

A Community at Risk: Shenandoah Apple Blossom Festival® Hazard Analysis

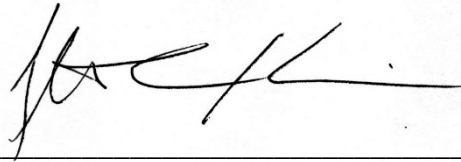
Scott E. Kensinger

Winchester Fire & Rescue Department, Winchester, Virginia

Certification Statement

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

Signed: _____

A handwritten signature in black ink, appearing to read 'Scott E. Kensinger', written over a horizontal line.

Scott E. Kensinger

Abstract

The problem was the Winchester Fire and Rescue Department (WFRD) public safety response model did not adequately address the increase in community risk during the Shenandoah Apple Blossom Festival® (SABF). The consequences of this inadequacy are the unknown levels of potential risk that may exist and have unfavorable outcomes for emergency response during the festival. The purpose of this research was to identify the increased community risk during the festival and develop a response model that is consistent with the risks that have been identified. This project focused on the following three questions to justify changes to existing special event planning processes: (1) what demographics/data presently exist or should be developed to address the risk associated with the SABF, (2) what industry standards, codes or information exist that adequately address and focus on emergency response for large scale public events, (3) what public safety response strategies or methodologies have other fire and rescue agencies taken to address the increase in community risk. The descriptive research method combined with a literature review of industry practices contributed to the findings. WFRD electronic information and extensive use of online resources aided in the research of this problem. The results indicated that during the 10-year lookback period identified during the festival there was a direct correlation of increased incident response due to increased outside temperatures. With comparative analysis to industry practices, the WFRD did not make adequate plans to address associated risk for expanding operations beyond their span of control for public safety services. Recommendations of this research included: seeking educational opportunities, requirements for NIMS adherence, risk identification and planning with festival officials, execution of pre-event event drills, adoption of FEMA developed planning guides, development of policies and procedures for planning and operations, and post-event statistical analysis for future planning and fiscal needs.

Table of Contents

Certification Statement	2
Abstract	3
Table of Contents	4
Introduction	5
Background and Significance	7
Literature Review	12
Procedures	18
Results	20
Discussion	26
Recommendations	30
References	32

Appendices

Appendix A: Apple Blossom Task Force Map.....	34
Appendix B: Apple Blossom Festival Red Zone Map.....	35
Appendix C: Online Survey Questions and Results	36
Appendix D: Special Event Interview – Douglas Kahn	40
Appendix E: Special Event Interview – Kevin Johnson	41

List of Tables and Figures

Table 1. 10-Year SABF Event/Department Statistics Summary	21
Figure 1. 10-Year Event/Incident Correlation	21
Table 2. 10-Year SABF Climate Maximums	22
Figure 2. 10-Year Event Incident vs. Climate History	23
Table 3. 2016 Event Crowd Estimation/Emergency Response Data	24

Introduction

Special events and mass gatherings of people can provide for unique challenges to a locality that typically only focuses their public safety services on the day-to-day needs of the community. Ultimately, it is the responsibility of the public safety officials to ensure that adequate resources are made available to mitigate incidents that may arise at these types of events. Through systematic risk analysis identification, incident action plans can be created to identify the potential hazards associated with special events and also provide to contingency planning for additional resources in the event of emergencies exceeding the localities span of control.

Since 1924, each May brings a special event to the City of Winchester, Virginia that is known throughout the country as the Shenandoah Apple Blossom Festival® (SABF). This is a time when the residents of the City open up their arms to the public to celebrate the beginning of spring and the apple growing season. Over the 89 years of existence, this festival has attracted hundreds of thousands of people to the region that include dignitaries such as American Presidents: Lyndon B. Johnson and Gerald R. Ford as well as Hollywood superstars such as Bing Crosby, Bob Hope, and Lucille Ball (Brill, D. L., 2001, p. 175). This annual festival spans a two-week period with 43 scheduled events to include a firefighters apparatus parade and a grand feature parade that has been estimated to attract over 250,000 people ranking it in prominence with the Macy's Day Parade in New York, the Cherry Blossom Parade in Washington, D.C., and the Tournament of Roses Parade in California (Brill, D. L., 2001, p. 156). The City of Winchester and particularly the immediate downtown historical district are the main geographic location for the festival events in addition to some locations spread throughout neighboring Frederick County, Virginia.

Each year, City of Winchester public safety agencies will spend months preparing an incident action plan that also involves SABF committee members. These agencies include: the Winchester Fire and Rescue Department (WFRD), Winchester Emergency Management Department, Winchester Sheriff Department (WSO), the Winchester Police Department (WPD), and the Virginia Defense Force (VDF).

The problem and the focus of this research is that the WFRD public safety response model does not adequately address the increase in community risk during the SABF event. Furthermore, the purpose is to identify the increased community risk during the festival and develop a response model that is consistent with the risks that are identified.

The descriptive method of research was used in this research process that focuses on three questions. Question 1, what demographics/data presently exist or should be developed to address the risk associated with the SABF? This question examines the festival history and the involvement of the WFRD, current City demographics, geographical layout of the event areas, weather demographics, identifying known areas of community risk, past response history, current festival requirements, and current response models employed.

Question 2, what industry standards, codes or information exist that adequately address and focus on emergency response for large scale public events? Whereas, public safety response elements required for managing large scale public events along with calculation methodologies to develop adequate public safety response needs and the identification of outside resources for public safety support are researched.

Question 3, what public safety response strategies or methodologies have other fire and rescue departments taken to address the increase in community risk during times of large scale

public events? This information will be gleaned through survey and review of response models from outside jurisdictions as well as personal interviews with planners of similar natured events.

Background and Significance

Generally, fire and rescue departments are an all-hazards service that responds to any type of emergency that may threaten a community which can include emergency incidents at special events. According to FEMA, a special event is identified as:

A non-routine activity within a community that brings together a large number of people. Emphasis is not placed on the total number of people attending but rather the impact on the community's ability to respond to a large-scale emergency or disaster of the exceptional demands that the activity places on response services (U.S. Department of Homeland Security, 2005, p. 1-1).

The City of Winchester is a small urban community in Virginia that is geographically located in the northern Shenandoah Valley just 75 miles west of the Washington, D.C. It is the oldest City in Virginia west of the Blue Ridge Mountains that has a political boundary of 9.23 square miles with a population of 27,284 residents that can swell two-fold on any given workday to support the many businesses in the area (U.S. Census Bureau, 2015, n.p.). The City boasts a downtown historical district that dates back to the mid-18th century which includes walking malls and dense brick and mortar taxpayer type infrastructure. This historical district has been transformed into a cultural attraction for citizens and visitors for year-round entertainment and economic boosting.

Winchester was once considered a major agricultural hub for the apple growing industry although over the years has transformed into an extension of the Washington, D.C. metropolitan area for affordable housing to commuters. With access to a major road network that services the

Washington, D.C. metropolitan area east and the eastern seaboard to the north and south, this urban defined community has been named one of the best places to raise a family and retire by the American Association of Retired Persons (AARP, 2011, n.p.).

Public safety services are provided by the fire and rescue department. It is a combination system made-up of four volunteer owned and operated fire stations with a compliment of fire and EMS apparatus. City career personnel are strategically placed in these stations to guarantee daily service delivery. An Insurance Services Office (ISO) rating of 3 is a concerted effort of an updated water delivery system, a well distributed fire department infrastructure, and a state of the art emergency communications center (Insurance Services Office, Inc., 2014, p. 7). The seventy-person career workforce and approximately 25 active operational volunteer personnel guarantee 24 hour/365 days/7 days a week public safety coverage with a minimum staffing level of 12 personnel on-duty each day. Three pumpers, one aerial, three advanced life support (ALS) transport ambulances and a regional hazardous materials team are in service each day that collectively respond to over 6,000 calls for service each year.

Special events are encouraged in the City and are managed through an application process that is reviewed by the various effected City agencies for applicability of resources required from the locality prior to approving any request. The City's goal is to work with event organizers to help ensure that special events taking place in the community are safe and successful, while minimizing the impact on the surrounding community (City of Winchester, 2016, n.p.). Special events that have the potential for going beyond the capabilities of the locality services then require focused planning and resource allocation from the locality, mutual aid and private partners.

Now completing the 89th SABF, this two-week, 43 event festival has been the staple of community heritage for celebrating the apple growing industry that once dominated the Shenandoah Valley region and easily ranks as the “largest event of its type in Virginia in regards to scope and scale” (Shenandoah Apple Blossom Festival, 2016, n.p.). During the organization of the festival in 1924, organizers not only wanted to celebrate the arrival of Spring but also be a focal point of civic pride by cleaning up the City and promoting commerce for outside visitors (Brill, D. L., 2001, p. 3). During the period of 1942 through 1945 was the only recorded time in SABF history when the festival was put on hold due to the countries involvement in World War II although SABF organizers were quick to reinstate the festivities at war’s end (Brill, D. L., 2001, p.p. 37-38).

The governance of the festival is managed by a non-profit organization that maintains a hierarchy of a “25-person board of directors; a core group of 200 festival organizers; a named and listed army of 2,000 civic volunteers; and assistance of a 10,000 person support group that includes many employees of local government” (Shenandoah Apple Blossom Festival, 2016 n.p.). This organization determines the entire structure of the two-week event(s) with solicitation of the City of Winchester for public services support. From refuse collection to public safety protection, the festival could not function without the input of local public services. As with any local government, the day to day routine of providing basic public services is typically limited to the fiscal constraints of the community tax base. Additional requests for services must be carefully planned to ensure fiscal responsibility. For the most part, City services are provided to the SABF free of charge with the belief that tax revenue generation will benefit the City coffers indirectly. Only permitting and sales taxing requirements through ordinance require direct payment from the SABF organization. Of the forty three events that make-up the entire festival,

thirty eight are conducted within the political boundary of the City which includes two large parades that take place on the last Friday and Saturday of the 2-week festival. These parades and other events that surround the parade timeframes are what pose the majority of community risk that festival planners focus much of their attention.

Prior to 1993 the role of the fire department in the City was limited to providing fire protection and emergency medical first response services for day-to-day operations. The entire region of Winchester and Frederick County was serviced by a well-established “all volunteer” rescue squad that managed the Emergency Medical Services (EMS) system and the hazardous materials mitigation service was handled by resources from the State of Virginia. To this point in the SABF history, the planning for public safety services was virtually non-existent and the extent of fire department services during the festival would only be as a reactionary force when summoned.

In early April of each year, the weather in the northern Shenandoah Valley transitions from Winter to spring with the potential for summer-like conditions to occur in late April-early May. During the 1993 SABF the region experienced elevated temperature and humidity levels surrounding the festival that would produce a mass casualty incident taxing the entire public safety system. Large scale heat exhaustion of parade participants quickly overwhelmed the emergency medical services (EMS) system as well as the local hospital emergency department. During the festival preparations the following year, fire department personnel in conjunction with the local hospital developed a reaction plan to deal with future potential hazards by creating an EMS aid station at the end of the parade route that would manage parade participants and spectator health and well-being. This aid station took on the resemblance of a military field hospital whereas heat related injuries would be managed by on site doctors, nurses, and fire

department personnel while more severe medical emergencies would be transported directly to the hospital. It should be noted that the WFRD was also in a transition period of establishing advanced life support EMS transport services to supplement the volunteer rescue squad that was experiencing an increased demand for day-to-day pre-hospital medical response. This would lead to medical teams to be strategically located along the parade routes for quick response to emergencies utilizing ambulances, bike teams, and ATV style vehicles. In addition, the city implemented an emergency management (EM) department with full-time personnel to oversee overall risks to the community.

Ensuing years of SABF planning would see an increase in participation on the part of the City public safety system as SABF event planners would request more resources for their events. Fire and rescue, law enforcement and emergency management began to organize their incident action plans based on the National Response Framework established in the National Incident Management System (NIMS). They would review past experiences both locally and nationally for special events and plan for increased requests by festival organizers. It was not until 2007 when NIMS was adopted citywide that required all City employees to meet certification levels as defined by City policy.

To this day, emergency management led planning meetings that include SABF officials begin as early as December of the preceding year to plan for the following year's festival by utilizing the Strengths, Weaknesses, Opportunities, and Threats model or SWOT analysis to identify past experiences and areas of improvement for future resource needs.

It is the purpose of this Applied Research Project (ARP) to provide the reader with an understanding of the current planning practices in use and make recommendations to public

safety officials for defining a model for hazard risk analysis that include contingencies for expanding incidents beyond the capability of the public safety system.

This ARP is relevant to the National Fire Academy's *Executive Analysis of Community Risk Reduction* course: Unit 3: Planning, Implementation and Results, "we have the ability to apply science to community risk reduction whether we are dealing with natural or made-made causes" and "requires considering the social, cultural, economic, political and environmental factors that may contribute to risk" (U.S. Fire Administration, 2015, p. SM 3-4).

This ARP is linked to the U.S. Fire Administrations Strategic Plan Fiscal Years 2014-2018, Goal 2: Promote Response, Local Planning and Preparedness for All Hazards whereas:

Every disaster response begins as a local event. To the extent that a well-prepared and trained local force responds, it remains a local event. In larger disasters, overall success depends upon the quick and seamless integration of larger state and federal support agencies. The USFA programs and training improve the effectiveness of local response and provide guidance on the integration of outside agencies. (U.S. Fire Administration, n.d., p. 11).

Literature Review

A literature review was conducted to examine question two of this applied research project where industry standards, codes or other information are focused on emergency response for large scale public events. Many articles and planning guides were reviewed that spanned a host of special event types such as sporting events, road racing, and political gatherings. This author directs the research on the following planning guides and references that could be used as the base starting point for the planning of any type of event.

Special Events Contingency Planning Job Aids Manual

In March of 2010, the Special Events Contingency Planning Jobs Aids Manual was sponsored and published by the Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) and again updated in May of 2010. The purpose of this planning and prevention manual is for the reduction of injury, suffering, and death as a result of poor planning at public events (U.S. Department of Homeland Security, 2005, p. 1).

This manual was developed to be used by anyone that is planning or conducting a special event or mass gathering and is not intended to override existing laws or emergency procedures (U.S. Department of Homeland Security, 2005, p. 1). The information contained within the manual should only be consideration points when planning and conducting special events (U.S. Department of Homeland Security, 2005, p. 1).

The job aids manual is broken down into five chapters that contain planning and consideration information that has been recognized to be problems that have historically existed at special events (U.S. Department of Homeland Security, 2005, p. 4). It is realized by the authors of this manual that failure of past special events has a direct correlation to the failure of advanced planning and preparation of the event.

Chapter one of the manual gives guidance on creating the planning team, reviewing local ordinances, regulations, legislation and selecting the proper site for the event (U.S. Department of Homeland Security, 2005, p. 4). Chapter two examines operational considerations for the event while chapter three reviews the incident command system as outlined in NIMS and how it should be used for the event. Chapter four outlines high risk special event considerations and chapter five details the demobilization process and after action reporting (U.S. Department of Homeland Security, 2005, p. 4).

In Appendix A of the manual is where the entire process comes together to give planners a series of checklist developed to analyze all possibilities for the event planning. From these checklists, a series of hazard vulnerability worksheets are provided to assess the level of planning and resources needed to execute the event. Finally, data collection report forms are provided for event performance logging along with reference to the incident command forms available in the NIMS framework for preparing the event incident action plan.

In summary, the utilization of this manual in conjunction with other sources such as NIMS will provide a starting point for any event planner to trigger a thorough analysis of providing a well-planned event.

National Incident Management System

On February 28, 2003, President George W. Bush issued Homeland Security Presidential Directive (HSPD-5), "Management of Domestic Incidents" as a result of the terrorist attacks of 2001 and hurricane destruction in 2004 and 2005 (U.S. Department of Homeland Security, 2008, p. 5). This doctrine directed the Secretary of Homeland Security to develop and administer NIMS which provides a consistent nationwide template for preventing, protecting, responding and recovering from incidents (U.S. Department of Homeland Security, 2008, p. 3). In addition, the Secretary was directed to develop the National Response Framework (NRF) that is a guide to how the nation conducts all-hazards response (U.S. Department of Homeland Security, 2008, p. 3).

There is an understanding that incidents begin and end at the local level and may expand in complexity that could include other levels of government resources (U.S. Department of Homeland Security, 2008, p. 5). NIMS provides a systematic approach to integrate existing processes and methods into a unified national framework for incident management.

Compatibility of resources is achieved through a core set of concepts and principles that is flexible and standardized and can expand or contract as the incident dictates.

The components of NIMS are designed to work together rather than by themselves to create the consistent incident management framework. These components include; preparedness conducted in advance of any potential incident, communications and information management for sharing with resources to create a common operating picture, resource management to support critical incident objectives, command and management to create effective and efficient incident management and coordination, and ongoing management and maintenance to ensure NIMS remains current through a national integration center and use of supporting technologies (U.S. Department of Homeland Security, 2008, p. 8).

To summarize, NIMS provides the framework in which a special event should operate. This is a critical element that should be built into the incident action plan which will provide a consistent management structure that involves entities that do not typically work together.

Threat and Hazard Identification and Risk Assessment Guide

This comprehensive preparedness guide was developed by the U.S. Department of Homeland Security for communities and their leaders to understand the risks it faces (U.S. Department of Homeland Security, 2013, p. 1). By applying a systematic approach to risk assessment, a community can make decisions about how to manage anticipated and unanticipated risks (U.S. Department of Homeland Security, 2013, p. 1).

The Threat and Hazard Identification and Risk Assessment (THIRA) process is a model that is designed to be flexible and scalable which can work for communities of all sizes. While the application of the THIRA model is designed to address the first two components of the

National Preparedness System, it is a model that can be applied to any size of risk assessment such as planning for special events.

A THIRA model should be developed for each type of risk identified using a four step process; identify the threats and hazards of concern, give the threats and hazards context, establish capability targets, and apply the results (U.S. Department of Homeland Security, 2013, p. 1). By understanding and using this model, standardization to the risk analysis process can greatly reduce threats and hazards and will answer what to prepare for, what resources are needed, what actions need to be employed, and what impacts need to be incorporated (U.S. Department of Homeland Security, 2013, p. 4).

In summary, the THIRA process is an essential systematic approach to the planning process for known and unknown community risks. By applying the THIRA process when planning special events, localities can identify and reduce vulnerabilities prior the events occurring.

Operational Templates and Guidance EMS Mass Incident Deployment

Once again DHS has developed a comprehensive planning guide that focuses on providing medical care for mass gathering planned or un-planned incidents. The *Operational Templates and Guidance for EMS Mass Incident Deployment* document focuses on organizational planning, various event type considerations, case studies of past incidents, policy considerations, and utilization of various mutual aid resources for expanding operations (U.S. Department of Homeland Security, 2012, p. iii).

Each template is designed to provide agencies with a “cookie cutter” approach in creating their deployment plan with the realization of how to plan for local, state and federal resource mutual aid response. The templates are broken into four areas of planning; the EMS emergency

operations plan, basic hazard analysis vulnerability analysis, incident and event plans, and basic incident deployment checklists (U.S. Department of Homeland Security, 2012, p.p. 3-18).

As with all DHS emergency response planning tools, consideration to integration into the national response framework is essential for the success of incident response. This document relies upon the integration of NIMS in conjunction with policies and protocols defined for the EMS industry. This combination of integration provides a solid plan for mass care and mass casualty incidents.

Standard for Pre-Incident Planning

According to the National Fire Protection Association (NFPA), the origin of pre-incident planning was born in 1987 as a result of a large loss to a sprinklered warehouse in Ohio (National Fire Protection Association, 2015, p. 1). NFPA 1420: Recommended Practice for Pre-Incident Planning for Warehouse Occupancies was adopted in 1993 as a recommendation (National Fire Protection Association, 2015, p. 1).

Subsequent revisions to the standard in 1998, 2003, 2010 and 2014 would see the document renumbered to NFPA 1620 and encompass all types of occupancies and all hazards and move from a recommended practice to a standard (National Fire Protection Association, 2015, p. 1). It was during the 2014 revision process where the Boston marathon bombings took place and moved the committee to include pre-incident planning for mass gatherings (National Fire Protection Association, 2015, p.p. 1-2).

Chapter 10 of the standard addresses mass gatherings whereas the pre-incident plan must detail the life safety challenges associated to emergency responders (National Fire Protection Association, 2015, p. 12). The pre-incident plan shall address the inclusion of the incident

management system as well as identification of eighteen areas of potential hazards associated with a mass gathering event (National Fire Protection Association, 2015, p. 12).

To summarize, the NFPA committee has now identified that mass gathering events should include elements of pre-incident planning addressing known potential risks. While the document standard is minimal in detail for developing standardization, it provides a basis for the Authority Having Jurisdiction (AHJ) to include pre-incident planning into their processes when creating the incident action plan with special events and mass gatherings.

Procedures

The purpose of this research was to identify the increased community risk during the SABF and develop a response model that is consistent with the risks that are identified. In order to achieve this goal, the descriptive research method was utilized to answer the questions defined in the applied research project (ARP) proposal whereas, question 1, what demographics/data presently exist or should be developed to address the risk associated with the SABF? Question 2, what industry standards codes or information exist that adequately address and focus on emergency response for large scale public events? Question 3, what public safety response strategies or methodologies have other fire and rescue departments taken to address the increase in community risk during times of large scale public events?

Research Question 1

The author has previous knowledge of the current event planning process utilized by the WFRD and was able to glean demographic and historical event data from existing department records, the local library, and internet research utilizing the Google® search engine. First, the author visited the Handley Regional Library and conducted a Dewey Decimal system lookup for SABF history. One reference was discovered and used to develop a view of the history

surrounding the SABF. Next, an internet search for current City demographics was conducted. Information from www.census.gov/quickfacts was found for the City of Winchester. Again, internet research was conducted to determine maximum temperature and humidity history from the www.weatherunderground.com for the past 10-years (2007 through 2016) that occurred during the time period of the SABF. Finally, department records were retrieved from WFRD electronic file storage directories to produce 10-years of SABF planning documentation which includes; WFRD involvement, known community risks, past response history, festival requirements, and current response models employed.

Research Question 2

For this question, internet research was utilized exclusively to obtain standards, codes and information that address special event planning for emergency response. Again, the Google® search engine was utilized with keyword inputs of; special event planning, mass gathering planning, National Fire Protection Association, National Incident Management System, and the Department of Homeland Security. These documents along with several EFOP applied research papers from the United States Fire Administration (USFA) website were reviewed and utilized in the literature review research.

Research Question 3

To research this question, the author obtained a paid subscription to the online survey service called Survey Monkey® and developed questions for fire service personnel and emergency management planners to discuss their own agencies efforts in special event planning and risk evaluation (see Appendix C). The following survey URL, <https://www.surveymonkey.com/r/DNWXV2>, was sent to members of the International Association of Fire Chiefs (IAFC) EFO section, the Virginia Fire Chiefs Association (VAFC),

the Facebook closed group named “NFA EFO 2014-2017”, and emailed to past EFOP students that attended class with the author.

In addition, a questionnaire style interview process was emailed to two individuals that experience special event planning from different perspectives. Mr. Douglas Kahn douglas.kahn@fema.dhs.gov is a training instructor at the FEMA Emergency Management Institute (EMI) at the National Fire Academy in Emmitsburg, MD and Mr. Kevin Johnson kevin.johnson@loudoun.gov is the Emergency Management Coordinator for the Loudoun County, VA Office of Emergency Management.

Results

The procedures utilized for this ARP developed critical results to support research questions one and three. Historical SABF data from the WFRD was only available for a 10-year lookback period to produce the results to support this ARP problem statement.

Research Question 1

The first question for this ARP examines supporting data to be utilized for addressing associated risk for the SABF.

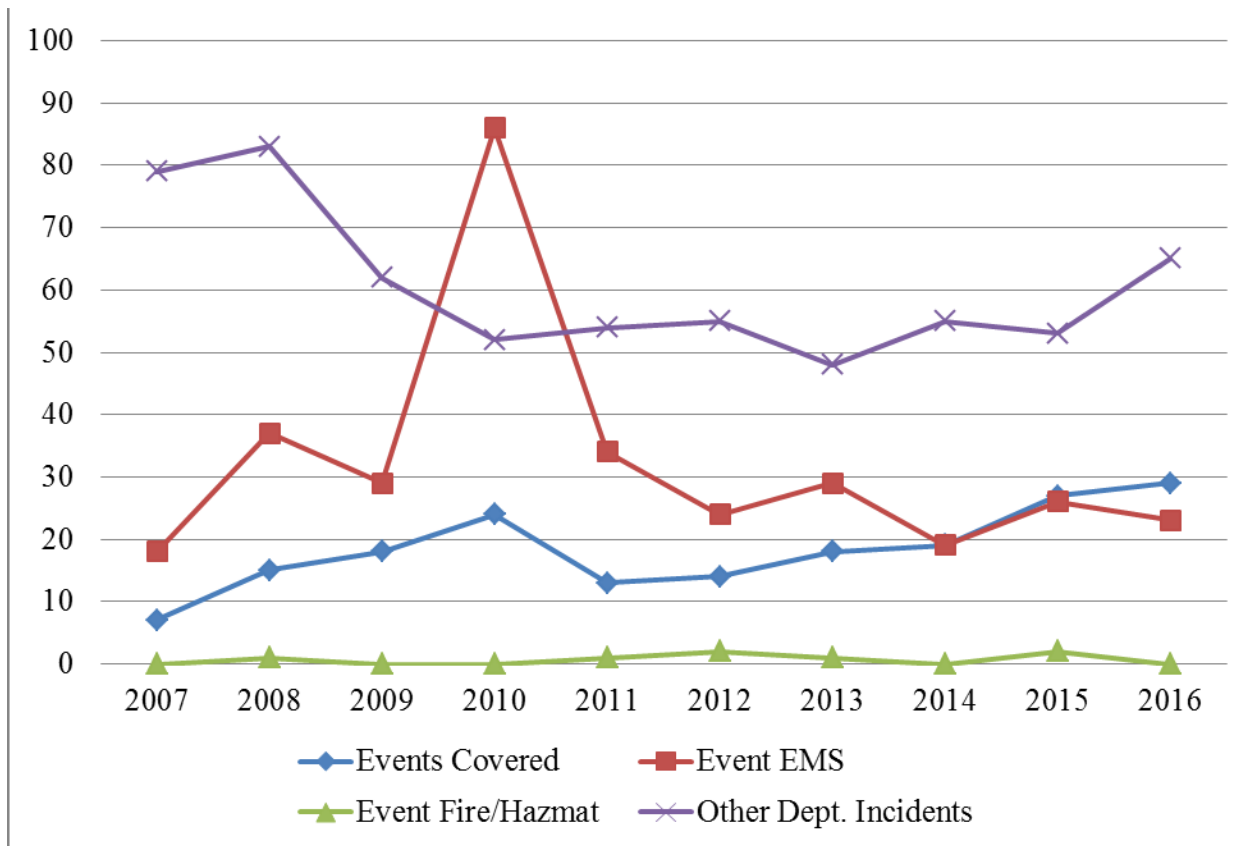
Event Response

Ten years of incident response information was gleaned from WFRD historical records for covered events during the SABF in addition to other day-to-day events experienced by the department during the same time period, see Table 1 below. A line graph representation, Figure 1, of the data contained in Table 1, bears a correlation between an increase in incident EMS response due to an increase in covered SABF events while fire and hazmat responses remained at a consistent level.

Table 1. 10-Year SABF Event/Department Statistics Summary

Year	Events Covered	Event EMS	Event Fire/Hazmat	Other Dept. Incidents	Total Incidents
2007	7	18	0	79	104
2008	15	37	1	83	136
2009	18	29	0	62	109
2010	24	86	0	52	162
2011	13	34	1	54	102
2012	14	24	2	55	95
2013	18	29	1	48	66
2014	19	19	0	55	93
2015	27	26	2	53	108
2016	29	23	0	65	117

Figure 1. 10-Year Event/Incident Correlation



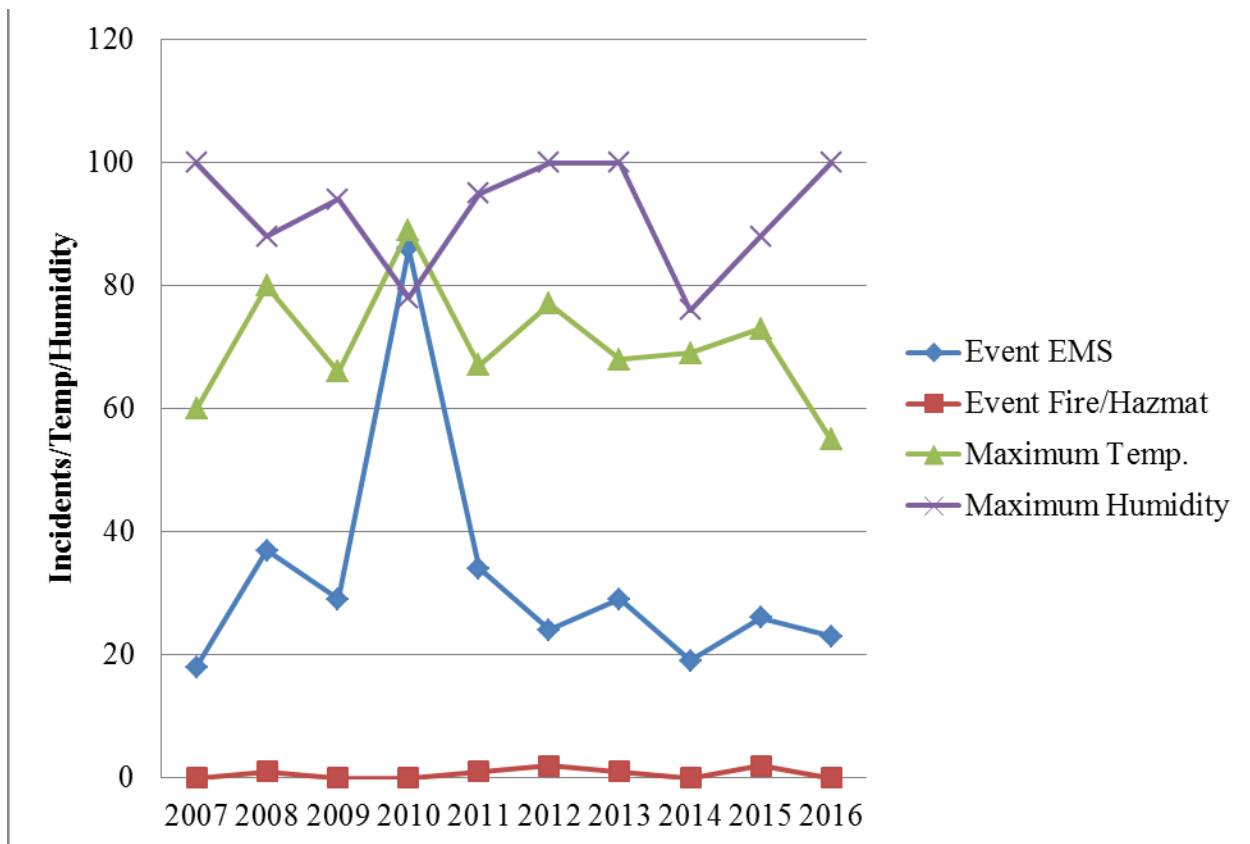
Climate Averages

The same 10-year lookback period (2007 through 2016) was used to summarize the maximum temperature and humidity levels surrounding the SABF outdoor events, see Table 2 below. This data was analyzed and compared to incident response information and charted to determine if climate changes affected an increase in incident response. The data utilized in Table 2 was specifically derived from the last two days of the SABF whereas the majority of outside activity took place during that time. The line graph in Figure 2 confirms a consistent increase in EMS response due to the increase in climate temperature and humidity.

Table 2. 10-Year SABF Climate Maximums

Year	Maximum Temperature	Maximum Humidity Level
2007	60	100%
2008	80	88%
2009	66	94%
2010	89	78%
2011	67	95%
2012	77	100%
2013	68	100%
2014	69	76%
2015	73	88%
2016	55	100%

Figure 2. 10-Year Event Incident vs. Climate History



Event Crowd Estimations

The SABF Executive Director, Jon Rosenberger, was contacted to discuss crowd estimation experiences during the festival. The most recent festival (2016) was examined to gain information on event attendance that was covered by the WFRD for fire and EMS services. Table 3 summarizes attendance by day, event, number of first responders assigned and then compared to actual emergency responses during the event which in turn produced a spectator to responder ratio. Mr. Rosenberger stated that “crowd estimation at each of the SABF events do not follow a scientific methodology but are only gauged to determine event success”.

Table 3. 2016 Event Crowd Estimation/Emergency Response Data

Date	Event	Estimated #Spectators	#Event Participants	#Event First Responders	Emergency Responses	Response Ratio
4/22	Wine Fest	5,000	N/A	4	0	1,000:1
4/22	Carnival	2,000	N/A	3	1	666:1
4/23	Wine Fest	5,000	N/A	4	0	1,000:1
4/23	Carnival	2,000	N/A	3	1	666:1
4/23	Rock-N-Roll Oldies	500	N/A	2	0	250:1
4/24	Carnival	3,000	N/A	3	0	1,000:1
4/26	Carnival	4,000	N/A	3	0	1,333:1
4/27	Carnival	5,000	N/A	3	0	1,666:1
4/28	Breakfast Walk	500	N/A	3	0	166:1
4/28	Coronation Rehearsal	100	N/A	2	0	50:1
4/28	Queens Dinner	500	50	2	0	275:1
4/28	Carnival	5,000	N/A	3	0	1,666:1
4/28	Thursday Night Live	1,000	N/A	2	0	500:1
4/29	Bloomer's Luncheon	1,250	N/A	2	0	625:1
4/29	Coronation	1,500	200	2	3	850:1
4/29	Kids Mile	4,000	1,500	8	1	687:1
4/29	Firefighter Parade	50,000	N/A	83	10	602:1
4/29	Carnival	10,000	N/A	3	0	3,333:1
4/29	Fireworks	15,000	N/A	25	0	600:1
4/29	Queens Ball	500	50	2	0	275:1
4/29	80's Dance Party	1,500	N/A	2	0	750:1
4/30	Sportsman Breakfast	1,000	150	3	0	383:1
4/30	10K Race	5,000	1,500	25	1	260:1
4/30	Weekend in the Park	5,000	N/A	0	0	N/A
4/30	Grand Feature Parade	150,000	N/A	123	6	1,219:1
4/30	Carnival	10,000	N/A	3	0	3,333:1
4/30	Country Music Party	1,000	N/A	2	0	500:1
5/3	Weekend in the Park	20,000	N/A	6	0	3,333:1
5/3	Carnival	10,000	N/A	3	0	3,333:1
2016 Grand Total		319,350	3,450		23	

Geographic Layout of Events

Event maps gleaned from the SABF operations general order for the WFRD are provided to give a graphical representation of key event locations (Winchester Fire and Rescue Department, 2016, p.p. 18-19). The red shaded area “Red Zone” on the map contained in Appendix A is provided to show the condensed area where the majority of special events that pose the most risk take place with the remainder of the City broken into defined taskforce areas for emergency response during the SABF. The Red Zone is defined in the operational plans for the WFRD and is the focus for special events as can be seen on the map in Appendix B. This zone also lies within a defined historical district that contains dense taxpayer brick and mortar infrastructure as previously discussed. These two maps in conjunction with the crowd estimation data provides a visual comparison for key events that may pose the most risk to the SABF.

Research Question 3

The third question of this ARP examines public safety response strategies or methodologies that other fire and rescue departments take to address the increase in community risk during the times of large scale public events.

Online Survey Results

The online Survey Monkey® questionnaire resulted in 141 responses from fire department personnel and special event planners from around the country. The results of this survey can be reviewed in Appendix C.

Ninety-four percent of the responses acknowledge planning for large scale special events in some fashion with the various questions in the survey gleaned comparative data to the SABF event. There is almost a 50/50 split on jurisdictions having defined policy and response models

defined to aid in the planning of these types of events although the majority has contingencies in place to address expanding emergency incident operations.

Personal Interviews

Special event interview questions returned by Mr. Douglas Kahn and Mr. Kevin Johnson provided an outside view of special event planning and modeling from two opposite perspectives. Mr. Kahn's professional experience places emphasis on training and exercising while Mr. Johnson depicts events in his jurisdiction where the plans are placed into operations. The results of each of the interview questions posed can be found in Appendix D and E respectively.

Discussion

The purpose of this research was to identify the increased community risk during the SABF and develop a response model that is consistent with the risks that have been identified in this research. Specifically, existing WFRD planning processes were analyzed and compared to past SABF experiences that include planning practices and incident responses. A goal of this research was to identify areas of vulnerability and make recommendations to apply industry lead modeling to ensure complete hazard analysis for the events is obtained. It should be noted that information obtained from others through the survey and personal interview process may not be a one-for-one comparison to current WFRD practices for planning of special events. Many factors can determine best practices; however, the resulting trends that are derived can be applied to the same industry practices for comparison and confirmation.

Planning

A primary finding of this research reveals that the City of Winchester and in particular the WFRD, have over time been successful in the planning and execution of their incident action

plans for the SABF as no major incidents have taken place since the 1993 mass casualty incident. It could be debated that the conditions since that time have not presented the opportunity for a major incident to take place although a review of current practices reveal a continuance of improvement in planning and execution as experience and education for event planning allow personnel to apply best practices as encountered using the S.W.O.T. process. Where the planning process appears to fall short is in the recognition of potential risk that falls outside of the routine incident responses that can be predicted and planned. There is no mechanism in this planning process that addresses a complete risk analysis for each event or actions that can be followed for expanding incident operations beyond the agency's capability.

Data Analysis

Historical data analysis during the 10-year lookback period reveal that as the number of events covered by the WFRD are increased so do the calls for medical emergencies although other related emergencies such as fire and hazmat response remain constant. In addition, when the same incident response data is compared to climate data, there is a notable increase in EMS incident response when the outside temperatures increase. This is evident by looking at Figure 2 whereas there are consistent increased in EMS responses for the years of; 2008, 2010, 2015 respectively.

Additionally, geographical analysis of known areas for mass crowding for events that share a compressed timeline for execution give credence for a potential of increased risk, see Appendix B. The shaded areas in Table 3; coronation, kids mile, firefighter parade, and fireworks show an increased number of spectators congregated in a 3-square block area that occur immediately after each other. Transitioning between events is strategically choreographed

by SABF planners utilizing time management practices although the movement of people in this small area within a short period of time poses an increase to risk.

Questions developed for the online survey and personal interviews were designed to glean model planning information from outside agencies that are similar in size and capability as the WFRD. The 13 question survey revealed that almost 50% of the respondents do not have special event planning policies and procedures in place for hazard risk assessment and response planning. Although, this lack of policy gives way to the realization that some type of planning process is taking place as the majority will include other agencies such as law enforcement, emergency management, and public services to assist in their event execution. Another fact realized is that 86% of the respondents utilize local mutual aid to assist in public safety response while only a small number of event personnel are coming from the host agency. This practice is most likely due to the host agency determining the required day-to-day needs for normal public safety and not having the adequate resources to manage any additional needs such as the special event.

The personal interview process conducted looked at two sides of special event planning. Training and education is available from the Emergency Management Institute that not only educates event planners but will exercise planning efforts for reliability and adherence to known practices. In turn, the other personal interview examined a large jurisdiction in close proximity to the City of Winchester for their practices in planning and management of special events. This examination revealed that planning for the SABF is in-line with their practices and in some cases exceeds that jurisdictions effort.

Operations

A review of operations was conducted to determine compliance with NIMS and the use of the incident command system (ICS) for the SABF. The City of Winchester mandates in policy that all employees receive NIMS training and certification in IS-100, IS-200, and IS-700 while IS-800, ICS-300 and ICS-400 are required for all supervisors. The WFRD is 100% in compliance with NIMS only for the career staff although there is no mechanism in place to ensure that WFRD volunteers and/or assisting mutual aid partners from outside agencies are in compliance.

There is a requirement that all personnel that assist with the SABF for public safety support meet the requirements for the position to which they are assigned. Therefore, EMS responders must be cleared by the local operational medical doctor and meet the requirements of an EMT as set forth by the state office of EMS prior to being assigned a position. Additionally, all fire personnel must submit verification that their training meets NFPA 1001 – Standard for Firefighter Professional Qualifications for firefighting and hazmat response. With these training requirements there is an assumption that all personnel are trained and understand the use of ICS and are briefed on the requirement to use this in conjunction to an accountability system at all events. This can lead to confusion if not fully understood.

A disconnect in the use of NIMS and ICS lies with law enforcement whereas fire and rescue utilize area command for field operations while the police utilize the emergency operation center (EOC) location for their command operations and bring other agencies into the center and call it a unified command center. This setup provides for some unique challenges especially if the center is needed to convert to an EOC for expanding operations as it is not stood up by emergency management unless absolutely necessary.

In conclusion, the WFRD and the planning and execution for events of the SABF are consistent and for the most part exceed practices of other agencies from around the country. There are two notable areas for improvement in the WFRD system; one, identifying and applying risk analysis for high risk events for expanding incident operations; two, adherence to the NIMS framework for unified command.

Recommendations

The general purpose of this research was to identify the increased community risk during the SABF and develop a response model that is consistent with the risks that have been identified in this research. The WFRD and for the most part the City of Winchester executes a well thought out incident action plan for the SABF. The shortfalls that were identified in this research will allow the WFRD special event organizers to go back and view their risk vulnerabilities from a higher level and make the necessary changes that ensure total vetting of risk for the SABF events.

Ultimately, it is the responsibility of the WFRD special events organizers to determine the strategic deployment model for special event coverage that takes into account; capability, practicality, availability of department and mutual aid resources, fiscal responsibility, and a complete understanding of risk assessment. Therefore, the WFRD has an important role in determining the appropriate level of service that is properly suited for each of the events of the SABF. Based on the results of this research, the recommendations for the WFRD are:

- Require WFRD special event planners to seek educational opportunities that focus on event planning and management, risk assessment practices, and application of event planning from Department of Homeland Security sponsored entities such as the Center

for Domestic Preparedness (CDP), Texas A&M Engineering Extension Service (TEEX), and the Emergency Management Institute (EMI) at the National Fire Academy.

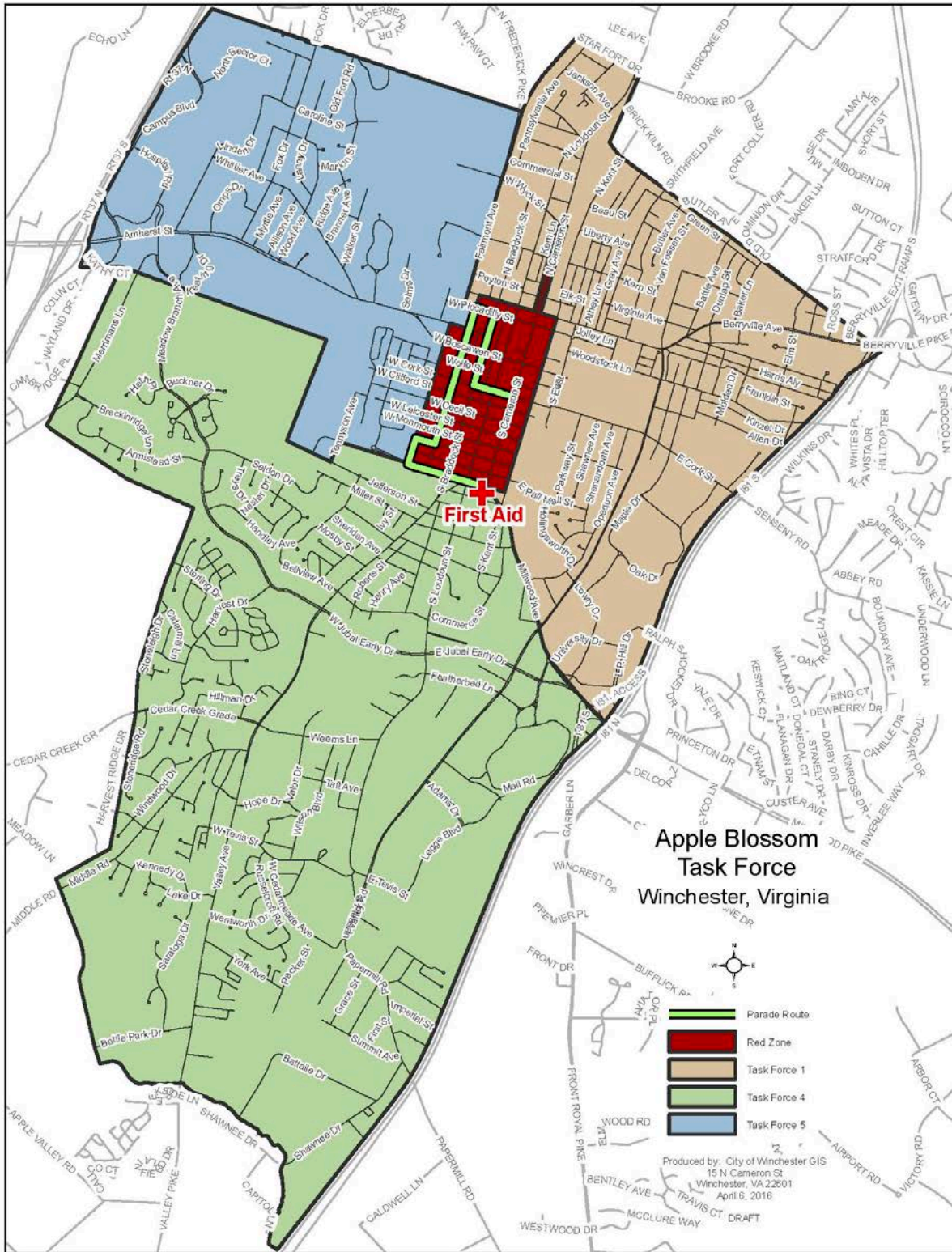
- Require all participants supporting the execution of the SABF incident action plans to be educated in the National Incident Management System and Incident Command System and provide a mechanism of verification of such for the first responders assisting in the SABF.
- Work with SABF officials to discuss and plan for known areas of increased risk for public safety and recommend modifications to current practices as necessary.
- Create and participate in local emergency management lead trainings to ensure all agencies actively engaged in the SABF are operating under the NIMS framework.
- Adopt the use of the following FEMA developed publications for assessing risk for special events into the SABF planning process; Special Events Contingency Planning Job Aids Manual, Operational Templates and Guidance for EMS Mass Incident Deployment, and Threat and Hazard Identification and Risk Assessment Guide.
- Create WFRD policies and procedures that outline the requirements for special event planning and operations within the City that cover small to large special events.
- Provide post-event statistical analysis to WFRD leaders for evaluation and adherence to the executed incident action plan.
- Provide access of all reports and findings to local governmental leaders for approval of actions, continuance of educational opportunities, and future budget requests.

References

- AARP. (2011). *10 affordable cities for retirement*. Retrieved from <http://www.aarp.org/home-garden/livable-communities/info-07-2011/affordable-cities.2.html>
- Brill, D. L. (2001). *The trial of pink pedals: the official history of the shenandoah apple blossom festival*. Winchester, VA: Shenandoah Apple Blossom Festival, Inc.
- City of Winchester. (2007). *City of winchester national incident management system (NIMS) implementation plan*. Winchester, VA: Author
- City of Winchester. (2016). *Holding a special event*. Retrieved from <http://www.winchesterva.gov/holding-special-event>
- Insurance Services Office, Inc. (2014). *Public protection classification summary report: Winchester, Virginia*. Marlton, NJ: Author
- National Fire Protection Association. (2015). *NFPA 1620: Standard for pre-incident planning* (2015 ed.). Quincy, MA: Author.
- Shenandoah Apple Blossom Festival. (2016). *Unforgettable!: 89th Shenandoah apple blossom festival*. Winchester, VA: Author.
- U.S. Census Bureau. (2015). *State & county quickfacts: City of Winchester, VA*. Retrieved from <http://www.census.gov/quickfacts/table/PST045215/51840,00>
- U.S. Department of Homeland Security. (2005). *Special events contingency planning: job aids manual* (March 2005, Updated May 2010). Washington, D.C.: Author.
- U.S. Department of Homeland Security. (2008). *National incident management system* (December 2008). Washington, D.C.: Author.
- U.S. Department of Homeland Security, (2012). *Operational templates and guidance for EMS mass incident deployment*, (June 2012). Washington, D.C.: Author

- U.S. Department of Homeland Security, (2013). *Threat and hazard identification and risk assessment guide: comprehensive preparedness guide (CPG) 201*, (2nd ed., August 2013). Washington, D.C.: Author
- U.S. Fire Administration. (n.d.). *America's fire and emergency services leader*. (Strategic plan fiscal years 2014-2018). Emmitsburg, MD: Author.
- U.S. Fire Administration. (2015). *Executive analysis of community risk reduction; EACRR-student manual*. (4th ed., 3rd printing- October 2015). Emmitsburg, MD: Author.
- U.S. Fire Administration. (2016). *An overview of incident management teams*. Retrieved from https://www.usfa.fema.gov/training/imt/imt_overview.html
- Winchester Fire and Rescue Department, (2016, April 13). *General order: GO-16002 - Apple blossom festival operations*. (Rev. ed.). Retrieved from <http://fire.winchesterva.gov>

Appendix A



Appendix C

1. Does your agency provide public safety services for large scale special events?		
Answer Options	Response Percent	Response Count
Yes	92.9%	131
No	7.1%	10
<i>answered question</i>		141
<i>skipped question</i>		0

2. Considering the largest and most prominent special event in your community, what would you estimate the number of spectators that have attended at one time?		
Answer Options	Response Percent	Response Count
0-1,000	1.6%	2
1,001-5,000	18.0%	23
5,001-10,000	21.1%	27
10,001-50,000	28.9%	37
50,001-100,000	18.0%	23
100,001-200,000	7.8%	10
200,001 or more	4.7%	6
<i>answered question</i>		128
<i>skipped question</i>		13

3. What category(s) does the above special event fall into, check all that apply?		
Answer Options	Response Percent	Response Count
Festival	70.6%	84
Parade	37.8%	45
Races	38.7%	46
Tent Event for Entertainment	26.1%	31
Indoor Fixed Facility for Entertainment	27.7%	33
Outdoor Entertainment	69.7%	83
Carnivals	26.1%	31
Other (please specify)		29
<i>answered question</i>		119
<i>skipped question</i>		22

4. What is the duration of the special event that you plan for?		
Answer Options	Response Percent	Response Count
Single Day	32.2%	39
Weekend	47.9%	58
1 Week	15.7%	19
2 Weeks	4.1%	5
Other (please specify)		12
<i>answered question</i>		121
<i>skipped question</i>		20

5. Do you have defined special event planning policies and procedures for hazard risk assessment and response modeling?		
Answer Options	Response Percent	Response Count
Yes	53.2%	66
No	46.8%	58
<i>answered question</i>		124
<i>skipped question</i>		17

6. What agencies or public entities in your community are involved with the special event planning process, check all that apply?		
Answer Options	Response Percent	Response Count
Fire Services	100.0%	123
EMS Services (not included with fire services)	65.0%	80
Law Enforcement	95.1%	117
Emergency Management	74.0%	91
Hospital	38.2%	47
Public Services (trash, streets, transportation, etc.)	71.5%	88
Other (please specify)		11
<i>answered question</i>		123
<i>skipped question</i>		18

7. Do you acquire outside resources to assist with emergency response during the special event, check all that apply?

Answer Options	Response Percent	Response Count
Local Mutual Aid Resources	86.4%	70
Regional Resource Solicitation	33.3%	27
Out-of-State Resource Solicitation	1.2%	1
Statewide Mutual Aid Request	6.2%	5
Emergency Management Assistance Compact (EMAC) Request	7.4%	6
Other (please specify)		22
<i>answered question</i>		81
<i>skipped question</i>		60

8. In your plan, do you provide contingencies for expanding emergency incident operations as a result of the special event?

Answer Options	Response Percent	Response Count
Yes	79.2%	95
No	20.8%	25
<i>answered question</i>		120
<i>skipped question</i>		21

9. What is the population of your community where the special event occurs?

Answer Options	Response Percent	Response Count
0-10,000	6.7%	8
10,001-20,000	9.2%	11
20,001-30,000	10.9%	13
30,001-40,000	5.9%	7
40,001-50,000	6.7%	8
50,001 or more	60.5%	72

<i>answered question</i>	119
<i>skipped question</i>	22

10. What is the number of personnel in your department that would be dedicated for emergency response to the special event?

Answer Options	Response Percent	Response Count
0-25	54.2%	64
26-50	29.7%	35
51-100	5.9%	7
101-150	3.4%	4
151-200	0.8%	1
201 or more	0.8%	1
Only summoned when needed	5.1%	6
<i>answered question</i>		118
<i>skipped question</i>		23

11. What is your department type?

Answer Options	Response Percent	Response Count
All Career	45.4%	54
All Volunteer	3.4%	4
Combination Career and Volunteer	51.3%	61
<i>answered question</i>		119
<i>skipped question</i>		22

12. What is the number of outside personnel that would be dedicated for emergency response to the special event?

Answer Options	Response Percent	Response Count
0-25	45.4%	54
26-50	16.0%	19
51-100	8.4%	10
101-150	2.5%	3
151-200	0.8%	1
201 or more	1.7%	2
Only Needed for Expanded Incident Operations	25.2%	30
<i>answered question</i>		119
<i>skipped question</i>		22

13. May I contact you for more information or to ask questions if needed?		
Answer Options	Response Percent	Response Count
Name	98.6%	73
Agency	100.0%	74
Email Address	98.6%	73
<i>answered question</i>		74
<i>skipped question</i>		67

Appendix D

Special Event Interview – Douglas Kahn

1. Please list your name, title, agency represented, and a brief statement on your role in special event planning in your jurisdiction.

Douglas Kahn, Training Instructor, FEMA – EMI.

2. Please describe the most prominent special event/mass gathering in your jurisdiction that requires advanced planning. What time of year, how long in duration, estimated number of participants and spectators, special considerations for response, etc.

My role is to supplement special events planning by developing exercises to be used by the responsible jurisdiction. Papal visit to Philadelphia, June 2015. Over 1 million spectators with planning cycle of 6 months. Annually I work with MLB to broadcast exercises to assist the local clubs with to test emergency (scenario) procedures.

3. Does the above event require additional personnel within your agency to be brought in to assist? Are mutual aid resources solicited, are EMAC resources required?

Not generally, (depending on scenario and who asked for support), the majority of players taking part in the exercises have already been working together.

4. Beyond the use of NIMS for the incident framework, how do you assess risk for the event(s) and do you use existing models developed by others such as the FEMA Jobs Aid Manual?

No

5. Do you have defined planning policies and procedures for special events and mass gatherings? Would you be willing to share/attach these document(s)?

Yes, FEMA EMI course IEMC Planned Events.

6. In your plan, do you provide contingencies for expanding incident operations as a result of the special event? How do you define this in your plan?

Yes.

7. What is the daily population of your community where the special event occurs?

Depends on the jurisdiction requesting support.

8. Please provide any additional information about your special event planning process that would help me develop a model to assess risk and plan for my events.

I do not have anything that would help in developing a model.

Appendix E

Special Event Interview - Kevin Johnson

1. Please list your name, title, agency represented, and a brief statement on your role in special event planning in your jurisdiction.

*Kevin Johnson, Emergency Management Coordinator
Loudoun County Office of Emergency Management*

I oversee the Office of Emergency Management, which includes the Special Events Program for Loudoun County, Virginia. Each year hundreds of event organizers submit a Special Event Online Form, which is reviewed by our office and the proposed information is then shared with various stakeholder's responsible for permits/permissions for the event to be held. We have a monthly meeting of our Special Events Advisory Committee, which is comprised of representatives from a variety of local and state agencies.

2. Please describe the most prominent special event/mass gathering in your jurisdiction that requires advanced planning. What time of year, how long in duration, estimated number of participants and spectators, special considerations for response, etc.

Events conducted in Loudoun County include: athletic events; carnival/circus; community fairs and festivals; concert/performance; parade/procession/march; and runs/walks. Most of these are single-day events, however we do have a decent number of multi-day events (mainly fairs/festivals). Attendance/participation at special events throughout the County ranges from a few hundred to 30,000 people. Members of the Special Event Advisory Committee spend a tremendous amount of time assisting event organizers in their planning for large or multi-day festivals, runs/walks (5K, 10K, 20K, and half

marathon's), and other activities that require road closures. Our special events season runs from approximately March through November each year with a handful of events occurring during the winter months. Typically there isn't a Saturday and/or Sunday from March to November that events are not scheduled.

3. Does the above event require additional personnel within your agency to be brought in to assist? Are mutual aid resources solicited, are EMAC resources required?

Many of the events are handled at the first due EMS and suppression company level, however for the more complex events resources are shared. It's not uncommon during the half marathon's to have EMS personnel/units from five different companies. We have been able to handle coverage of special events with the EMS resources in county and have not required mutual aid support to cover the standbys. There have been instances where the call volume at an event has required EMS units from mutual aid companies to respond via the normal 9-1-1 system.

4. Beyond the use of NIMS for the incident framework, how do you assess risk for the event(s) and do you use existing models developed by others such as the FEMA Jobs Aid Manual?

Members of the Special Events Advisory Committee conduct a risk assessment for the larger events and work to ensure consequence and crisis management plans are developed. This assessment includes identification of: type of event; anticipated crowd; number of participants; set-up and dismantle time; event start and end time; event venue location; information whether this is an annual event or first time in Loudoun County; is this the same event under a different name; has this event been held elsewhere that we can gain information about the success and/or challenges in their previous location(s). To manage the larger event(s), we utilize a Unified Command Post, which is comprised of representatives from the Event Organization, Fire and Rescue, Emergency Management, and Sheriff's Office.

5. Do you have defined planning policies and procedures for special events and mass gatherings? Would you be willing to share/attach these document(s)?

Please visit www.loudoun.gov/events for our online form. You will see the questions we ask in an attempt to glean as much information as possible from the event organizer about their proposed activity. Based on their responses the event organizer will receive a follow-up email from our office that provides him/her with contact information for the relevant agencies they will need to follow up with along with permit applications being required. A copy of that reply goes directly to the agencies/departments, so they can begin preparing for discussions with the event organizer. These permits/permissions range from Temporary Zoning Permit; Health Department Food Vendor Permit; Alcohol Beverage Control Permit; Fire Marshal Tent, Pyrotechnics; Amusement Ride Permit; Virginia Department of Transportation (VDOT) Permit; Commissioner of Revenue permissions and reporting; Loudoun County Public Schools; coordination of animals

participating in the event; and coordination of law enforcement deputies. I'm happy to share with you a sample response to an event organizer for you to reference as well as see the various permits that are required by various agencies.

6. In your plan, do you provide contingencies for expanding incident operations as a result of the special event? How do you define this in your plan?

The Unified Command Post does prepare for expanding incident contingencies as a result of the special event. While we have a number of venues designed to conduct special events, traffic congestion in and around the venues can be quite challenging. Other events require community coordination and/or notification of the event date/time and areas impacted. Many of our runs/walks take place Sunday mornings with the hope to minimize the impact on the community. We have also placed requirements on the event organizer to send a letter/post card to the affected homes providing the homeowner with specific information regarding the event. Our Zoning Department will also implement additional mitigation requirements based on recommendations from public safety agencies.

7. What is the daily population of your community where the special event occurs?

The county population is roughly 360,000 people and our event venues vary from rural areas of the county to the suburban areas. While our office manages the events occurring within the County, we work closely with the various incorporated Towns when event organizer's want to conduct events within their jurisdictional boundaries.

8. Please provide any additional information about your special event planning process that would help me develop a model to assess risk and plan for my events.

One of the greatest challenges for special events is ensuring the balance between the economic benefit to the community with the requirements on public safety agencies both from a regulatory as well as a staffing perspective. Many of our events are outdoors with limited onsite parking, which requires the utilization of shuttle buses from schools or other parking lots. This poses a significant challenge regarding the timely evacuation/movement of participants/attendees should a "no-notice" event occur, such as inclement weather or active threat incident. We are very fortunate as a jurisdiction to have the resources for deployment to special events: Mobile Command Bus; Medical Ambulance Bus; Mass Casualty Support Unit; Mobile Rehab Unit; radio cache; medical gator's and bike teams; ATV's; access to mobile watch towers; ability to utilize the Northern Virginia Regional Intelligence Center (NVRIC) for intelligence gathering based on specific threats or known activity; and tremendous partnerships among Emergency Management, Fire and Rescue; Fire Marshal's Office; Law Enforcement; Public Health; Building and Development both Zoning and Inspections; VDOT and Virginia ABC.