of the situation. The third element is how individuals determine whether they can get out alone or whether they will need assistance from a person or device. The fourth and final element of information is assistance. This element requires the person to know what kind of assistance they will need and follows the “who, what, where, when, why, and how” model.

Most of the people evacuating a stadium will initially do so on foot. Very little research exists on the subject of evacuations on foot, otherwise termed pedestrian evacuations. Bolton (2007) defines a pedestrian evacuation as a mass of people leaving a dangerous area on foot. Available research focuses on use of private vehicles and mass transit during evacuations. Bolton’s research conducted after terrorist attacks in New York and Washington D. C. draws attention to the impact that a pedestrian evacuation will have on vehicular evacuation traffic and the hazards of mixing the two. According to Bolton, one of the primary objectives for public officials in an evacuation is to move people away from the hazard area without exposing them to more hazards, including the hazard of pedestrian traffic mixing with moving vehicles trying to evacuate the same area.

Bolton (2007) suggests that because pedestrians have more flexibility in choosing an evacuation route, they are likely to interfere with the efforts of responders or mix with vehicular

traffic attempting to evacuate the same area. The desire to stay with what is familiar will most likely cause people to evacuate an area using the same method and route they used to get there. This will probably cause those who arrived in a personal vehicle to attempt to leave using that vehicle or at least use the route they used when they were in the vehicle.

Planning for pedestrian evacuations should be a part of any evacuation plan (Ercolano, 2009). According to Shekhar (as cited in Ercolano, 2009), evacuations on foot become more effective if evacuation volumes are over 5,000 persons per square mile. Ercolano also states that planned evacuations on foot can assist first responders to focus their efforts on special needs populations.

When evacuating a danger area, the most likely destination a person will choose is their home. Research from the terrorist attacks on September 11, 2001 and the electrical blackout in the northeastern United States in 2003 found that pedestrians walked much farther than necessary to reach a safe area or their home. In these instances, pedestrians mingled with vehicular traffic in congested or gridlocked streets and roadways (Bolton, 2007).

The United States Department of Homeland Security has developed the comprehensive Evacuation Planning Guide for Stadiums. According to the Guide, an evacuation plan should be part of a stadium's emergency operations plan (United States Department of Homeland Security, 2008). The Guide states that during an evacuation of a stadium the community will become part of the evacuation process. The Guide also suggests the formation of an evacuation team. This team would have specific responsibilities in the event of an evacuation (United States Department of Homeland Security, 2008).

Section 2.4 of the Guide specifically addresses the potential involvement of private sector and community-based organizations (CBOs) in the evacuation process. Private sector and CBOs should be involved in the planning process for stadium evacuations. Use of private sector or CBO facilities or resources should be outlined in agreements prior to an event requiring an evacuation of the stadium (United States Department of Homeland Security, 2008).

Section 2.5 of the Guide provides considerations and actions for managing transportation routes and modes during an evacuation. The United States Department of Homeland Security (2008) recommends developing partnerships with local transportation planning agencies and providers in advance of an incident. The Guide also recommends designating routes for emergency responders to access the stadium while an evacuation is in progress.

Section 3 of the Guide details considerations for specific evacuation routes and modes of transportation. This includes considering how the normal stadium traffic plan will be modified to accommodate an evacuation and the personnel necessary to accomplish this. This section of the Guide also provides actions to coordinate warning, alerting, and notifying anyone who will be affected by the evacuation (United States Department of Homeland Security, 2008).

In addition to providing considerations and actions for the development of an evacuation plan, the Department of Homeland Security (2008) publication also provides information for conducting post-incident reviews and after-action reviews. Guidance for plan exercising and maintenance are also given. A plan template is included in the guide, as well as an outline of the planning process and a data collection tool.

Chapter 13, Existing Assembly Occupancies, of the *National Fire Protection Association (NFPA) 101, Life Safety Code* states the following:

13.7.13.1 Emergency Plans shall be provided in accordance with Section 4.8

13.7.13.2 Where assembly occupancies are located in the high-rise portion of a building, the emergency plan shall include egress procedures, methods, and preferred evacuation routes for each event considered to be a life safety hazard that could impact the building, including the appropriateness of the use of elevators (p. 158).

Section 4.8.2 of the same code reads as follows:

4.8.2 Plan Requirements

4.8.2.1* Emergency Plans shall include the following:

- (1) Procedures for reporting of emergencies
- (2) Occupant and staff response to emergencies
- (3)* Evacuation procedures appropriate to the building, its occupancy, emergencies, and hazards (see Section 4.3)
- (4) Appropriateness of the use of elevators
- (5) Design and conduct of fire drills
- (6) Type and coverage of building fire protection systems
- (7) Other items required by the authority having jurisdiction (p. 40)

While NFPA codes are a consensus standard and not necessarily law, the standard still serves as a guide for emergency planning in the stadium.

A plan for emergency operations at Lambeau Field does exist. Due to the secure nature of the information in the Lambeau Field Emergency Response Plan, detail will not be discussed as part of this project. The document defines the purpose, goal, and scope of the Plan. It also details a schedule for plan review, training, and exercise. The Plan adopts the National Incident Management System concepts and methods and further details the use of Unified Command including the minimum representation expected. Escalation of the Plan is based on incident types and follows established protocols. Specific incident types and expected actions for each are defined within the Plan (Green Bay Packers, 2010).

Plans for evacuating the stadium are included in the Lambeau Field Emergency Response Plan. Considerations for making the decision to evacuate are clearly outlined. Prior to the start of an event, a video message containing evacuation information for various areas is broadcast throughout the stadium. Expected timelines for evacuation of the stadium are also provided in the plan. Roles and responsibilities are assigned, including post incident activities. Reporting and notification mechanisms are defined within the evacuation plan, as are authorities, assumptions, and expected actions (Green Bay Packers, 2010).

Literature surrounding the thought patterns and processes of people involved in unexpected and potentially dangerous situations suggested several possible reactions from individuals. It is possible that new behaviors will quickly emerge and form a newly accepted “normal” in the event of an incident requiring evacuation. Collective behaviors will likely result. It may also be that some people will become more independent while others will become more reliant on directions from public safety officials. Varied responses from individuals appear likely based on existing literature. Understanding these variations in personal reactions will help the

GBFD to appropriately plan for and function effectively during an evacuation situation at Lambeau Field.

Current research explains that the impact of an evacuation may reach beyond the area for which it was intended. Evacuations may also begin before officials have decided to conduct an evacuation. Awareness of these possibilities prior to an evacuation situation occurring is critical to ensure that GBFD personnel are prepared for the overall impact of the decision to evacuate.

Comprehensive documentation of actual evacuations of large buildings, while difficult to find, clearly illustrated the value of learning from actual incidents and incorporating those lessons into tangible improvements in an evacuation plan. Reviewing the impact of pedestrian evacuations resulting from building evacuations provides insight into the impact that mass foot traffic will have on vehicular evacuation routes. Existing research related to planning for evacuation of buildings, specifically stadiums, enables GBFD emergency managers to ensure that all elements of an evacuation plan are in place.

Procedures

This ARP used the Descriptive Research Method to determine the current measures in place for managing an evacuation of Lambeau Field. The research also reviewed measures in place in other stadiums and the expected behavior of people involved in an evacuation of the stadium. To better understand how people will respond to evacuation situations in large groups, the actual evacuations of large structures other than stadiums were reviewed to draw comparisons to a stadium evacuation. The study of actual evacuations also provided insight as to potential mitigation efforts that could be utilized to reduce the impact of an evacuation.

A questionnaire was distributed to other cities in the United States that protect stadiums used for NFL games. Cities receiving the questionnaire are listed in Table 1. Contact could not be established with New Orleans and Orchard Park, NY. The online survey tool at [surveymonkey.com](https://www.surveymonkey.com) was used to create the questionnaire.

Table 1: Requests for information

Arlington, TX	Atlanta, GA	Baltimore, MD	Charlotte, NC	Chicago, IL
Cincinnati, OH	Cleveland, OH	Denver, CO	Detroit, MI	East Rutherford, NJ
Foxborough, MA	Glendale, AZ	Houston, TX	Indianapolis, IN	Jacksonville, FL
Kansas City, MO	Landover, MD	Miami Gardens, FL	Minneapolis, MN	Nashville, TN
Oakland, CA	Philadelphia, PA	Pittsburgh, PA	San Diego, CA	San Francisco, CA
Seattle, WA	St. Louis, MO	Tampa, FL		

The questionnaire (see Appendix A) was sent by e-mail to contacts at fire departments in each of the cities where the NFL stadium was located. Contact information was gathered from the website of each fire department. If the only contact information found on the website was a telephone number, contact was made via telephone to get an email address. In one case, a personal contact was used. After allowing 21 calendar days for respondents to complete the questionnaire, the results were collected. Of 28 requests for information, 15 responses were received, yielding a response rate of 53 percent. Respondents were not asked to provide the name of the organization, city, stadium or respondent at any time when responding to the questions.

The questions were designed to provide information specifically related to a research question. Three questions allowed open-ended responses; choices were not provided. Three of the questions required answers regardless of the stadium's evacuation history. Remaining

questions were presented only if the stadium had either been fully or partially evacuated at some point. Full responses to all questions appear in Appendix B.

Questions regarding evacuation traffic control measures and the mechanism for enacting mutual aid for law enforcement were sent to the Green Bay Police Department (GBPD) and Ashwaubenon Public Safety (APS). Captain R. Demro of GBPD and Chief E. Dunning of APS answered these questions. The questions and responses are found in Appendix C. For security reasons portions of the responses from these two agencies have been redacted.

The questionnaire responses support descriptive research by providing examples of what measures other cities with NFL stadiums have in place to manage an evacuation of the stadium. The questions also demonstrate the effectiveness of those measures in managing full or partial evacuations. It should be noted that the questions distributed to other cities with NFL stadiums were not scientifically developed. Additionally, because respondents are not identified in any way, the responses cannot be related to the size of the organization that responds to the stadium, which could be helpful. Finally, the distribution of questions does not include cities with college stadiums. Gathering information from college stadiums may have provided more useable data, but the sheer number of cities with college stadiums would have been unmanageable by a single researcher with a limited timeline.

The answers provided by GBPD and APS also support descriptive research by defining what mechanisms are currently in place for requesting aid from other law enforcement agencies and what traffic control measures will be used to mitigate traffic problems. The primary limiting factor of the questions to law enforcement agencies are that no questions were distributed to other law enforcement agencies involved with NFL stadiums. The reason for this is that this

project was intended to review local traffic control and law enforcement measures already in place.

Answers presented from other cities were then compared to the measures in place locally. This allowed for an understanding of the depth of local preparation and mitigation efforts as compared to other cities in similar circumstances. The responses also gave insight into what the impact has been to other cities and stadiums when a full or partial evacuation has occurred. Responses received from local law enforcement agencies were compared to questionnaire responses related to traffic problems to consider whether or not adequate preparatory measures are in place.

Results

The results of research are presented with the research questions addressed by each finding. Descriptive research provided a great deal of information for most of the research questions. The research also delivered an unexpected finding related to the expected behavior of people in evacuation situations. Full responses to the questionnaire and partial responses to questions of local law enforcement can be found in appendixes A and B.

Research question one, “What are the potential effects of a mass evacuation of Lambeau Field on the stadium?” found that effects on the stadium were very limited. Based on the responses to question four of the questionnaire, stadium evacuations have not occurred in 60 percent of the respondent cities. 27.6 percent of respondents indicated their stadium has been partially evacuated. Full evacuations have occurred in 6.7 percent of respondent cities and both full and partial evacuations have occurred in 6.7 percent of respondent cities. Question five indicated that the primary reason, in fact the only reason, requiring an actual evacuation of a

stadium was severe weather. This is supported by existing research indicating that many of the countries stadiums are located in areas prone to lightning strikes (Gratz, et al., 2004).

Question six asked what impact evacuations have had on stadiums. In one instance of evacuation at a stadium the most significant issue was determining where to shelter such a large number of people. In another occurrence of evacuation the primary issue became heat-related illness due to a partial evacuation into an enclosed area. Several responses stated that there was no effect on the stadium. During the literature review no information was found that cited physical damage to a stadium due to an evacuation. Though question nine of the questionnaire indicated that injuries as a result of an evacuation either did not occur or were not known, one answer to question six indicated that the evacuation resulted in a “mass casualty incident.”

Research question two, “What are the potential effects of a mass evacuation of Lambeau Field on the city?” found that there may be some effects on the city if an evacuation occurs. Questionnaire question seven specifically asked what other cities have experienced when a stadium was evacuated. Two responses stated that the effects were either minimal or temporary, while two other responses indicated that there were no effects. One response stated that the evacuation put a strain on services throughout the city.

One response to question eight indicated that one city has experienced damage to business properties during the evacuation. Another response showed that one business had lost merchandise or stock during the evacuation. No businesses were closed, either temporarily or permanently, as a result of the evacuation. Additionally, no businesses suffered a damaged reputation.

Question 10 of the questionnaire, “Was there a major traffic issue because of the evacuation?” indicated that there was no traffic issue during four evacuations. One respondent indicated that there was a major traffic issue. The question does not distinguish between vehicular or pedestrian traffic but was intended to measure vehicular traffic problems. Bolton’s (2007) research on evacuation of metropolitan areas indicates that problems associated with pedestrian evacuations are not well understood. The same research shows that problems can be expected when vehicular traffic and pedestrian traffic comeingle during an evacuation (Bolton, 2007).

Existing research discovered during the literature review relates to research questions one and two. One unexpected finding was that while responders may expect mass hysteria, it is not necessarily going to occur (Auf der Heide, 2004). Schneider (1995) states that people are likely to behave differently in emergency situations such as an evacuation, but Auf der Heide believes their actions are appropriate when considered against the situation they are in. Auf der Heide cites examples of orderly evacuations during rapidly evolving crisis situations including the Tokyo subway attack, Beverly Hills Supper Club fire, and World Trade Center bombing.

Regarding research question two, research seems to indicate that the impact to the city might be minimal. Review of existing research found several examples of people carrying on as usual despite emergencies unfolding around them. One impact to the city could be a shadow evacuation of the area surrounding the stadium, adding to the traffic and increasing the number of people requiring assistance.

Research question three, “Are preparatory or mitigating measures already in place to minimize the effects of a mass evacuation on the stadium and the city?” found that most cities

with NFL stadiums have taken significant steps to plan for evacuations and emergencies at their stadiums. Question two of the questionnaire determined what officials have done to prepare for evacuation of a stadium. 100 percent of respondents answered question two. Table 2 displays responses to this question. While it appears that not all stadiums have an emergency response plan that is specific to the stadium, question one of the questionnaire provides contradictory information. Question one asks “Does the stadium in your jurisdiction have a site specific Emergency Operations Plan that is separate from any other Emergency Operations Plan?” All respondents answered “Yes.”

Table 2: Existing measures for stadium evacuation		
What measures do you have in place to handle an evacuation of your stadium? (Select all that apply)		
Answer Options	Response Percent	Response Count
Evacuation Plan (Stadium Specific)	93.3%	14
Emergency Operations Plan (Stadium Specific)	93.3%	14
Emergency Operations Plan (Not Stadium Specific)	20%	3
Stadium Staff have been trained in evacuation procedures	86.7%	13
Recorded audio messages to direct an evacuation	53.3%	8
Recorded video messages to direct an evacuation	20%	3
Communications plan for an evacuation	73.3	11
No evacuation measures are in place	0%	0
Other (please specify)	13.3%	2

Question two allowed for non-structured answers so that respondents could include any other measures they have in place to handle and evacuation. One respondent indicated that live audio announcements would be used if necessary. Another respondent stated that command staff in an elevated observation area work directly with safety and security personnel on all large events.

Researchers stress the importance of planning for evacuation of large buildings and outline the requirements of such plans (National Fire Protection Association, 2012; National Safety Council; Proulx & Fahy, 2003). Specific considerations for stadium evacuation are provided and readily available to officials for use in planning efforts (United States Department of Homeland Security, 2008). Review of the Lambeau Field Emergency Response Plan reveals that officials have developed an evacuation plan and established a schedule to review and exercise the overall plan.

In response to questions on preparation and mitigation efforts aimed at traffic concerns, local law enforcement officials indicate that measures are in place to manage an evacuation of the stadium. Plans include use of law enforcement and Department of Public Works personnel to turn all streets in the vicinity of the stadium into one way corridors going away from the stadium similar to normal post-game conditions. Regular traffic control measures during events at the stadium appear to have been developed with evacuation scenarios in mind (R. Demro, personal communication, February 21, 2012; E. Dunning, personal communication, February 12, 2012).

Local law enforcement officials also indicated that there are mechanisms in place to request assistance from other law enforcement agencies if necessary. Initial decisions to request assistance would be made by Unified Command. Aid agreements are in place to request long-term assistance if it is needed (R. Demro, personal communication, February 21, 2012; E. Dunning, personal communication, February 12, 2012).

Responses to research question four, “What additional preparatory or mitigating measures could be implemented to minimize the effects of a mass evacuation on the stadium and the city?” show that some changes could be made. Question three of the questionnaire provides

some insight into the use of non-profit organizations during evacuations. Five of the 15 respondents answered this question. Four stated they do not use non-profit groups during evacuations. The fifth said that the Red Cross or Salvation Army have disaster teams nearby that would be used in the event of a mass casualty response.

Current research in the area of pedestrian evacuation suggests that more planning should focus on foot traffic as a viable option for evacuation of immediate hazard areas. The evacuations of New York and Washington, D.C. have shown how effective pedestrian evacuation can be (Ercolano, 2009). Ercolano also discussed the New Orleans evacuation to point out that unplanned or unanticipated pedestrian evacuations can be disastrous.

Existing literature related to research question four demonstrates that how and when people are directed is important. Signage and early warnings are critical to the success of an evacuation (National Fire Protection Association, 2007; Proulx & Fahy, 2003). Specifically, the method by which people are instructed to evacuate can determine the effectiveness of the evacuation (Vaught, et al., 2000). Uniformed public safety officials providing instruction to evacuate is also more effective than other personnel providing similar instructions (Bolton, 2007).

Mitigation measures for special needs populations are defined by existing literature. Those with special needs may require varied alerting mechanisms to ensure that they are alerted to danger. Personnel should be assigned to assist any person who is unable to evacuate on their own. Research states that areas of rescue assistance can be utilized to evacuate special needs individuals and special equipment may be necessary.

Discussion

Results from the questionnaire indicate that almost all of the respondent cities have put considerable effort into planning for emergencies that may include an evacuation of the stadium. Very little information from actual stadium evacuations was available, possibly indicating that full or partial evacuations of stadiums are not common. This is supported by responses to the questionnaire, which indicate that 60 percent of stadiums have not been evacuated at all. All evacuations that were documented and reviewed in literature resulted from severe weather in the area of the stadium (@RedCrossWWC, 2011; Dougherty, 2011; Gratz, et al., 2004; Nelesen, 2009). Again, this is supported by all respondents indicating that severe weather was the reason for evacuations they had experienced. Based on these results, officials will probably be able to determine whether or not an evacuation is likely based on predictable factors, such as weather forecasts.

One non-weather related incident that should have resulted in evacuation but did not received significant attention. The incident involved the stadium-wide activation of a fire alarm at Lambeau Field during a game (Wagner, 2007). Though an evacuation did not ensue, the example highlights the fact that people will ignore warnings and not take appropriate action if they do not personally perceive danger (shelley2126, 2007). The actions of people attending this event clearly illustrate Green's (2009) "inattentional blindness" and Sherwood's (2009) "incredulity response" theories. Furthermore, it provides rationale for the early and obvious warnings suggested by several of the cited sources (National Fire Protection Association, 2007; National Safety Council; United States Department of Homeland Security, 2008).

Research suggests sheltering occupants in place in some situations (United States Department of Homeland Security, 2008). For the purposes of this study, sheltering in place is considered a partial evacuation. Two of five responses to question six of the questionnaire indicated that problems resulted from sheltering in place. One problem was finding space to shelter people. The other problem was a mass casualty incident resulting from sheltering in an enclosed space for a long period of time. This author also has personal experience with similar problems occurring during partial evacuations at Lambeau Field. While a mass casualty incident did not occur, a noticeable increase in heat-related incidents during the sheltering did occur.

Research into the effects of the evacuation on the city yielded new information for GBFD officials to consider because there have been no full evacuations of Lambeau Field. Responses suggest that any impact will be minimal and short-lived, though an operational impact on service delivery is possible. These findings are supported by Bolton's (2007) research indicating that most people will simply leave the area of the stadium in an effort to get home. Behavior of people involved in an evacuation will probably be more calm than originally anticipated (Auf der Heide, 2004). There was an expectation of a significant impact on the city; however, neither existing research nor questionnaire responses support that.

Pedestrian evacuation in the event of a stadium evacuation may cause problems with vehicular traffic (Bolton, 2007; Ercolano, 2009). One respondent who experienced a stadium evacuation indicated that a major traffic problem resulted. Ercolano's urging to create "Walk Out" plans for pedestrian evacuations may help to eliminate this problem completely. Bolton's research, while pointed at the pedestrian evacuation of an entire metropolitan area, is relevant to the topic of stadium evacuations when considering that the capacity of Lambeau Field represents almost 70 percent of the entire city population. Local law enforcement is confident that traffic

plans can manage vehicular evacuation traffic. While significant foot traffic is common immediately following a game, the destination is predictable as people are going to their transportation home. In the event of an evacuation, the destination may be less predictable because people may only be trying to leave the area of the stadium. Officials may need to deal with pedestrians trying return to the area during or after an event to retrieve vehicles.

Research shows that spontaneous and shadow evacuations may result from an incident at Lambeau Field (Goldblatt, 2004; Sorensen & Vogt, 2006). None of the questions presented to other cities addressed either of these issues. Without significant visual cues that a problem exists, it is not likely that a spontaneous evacuation of the stadium will occur. This assumption is based primarily on the author's past experiences and the premise that people have paid significant sums of money to be allowed in the stadium. The assumption is also supported by Green's (2009) theory that people are regularly unaware of their surroundings because their attention is directed elsewhere. However, a spontaneous evacuation could result if single person a small group perceives danger and begins to evacuate. Depending on the reason for the evacuation, media coverage may cause a shadow evacuation of the area around Lambeau Field. Considering that most evacuations appear to be the result of severe weather, a shadow evacuation also seems unlikely.

It appears that for or an evacuation of the stadium to be effective, a visible presence from public safety officials will necessary. It may also be necessary to have uniformed public safety officials lead people from the stadium to increase the effectiveness of the evacuation (Vaught, et al., 2000). Coupling the need for officials to physically lead people from the stadium with considerations for special needs populations calls for an increased presence of public safety personnel or other trained staff in the event of an evacuation. One response to question three of

the questionnaire supports these findings by specifically indicating that only trained fire and EMS personnel, police, and stadium security staff will be used during an evacuation.

Evacuation plans must address concerns for special needs populations. The questionnaire did not gather information on special needs populations. The emergency plans for Lambeau Field do include measure to address the needs of those with physical or cognitive disabilities (Green Bay Packers, 2010). The plan specifies who is responsible for ensuring that disabled individuals are assisted as necessary. To assist individuals with special needs, responders must first know precisely where these individuals are. While many of the seating areas specified for disabled individuals in the stadium are clearly visible, some areas are not. A mechanism for tracking the location of individuals who may need evacuation assistance would be helpful.

Both existing research and responses to the questionnaire show the importance of planning, exercising, and learning from actual events. Few examples of a full-scale evacuation of a large structure exist. Action based on lessons from previous evacuations has been shown to increase the effectiveness of future evacuations (Cauchon, 2001; Proulx & Fahy, 2003). Practicing evacuations is clearly indicated in existing literature (Eisenberg, et al., 2005; National Fire Protection Association, 2007; National Safety Council), but there is no likelihood that a full-scale evacuation of Lambeau Field could ever be practiced.

Responses to questions one and two of the questionnaire indicate that a majority of respondent cities have are planning for evacuations and other emergencies at stadiums. All stadium planning referenced in responses appears to follow many of the recommendations from the Department of Homeland Security (2008). The Lambeau Field plan also follows these recommendations.

The findings of this project indicate that officials are well prepared to manage an evacuation at Lambeau Field. Some enhancements to plans could be made to increase the effectiveness of an evacuation. Further analysis of previous evacuation incidents at Lambeau Field may provide additional insight for enhancements. The organization implication is that officials can now view a potential evacuation as a valuable tool for ensuring the public's safety rather than an event with drastic negative consequences.

Recommendations

The literature review and original research of this ARP provide information that can be used to improve some areas of the evacuation plan. Enhancements to the plan would help to ensure as few problems as possible if an evacuation is needed. Some of the enhancements would only require action on the part of GBFD personnel and some would require action on the part of other organizations.

Results of this research indicate that non-profit organizations could be incorporated into the evacuation plan to assist GBFD personnel, other public safety officials, and stadium staff. NPO personnel would probably most effective if they are used to coordinate some activities outside of the stadium area rather than trying to get to the stadium. NPOs may be particularly useful as staff of a family assistance center. If NPO personnel are properly trained and undergo continuing training, they might also be used to staff a Joint Information Center. The involvement of NPO personnel would allow GBFD personnel, stadium staff, and GBPD personnel to focus on mission critical elements of the plan.

Almost all evacuation of the stadium will begin as a pedestrian evacuation. As a preparatory measure, GBFD, Green Bay Packers, GBPD, APS, and public works agencies

should establish “Walk Out” routes to be used by individuals who do not have a vehicle immediately available. The planning for these routes should include clearly identifying and communicating the routes to visitors of the stadium. The routes should direct people away from the stadium to areas where they can find shelter or public transportation. This recommendation positively influences the current plan by facilitating more expeditious and continuous movement out of the hazard area, bringing the situation to an end more quickly.

As a mitigation effort to enhance the efficiency of the evacuation plan, GBFD, GBPD, and stadium staff should all be trained to act as guides or escorts during an evacuation. The training should stress why it is important for uniformed people to lead evacuees. As additional responders arrive at the stadium, they could immediately begin guiding evacuees. This training would include familiarization with the “Walk Out” routes from the previous recommendation. Escorts would guide evacuees to the nearest route to facilitate movement away from the stadium. The obvious presence of public safety officials will decrease the impact of an evacuation of both the stadium and the city and by helping to maintain order and calm during the evacuation.

A system of tracking the location of people who will need assistance evacuating should be developed. Stadium staff members already know whether or not seats reserved for people with disabilities are sold. A system that transfers this information to GBFD personnel could be created. Additional information outlining specific needs of individuals would also help to focus the efforts of rescue personnel during an evacuation. As part of this system, areas of rescue assistance would be utilized. Regular refresher training on the location of areas of rescue assistance would be required for all public safety personnel. The tracking system and use of rescue assistance areas will expedite and ensure accountability for evacuation of individuals with special needs.

The final recommendation is that all GBFD personnel undergo annual training on the emergency response plan with a focus on the evacuation section. At present, GBFD management is familiar with the plan and routinely reviews it. An increased awareness of the overall concepts contained in the plan and a thorough understanding of the evacuation plan would be of benefit to GBFD responders. It would also improve efficiency of an evacuation and therefore benefit the public.

Any agency tasked with protecting a stadium would benefit from further study in several areas. Expanding the study to include collegiate stadiums and venues used for sports other than football may yield more results, specifically as they relate to different concerns for enclosed versus open venues. Research on computer modeling of crowd behaviors in stadiums in emergency and non-emergency situations would be helpful. A standardized system of reporting full and partial stadium evacuations that documents time from start to finish would aid planners in determining when to initiate an evacuation.

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Appendix A: Questionnaire

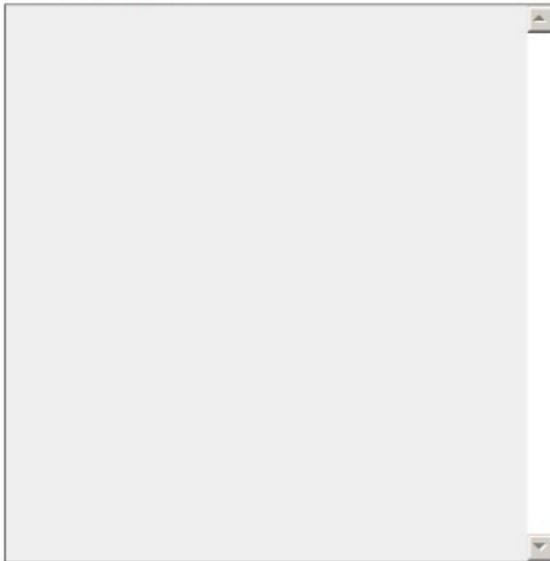
NFL Stadium Questionnaire (EFO Research Project)

***1. Does the stadium in your jurisdiction have a site specific Emergency Operations Plan that is separate from any other Emergency Operations Plan?**

- ☐ Yes
☐ No

***2. What measures do you have in place to handle an evacuation of your stadium?
(select all that apply)**

- ☐ Evacuation Plan (Stadium Specific)
☐ Emergency Operations Plan (Stadium Specific)
☐ Emergency Operations Plan (Not specific to the stadium)
☐ Stadium Staff have been trained in evacuation procedures
☐ Recorded audio messages to direct an evacuation
☐ Recorded video messages to direct an evacuation
☐ Communications plan for an evacuation
☐ No evacuation measures are in place
☐ Other (please specify)

A large, empty text input area with a light gray background and a thin black border. It has a vertical scrollbar on the right side, indicating it is a multi-line text field. The area is intended for the user to specify other evacuation measures if they select the 'Other (please specify)' option.

NFL Stadium Questionnaire (EFO Research Project)

3. If you have a stadium evacuation plan that utilizes non-profit organizations in any way, please explain how they are used.

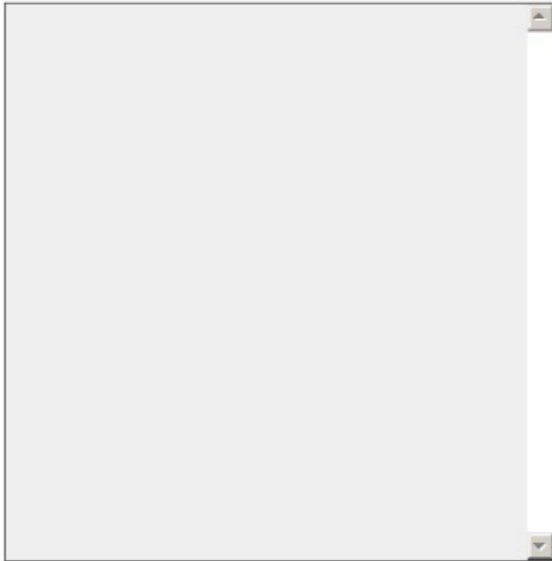
***4. Has the stadium in your jurisdiction ever been partially or fully evacuated? (A partial evacuation may include moving people from non-sheltered areas of the stadium to sheltered areas within the stadium.)**

- ☐ The stadium has been partially evacuated.
- ☐ The stadium has been fully evacuated.
- ☐ The stadium has been both fully and partially evacuated.
- ☐ No

NFL Stadium Questionnaire (EFO Research Project)

5. If your stadium has ever been fully or partially evacuated, what was the primary reason?

- ☐ Severe Weather
- ☐ Fire or Fire Alarm
- ☐ Hostile Threat
- ☐ Structural Problem
- ☐ Other (please specify)

A large, empty text input area with a light gray background and a thin black border. It has a vertical scrollbar on the right side, indicating it can accommodate multiple lines of text.

6. What effects did the evacuation have on the stadium?

A single-line text input field with a light gray background and a thin black border. It includes a small vertical scrollbar on the right side.

7. What effects did the evacuation of the stadium have on the city?

A single-line text input field with a light gray background and a thin black border. It includes a small vertical scrollbar on the right side.

NFL Stadium Questionnaire (EFO Research Project)

8. Were any businesses impacted in the following ways as a result of the evacuation?

- ☐ Loss of Business (short term, less than one week)
- ☐ Loss of Business (long term, one week or longer)
- ☐ Loss of Business (permanently closed)
- ☐ Damage to Property
- ☐ Damaged or Lost merchandise/stock
- ☐ Damage to Reputation
- ☐ No businesses were impacted

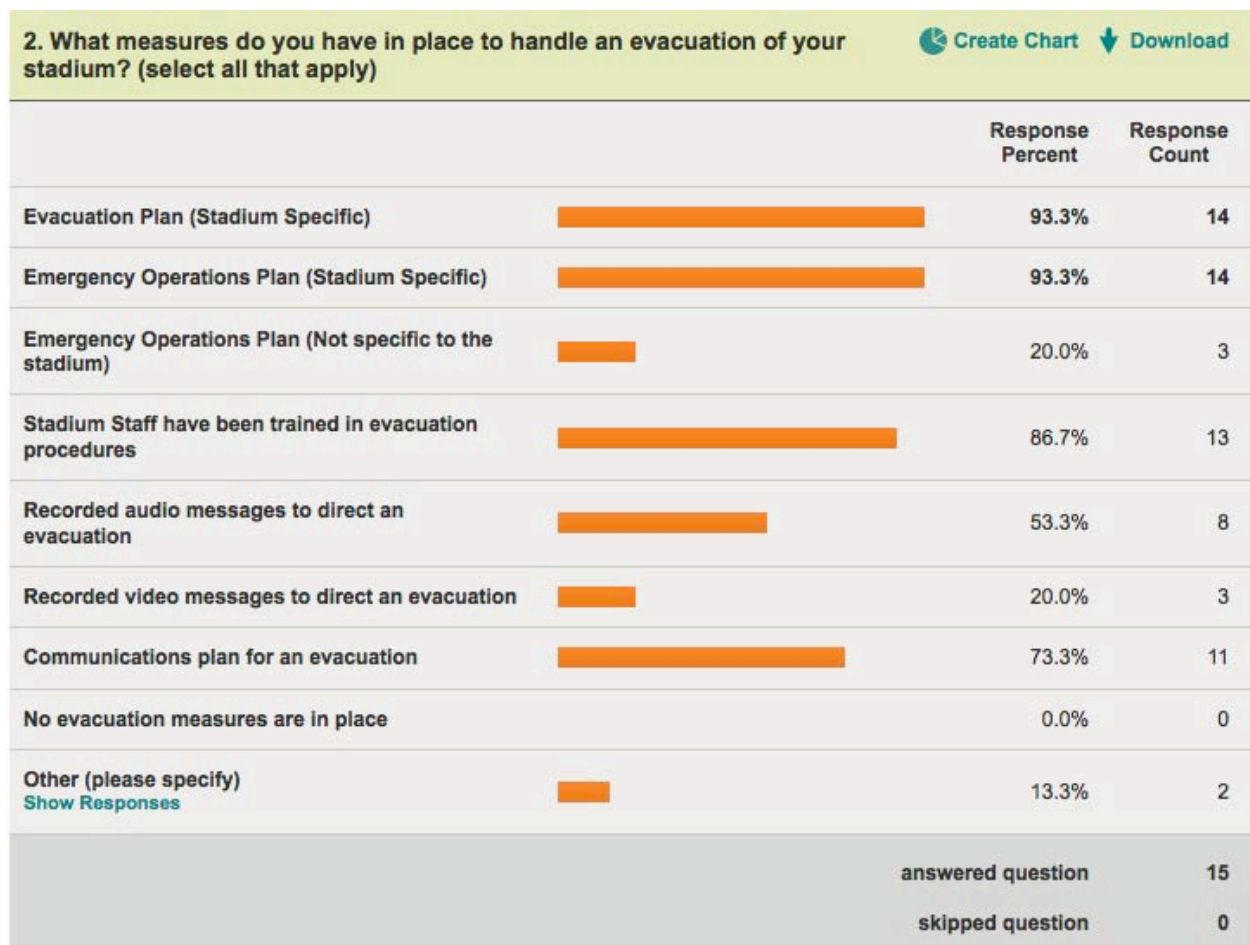
9. Were any people injured as result of the evacuation?

- ☐ Yes
- ☐ No
- ☐ Unknown

10. Was there a major traffic issue because of the evacuation?

- ☐ Yes
- ☐ No
- ☐ Unknown

Appendix B: Questionnaire Responses



3. If you have a stadium evacuation plan that utilizes non-profit organizations in any way, please explain how they are used.

[Download](#)

		Response Count
Hide Responses		5
Responses (5) Text Analysis My Categories (0)		
Showing 5 text responses		No responses selected
No, We used all educated agencies, stadium security, police, fire\EMS personnel .		
2/16/2012 7:55 PM View Responses		
n/a		
2/14/2012 12:01 AM View Responses		
N/A		
2/9/2012 12:13 AM View Responses		
No		
2/6/2012 6:28 AM View Responses		
In the event of a mass casualty or mass injury both the Red Cross and Salvation Army have disaster response teams in the area ready to assist		
2/4/2012 1:10 PM View Responses		
answered question		5
skipped question		10

4. Has the stadium in your jurisdiction ever been partially or fully evacuated? (A partial evacuation may include moving people from non-sheltered areas of the stadium to sheltered areas within the stadium.)

[Create Chart](#) [Download](#)

		Response Percent	Response Count
The stadium has been partially evacuated.		26.7%	4
The stadium has been fully evacuated.		6.7%	1
The stadium has been both fully and partially evacuated.		6.7%	1
No		60.0%	9
		answered question	15
		skipped question	0

5. If your stadium has ever been fully or partially evacuated, what was the primary reason?

 [Create Chart](#)  [Download](#)

	Response Percent	Response Count
Severe Weather	100.0%	5
Fire or Fire Alarm	0.0%	0
Hostile Threat	0.0%	0
Structural Problem	0.0%	0
Other (please specify)	0.0%	0
answered question		5
skipped question		10

6. What effects did the evacuation have on the stadium?

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	Response Count
Hide Responses	5
Responses (5) Text Analysis My Categories (0)	
Showing 5 text responses	No responses selected
Due to the time of year (hot) and length of time of one of the partial evacuations into an enclosed area, one evacuation caused a mass casualty incident. 2/22/2012 9:02 AM View Responses	
Most all of the crowd stawed in the shelter area. Once storm passed the game continued. 2/8/2012 3:04 PM View Responses	
None 2/6/2012 3:47 PM View Responses	
No effects 2/6/2012 10:00 AM View Responses	
No effects on stadium but we had a severe issue with regards to where to put all of the fans of all ages 2/4/2012 1:12 PM View Responses	
answered question	5
skipped question	10

7. What effects did the evacuation of the stadium have on the city?		Download
		Response Count
		Hide Responses 5
Responses (5) Text Analysis My Categories (0)		
Showing 5 text responses		No responses selected
None - they were temporary 2/22/2012 9:02 AM View Responses		
minimal 2/8/2012 3:04 PM View Responses		
None 2/6/2012 3:47 PM View Responses		
No effects 2/6/2012 10:00 AM View Responses		
Put a strain on providing services throughout the rest of the city 2/4/2012 1:12 PM View Responses		
		answered question 5 skipped question 10

8. Were any businesses impacted in the following ways as a result of the evacuation?

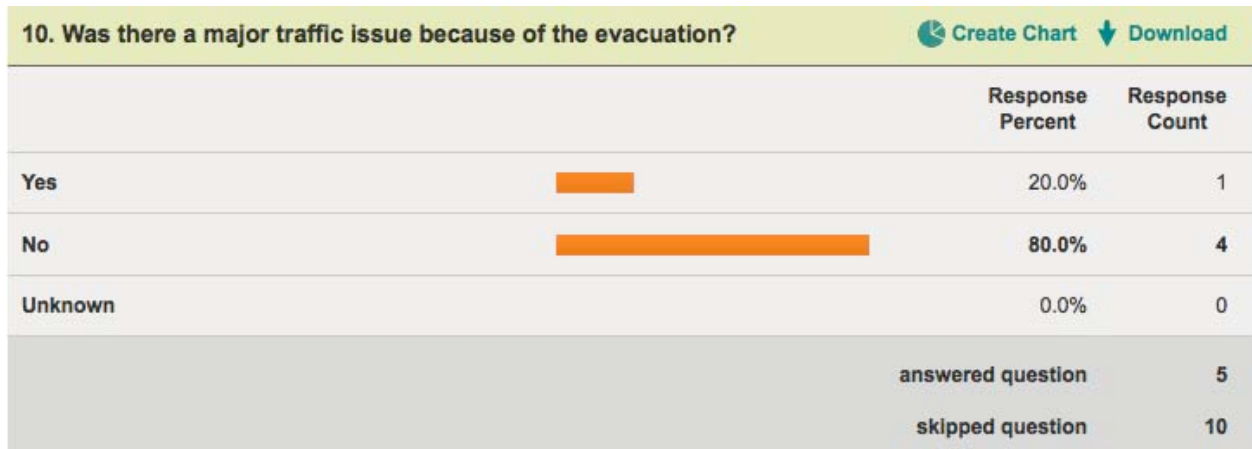
[Create Chart](#) [Download](#)

		Response Percent	Response Count
Loss of Business (short term, less than one week)		0.0%	0
Loss of Business (long term, one week or longer)		0.0%	0
Loss of Business (permanently closed)		0.0%	0
Damage to Property		25.0%	1
Damaged or Lost merchandise/stock		25.0%	1
Damage to Reputation		0.0%	0
No businesses were impacted		75.0%	3
answered question			4
skipped question			11

9. Were any people injured as result of the evacuation?

[Create Chart](#) [Download](#)

		Response Percent	Response Count
Yes		0.0%	0
No		60.0%	3
Unknown		40.0%	2
answered question			5
skipped question			10



Appendix C: Law Enforcement Questions and Responses

From: Robert Goplin [mailto:robertgo@greenbaywi.gov]
Sent: Sunday, February 12, 2012 8:35 PM
To: Eric Dunning
Subject: Research project questions

Eric,

I am working on a research project related to Lambeau Field. I spoke with Assistant Chief Sterr and she suggested that you and Rick Demro might be able to give me some assistance. My project will evaluate what the potential impact of a full scale evacuation of Lambeau would be on the stadium and the surrounding area. Given that we have partially evacuated 3 times in the last 4 years, I suspect it is only a matter of time. Could you please help me out with some answers to the following:

1. In order to answer a research question about the preparatory and mitigation measures that are in place to minimize the effects of a full scale evacuation, could you tell me what traffic plan the Police Department and/or DPW would enact if there is a full scale evacuation?
2. To answer the same research question, what mechanism can a police department use to get assistance from other agencies to assist with and enforce a stadium evacuation? (anything similar to MABAS? If so, how does it work?)

Robert Goplin

From: Eric Dunning [REDACTED]
Sent: Monday, February 13, 2012 11:42 PM
To: Robert Goplin
Subject: RE: Research project questions

Rob,

To assist you in answering your question I can only speak on behalf of Ashwaubenon. If an evacuation was declared for Lambeau Field, Ashwaubenon Public Safety would revert to our post game traffic plan. This would include the DPW setting barricades in the Lambeau Field area to create one way traffic patterns going away from Lambeau Field and the barricading of cross streets. The assignment of officers to traffic control would be time sensitive to the time of the evacuation. [REDACTED]

[REDACTED] The post-game platoon of officers report to the Public Safety building [REDACTED]
 [REDACTED] and report to their posts [REDACTED]

[REDACTED]
 [REDACTED] For immediate assistance in law enforcement needs to stadium evacuation I would anticipate that through the coordination of the Packer operation center [REDACTED]

[REDACTED] assigned to traffic evacuation. Police Depts. that are not impacted by Packer game day and could be utilized for assistance would be De Pere PD, Oneida PD, Hobart-Lawrence PD, and the State Patrol. Law Enforcement does have a call up system called "Emergency Police Services", this system is implemented after you are into an incident and begin to realize that this going to be a long term event that is going to deplete your immediate law enforcement resources.



GREEN BAY POLICE DEPARTMENT OPERATIONS DIVISION

Capt. Rick Demro

Phone 448- [REDACTED]

Question 1: If it is just an evacuation we would use our after game traffic plan. Depending on the reason for the evacuation and it's urgency to get people away from the stadium this would possible change our traffic plan. But under most circumstances we would make all streets one-way going away from the stadium. We would [REDACTED] override the lights or stop signs so traffic could move away from the stadium without being stopped. [REDACTED]

[REDACTED] control intersection farther out from the stadium. The more intersection and the father out that you can control them will allow you to push more traffic away from the stadium faster. DPW would be used to barricade streets and intersection where we would want hard closures. This would control traffic so we don't get vehicles heading towards the stadium to see what is happening and causing additional traffic problems. [REDACTED]

Question 2: For a large scale event where we would need assistance, locally we have all the major decision makers' onsite to get whatever resources they have. Above and beyond that mutual aid is the requesting system. [REDACTED] At the state level WEM would be a possibility [REDACTED] making a request using mutual aid to [REDACTED] would be our fastest and most likely call.

Appendix D: Message Board Post

greenbaypressgazette.com :: View topic - Is Lambeau Field secure? <http://forums.greenbaypressgazette.com/viewtopic.php?t=18175&sta...>

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Author	Message
Story Chat Site Admin Joined: 15 Aug 2006 Posts: 0 Back to top	Posted: Mon Sep 10, 2007 3:32 pm Post subject: Is Lambeau Field secure? Reader comments and feedback for the Is Lambeau Field secure? article. profile Report Abuse
shelley2126 Joined: 10 Sep 2007 Posts: 1 Back to top	Posted: Mon Sep 10, 2007 9:31 pm Post subject: Is Lambeau Field Secure? I was at the game on Sunday and the emergency message was confusing. It was a recorded message with sirens, etc. It simply played over and over telling people to leave the stadium. No one on the field left, they were lined up waiting for the Packers to come out and they all just stood there. The sirens started when the Eagles came on the field and everyone laughed. Some people did start to leave. If this wasn't a real emergency I think they were lucky a stampede didn't start because people could have been hurt. If it indeed was an emergency it should have been a real person telling everyone to leave the stadium. I sure would like to know what was going on! Back to top profile Report Abuse
The Federalist Papers Joined: 19 Apr 2007 Posts: 557 Location: In front of my computer Back to top	Posted: Mon Sep 10, 2007 9:50 pm Post subject: Is Lambau field secure? No, and it never will be , It is impossible to stop someone determined enough, It will never be safe, It cannot be. The president has hundreds of men that do nothing but protect him, Kennedy and Reagan still got shot. If 300 men can't protect 1 man, what makes anyone think that a building the size of a city block with 60,000 people in it can be protected? "And that the said Constitution be never construed to authorize Congress to prevent the people of the United States, who are peaceable citizens, from keeping their own arms;..." Samuel Adams Back to top profile Report Abuse

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