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MISSING AN OPPORTUNITY: NON-TRADITIONAL RESPONDERS AND ACTIVE SHOOTER RESPONSE

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MISSING AN OPPORTUNITY: NON-TRADITIONAL RESPONDERS AND ACTIVE SHOOTER RESPONSE

by

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With the rising threat of active shooters, armed off-duty and retired law enforcement officers may prove to be an effective tool in American homeland security. Yet, while the number of active shooter and critical incidents in the United States have continued to rise, the number of non-traditional response interventions has remained minimal. Unfortunately, the presence of armed, off-duty law enforcement officers can create other problems, often referred to as blue-on-blue encounters. This thesis examines the questions: Can tools such as Hero911 mitigate some of the major risks associated with self-dispatch? How can off-duty or plainclothes officers be best incorporated into active shooter response? Finally, what processes can make utilization of non-traditional responders safer for all? This thesis concludes that over the past 20 years of active shooter responses, first responders have missed an opportunity with respect to the use of non-traditional responders. On- or off-duty non-traditional responders serve as a force multiplier, which widens the pool of available responders. Use of any technology is not without risks, and to avoid more confusion during an active shooter event, training is paramount. Properly used, tools such as Hero911 can reduce the risks involved in non-traditional officer response.

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MISSING AN OPPORTUNITY: NON-TRADITIONAL RESPONDERS AND ACTIVE SHOOTER RESPONSE

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requirements for the degree of

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ABSTRACT

With the rising threat of active shooters, armed off-duty and retired law enforcement officers may prove to be an effective tool in American homeland security. Yet, while the number of active shooter and critical incidents in the United States have continued to rise, the number of non-traditional response interventions has remained minimal. Unfortunately, the presence of armed, off-duty law enforcement officers can create other problems, often referred to as blue-on-blue encounters. This thesis examines the questions: Can tools such as Hero911 mitigate some of the major risks associated with self-dispatch? How can off-duty or plainclothes officers be best incorporated into active shooter response? Finally, what processes can make utilization of non-traditional responders safer for all? This thesis concludes that over the past 20 years of active shooter responses, first responders have missed an opportunity with respect to the use of non-traditional responders. On- or off-duty non-traditional responders serve as a force multiplier, which widens the pool of available responders. Use of any technology is not without risks, and to avoid more confusion during an active shooter event, training is paramount. Properly used, tools such as Hero911 can reduce the risks involved in non-traditional officer response.

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TABLE OF CONTENTS

LIST OF FIGURES

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LIST OF TABLES

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LIST OF ACRONYMS AND ABBREVIATIONS

AAIR	Active Attack Integrated Response
ALERRT	Advanced Law Enforcement Rapid Response Training
Blue-on-Blue	Officer shooting by another officer
BTIS	Building Tactical Information System
IACP	International Association of Chiefs of Police
ICS	Incident Command System
IFCA	International Fire Chiefs Association
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Administration
GPS	Global Positioning System
LVMP	Las Vegas Metropolitan Police Department
NVFC	National Volunteer Fire Council
NIMS	National Incident Management System
NTOA	National Tactical Officers Association
SORD	Solo Officer Response Course

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I. INTRODUCTION

In 2004, Congress passed the Law Enforcement Officers Safety Act (LEOSA), allowing present and past law enforcement officers to carry concealed weapons nationally.[1] With the rising threat of active shooters and domestic terrorism, armed off-duty and retired law enforcement officers may prove to be an effective tool in American homeland security. Yet, while the number of active shooter and critical incidents in the United States have continued to rise, the number of non-traditional response interventions has remained minimal.[2] As these officers are already trained, this may be an easier and safer approach than similar efforts to arm teachers or other civilians.[3] Some elements of the Department of Defense are considering authorizing their law enforcement personnel to be constantly armed while off duty.[4] But the presence of armed, off-duty law enforcement officers can create other problems, often referred to as blue-on-blue encounters, which may result from "self-dispatch" actions uncoordinated with the active-duty officers who are already responding to an incident. One solution is offered by tools such as "HERO911," which were intentionally created to employ non-traditional responders. HERO911 notifies off-duty officers in the vicinity of an active shooter and provides them with a prompt that allows them to announce that they will be responding. The app then alerts other officers who have the app of an off-duty officer's presence at the scene. Yet there are still some shortfalls to this solution as the app is voluntary; thus, not all responders have the ability to track other responders who have opted to use it.

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[1] Randy (Duke) Cunningham, "H.R.218 - 108th Congress (2003-2004): Law Enforcement Officers Safety Act of 2004," legislation, July 22, 2004, 2003/2004, https://www.congress.gov/bill/108th-congress/house-bill/218.

[2] "Active Shooter Incidents: Topical One-Pagers, 2000 - 2018," Federal Bureau of Investigation, December 2019, https://www.fbi.gov/file-repository/active-shooter-one-page-summaries-2000-2018.pdf/view.

[3] Nathan James, *Arming Teachers as a Response to School Shootings*, CRS-2018-DSP-0067 (Washington, DC: Congressional Research Service, 2018), ProQuest.

[4] Amy Bushatz, "Can You Carry a Gun on a Military Base?," military.com, December 6, 2019, https://www.military.com/pcs/can-you-carry-gun-military-base.html.

A. RESEARCH QUESTION

This thesis examines the questions: Can tools such as HERO911 mitigate some of the major risks associated with self-dispatch? How can off-duty or plainclothes officers be best incorporated into active shooter response? Finally, what processes can make utilization of non-traditional responders safer for all? In considering the dynamic environment of critical incident response, one of the primary factors working against responders is the factor of time.[5] This is especially true during high-casualty incidents and can be observed through the tactics implemented in the Active Law Enforcement Rapid Response Training (ALERRT) curriculum, which is the national standard for active shooter response.[6] The necessity to put together contact teams, rescue task forces, internal and outer cordons teams, casualty collection points, and traffic control points can require significant manpower.[7] The need for an all-hands approach is critical if the manpower can be effectively managed. Here we find the major challenge in incorporating what will be referred to as "non-traditional first responders": plainclothes or off-duty officers who self-dispatch to critical incidents. The risk is twofold: first the perception that non-traditional officers moving into an active scene may elevate the likelihood of a blue-on-blue encounter. Second, some could argue that these responders can potentially decrease situational awareness for the incident commander and lead to an increased potential for misinformation. These two factors have been contentious topics and a primary justification offered to deter the use of non-traditional assets.[8]

The 1999 Columbine school shooting was a seminal event for U.S. law enforcement. This singular event demonstrated a lack of effective tactics for dealing with active shooters

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[5] A. Q. Alarhayem et al., "Time Is the Enemy: Mortality in Trauma Patients with Hemorrhage from Torso Injury Occurs Long Before the 'Golden Hour,'" *The American Journal of Surgery* 212, no. 6 (August 2016): 1101–5, https://doi.org/10.1016/j.amjsurg.2016.08.018.

[6] Katherine Schweit, "Addressing the Problem of the Active Shooter," FBI: Law Enforcement Bulletin, May 7, 2013, https://leb.fbi.gov/articles/featured-articles/addressing-the-problem-of-the-active-shooter.

[7] Advanced Law Enforcement Rapid Response Training, *Active Attack Integrated Response, Version 2* (Texas: Texas State University, 2018).

[8] Chuck Remsberg, "'What Worked For Me': Personal Stories Of Blue-On-Blue Survival," Force Science Institute, July 25, 2013.

and generated major changes in how agencies would deal with this threat.[9] Since Columbine, we have seen a steady increase in active shooter events.[10] In spite of this, intervention from non-traditional responders has only been incorporated in a handful of responses from 2000–2020.[11] Underuse of non-traditional responders exposes an important realization: the law enforcement community may be missing key force multipliers that could potentially reduce casualty counts. While some may argue that non-traditional responders' utilization add a significant amount of risk, this work argues that the increased risk is minimal and the risk of not intervening is far greater to the population.

The Incident Command System (ICS) was adopted nationwide after the response to the 2001 World Trade Center attacks identified the need for a consolidated national standard incident command structure. The National Incident Management System (NIMS) serves as the primary guidance for major responses when multiple agencies are involved in a particular response.[12] One of the key insights that Anna Brookes's work identifies is that the current structure prohibits self-deployment of officers.[13] Self-deployment is generally seen as a major negative, as it makes it difficult to maintain accountability and is perceived to increase risk on the incident scene. Off-duty and most plainclothes officers are generally not dispatched assets, thus intervention by these assets is generally prohibited by national guidance.[14] This insight serves as a key motivator and justification for why the development

[9] Hunter Martaindale and Pete Blair, "The Evolution of Active Shooter Response Training Protocols Since Columbine: Lessons From the Advanced Law Enforcement Rapid Response Training Center," *Journal of Contemporary Criminal Justice* Vol. 35(3) 342–356 (2019): 341–56, https://doi.org/10.1177/1043986219840237.

[10] "Active Shooter Incidents in the United States in 2019," Federal Bureau of Investigation, April 2020, https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2019-042820.pdf/view.

[11] "Active Shooter Incidents 20-Year Review, 2000–2019," Federal Bureau of Investigation, May 2021, https://www.fbi.gov/file-repository/active-shooter-incidents-20-year-review-2000-2019-060121.pdf/view; "Active Shooter Incidents in the United States in 2020," Federal Bureau of Investigation, July 2021, https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2020-070121.pdf/view.

[12] Federal Emergency Management Administration, "National Incident Management System Third Edition," Federal Emergency Management Administration, October 2017, 14, https://www.fema.gov/sites/default/files/2020-07/fema_nims_doctrine-2017.pdf.

[13] Anna C Brookes, "Police Self-Deployment at Critical Incidents: A Wicked Problem or a Part of the Solution?" (masters thesis, Naval Postgraduate School, 2017), xiii, https://calhoun.nps.edu/handle/10945/56105.

[14] Federal Emergency Management Administration, "National Incident Management System Third Edition," 14.

of tools that could help utilize non-traditional responders has not been incorporated into the national response framework. The ALERRT active shooter construct was identified by the FBI as the national standard for active shooter response in 2014.[15] The Active Attack Integrated Response Course (AAIR) serves as the curriculum of the nationwide model for this construct.[16] The framework established the clear priorities for responders. These priorities are "Stop the Killing, Stop the Dying, and Rapid Casualty Evacuation."[17] One of the key ideas presented is that "speed is going to be the most important element when moving up to a crisis site."[18] Former mass casualty incidents like the Columbine or Stoneman Douglas Senior High attacks serve as real reminders for what can occur if officers put their personal safety above that of the innocent. A review of these incidents also provides officers and departments with societal expectations for officer risk and consequences if officers fail to meet those standards during active shooter response.

While the AAIR models did not specifically justify the introduction of non-traditional responders, the scale may serve to support the introduction of non-traditional responders if it can be demonstrated that it reduces the risk to the innocent. In 2017, ALERRT introduced the Solo Officers Rapid Deployment Course (SORD) as a supplemental course that agencies could opt to take along with AAIR.[19] The curriculum was specifically created to teach school response officers, first officers on scene and off-duty officers how to respond during active shooter incidents when they are first to the scene or alone.[20] Although this course falls outside the traditional active shooter curriculum, ALERRT's recognition that this type of response should exist is significant since they are the national standard of response and carry the support of the Justice Department.[21] Yet not all departments or agencies have adopted

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15 Schweit, "Addressing the Problem of the Active Shooter."

16 Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1-7.31.

17 Advanced Law Enforcement Rapid Response Training, 1.1.

18 Advanced Law Enforcement Rapid Response Training, 1.1.

19 Advanced Law Enforcement Rapid Response Training, *Solo Officer Rapid Deployment* (San Marcos, TX: Texas State University, 2017), 1–14.7.

20 Advanced Law Enforcement Rapid Response Training, iii.

21 Schweit, "Addressing the Problem of the Active Shooter."

this training or the concepts involved in their planning, encouraging the use of small 3 to 4 man officer contact teams instead of authorizing or encouraging solo response.

In light of the risk to responders during critical incidents, some leaders have sought solutions to help mitigate risk and increase situational awareness. One possible solution that could help mitigate risk to non-traditional responders is the Hero911 app. This platform was created in order to provide better situational awareness for law enforcement officers both on and off duty, and was recently approved for use by Florida's Department of Education.[22] This tool provides teachers the ability to notify 911 dispatchers as well as law enforcement officers in the vicinity of an event. Responding officers can identify their intention to respond in order to promote better awareness on the scene. Lt Col. Dave Grossman, the director of the Killology Research Group and author of multiple books on active shooters, believes this app serves as a vital tool that all responders should utilize. He urges the use of this app stating, "to all sheepdogs, Hero911 Network can save lives, please put the app on your phone, I did."[23] While a potential solution to help mitigate some of the concerns of self-dispatched officers, Hero911 is not the only technology being developed in response to this problem. Defense Research and Development Canada has tested a Building Tactical Information System (BTIS) that merges cellphone GPS technology, building plans, responders, and radio communication in order to help increase situational awareness for incident commanders.[24] Although the technology has not been completely fielded, initial results demonstrated the technological capability currently exists. While no one solution has been selected as a national standard in the United States, it is clear experts are seeking technological solutions to mitigate or solve the problems traditionally seen during active shooter and other critical incident responses.

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[22] Nate McVicker, "Guard911 Awarded State of Florida Department of Education Contract for Alyssa's Law," Hero911.org, March 31, 2021, https://www.hero911.org/alyssas-law-contract/.

[23] Nate McVicker, "When Seconds Save Lives Testimonials," Hero 911 Network, October 26, 2021, https://www.hero911.org/testimonials/.

[24] Ala Abu Alkheir, *Smart Technology Use with Public Safety and First Responders*, DRDC-RDDC-2019-C112 (Ottawa, Canada: Defense Research and Development Canada, 2019), 1, https://cradpdf.drdc-rddc.gc.ca/PDFS/unc339/p810391_A1b.pdf.

B. HYPOTHESIS

Can tools such as Hero911 mitigate some of the major risks associated with self-dispatch? How can off-duty or plainclothes officers be best incorporated into active shooter response, and what processes can make utilization of non-traditional responders safer for all? Examination of this research may foreshadow two findings. First, the risk of a blue-on-blue event with non-traditional responders is not significantly higher than the standard level of risk that all officers experience by moving to a scene. Second, technology that currently exists could be leveraged to alleviate the issues with situational awareness for both officers responding and the incident commander. While the incorporation of non-traditional responders into response models may not be worthwhile in areas and jurisdictions in which manpower is abundant, there are significant portions of the nation that could benefit from a safe model of incorporation, especially in rural or sparely populated areas.

C. RESEARCH DESIGN

A major theme of this research project is to address the perceived concern of increased risk of blue-on-blue incidents if non-traditional responders are intentionally incorporated into incidents. This project examines the 373 events identified by the FBI as active shooter events from 2000–2020 in order to identify key statistical findings. This project then specifically examines the very few interventions from non-traditional responders and compares outcomes to the general active shooter findings. The ten non-traditional responder events were selected based on the fact that the FBI reports identified non-traditional responders as playing a significant role in resolving the incident. Examination of these specific cases will dispel misperceptions of increased risk. Additionally, the research examines and identifies the two incidents in which non-traditional responders sustained casualties to ensure a full assessment of is conducted. Finally, the project examines current technologies that if incorporated could provide a solution with respect to notification, tracking, deconfliction, and communication of first responders.

Use of the federal reports provides a standardized method to calculate and determine which events fall in the scope of "Active Shooter." The study of these events is important as responders have been continually evaluated on their actions by the population and the media

in the wake of a major incidents. Katherine Schweit identifies some of the major concerns that drove the executive branch to identify the Federal Bureau of Investigation as the lead federal agency for active shooter research, training, and establishing a national standard of response.[25] Schweit writes, "Statistics show that 98 percent of active-shooter incidents involve state and local crimes, primarily occurring in areas with small- and medium-sized law enforcement agencies."[26] A number of studies and annual reports were published through the Department of Justice and provide key insights into each active shooter event starting in 2000 up to 2020. These reports provide general statistical insights as well as key information about each incident in order to identify trends. They also can be used to identify every incident in which a non-traditional responder participated in, which supports the claim that current response constructs largely fail to utilize non-traditional responders. Understanding these statistics can shed light on the real risk level to non-traditional responders during active shooter events.

D. THESIS OUTLINE

Chapter I identifies the issues surrounding the use of non-traditional responders and describes how the project examines the risk and possible risk mitigation. Chapter II consists of a literature review that includes works that have examined similar problem sets as well as identifies what leading experts and agencies have concluded with respect to key portions and the problem as a whole. Chapter III examines the 373 active shooter incidents identified in the FBI reports from 2000–2020 and identifies key data points that can be utilized when examining risk. Chapter IV specifically looks at the ten cases studies of non-traditional responders to identify trends within these cases and then to compare with the overall active shooter statistics. Chapter V determines requirements for technology that could potentially reduce risk in utilizing non-traditional responders and evaluate two current fielded products. Finally, Chapter VI summarizes key findings, identifies issues that should be researched, and presents the conclusion of the thesis.

[25] Schweit, "Addressing the Problem of the Active Shooter."

[26] Schweit.

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II. LITERATURE REVIEW

While very little has been written directly about the use of technology to mitigate issues with non-traditional responders, other academic works can help identity major factors and debates that directly relate to this topic. This literature review begins by focusing on what experts believe drove major tactical changes of active shooter procedures. Next, the review examines similar problem sets and what academic projects have sought to highlight and expand on issues facing responders. It then examines the debate and perceived risk associated with non-traditional responders being implemented into critical incidents. Finally, the chapter concludes with a summary of why these different topics are important in this research project.

A. THE EVOLUTION OF RESPONSE TO ACTIVE SHOOTERS

Experts agree generally that since the Columbine incident, much work has been done to make responses more effective in order to prevent similar incidents in the future. Columbine was no doubt a seminal event that changed response priorities for the first responder community.[27] New tactics have since been implemented as subject matter experts learned more and measured the growing threat of active shooters. Unfortunately, experience in these types of events has elevated the need for solutions to the active shooter problem that extend well beyond department fixes from the local or state fixes but rather all the way to the Federal Level.

In "Marching to the Sound of Gunshots," Ronnie Garrett discusses some of the initial changes seen in response models post-Columbine. He specially identifies the National Tactical Officers Association (NTOA) as a key organization working to make changes to the immediate deployment of patrol officers instead of waiting for Special

[27] Martaindale, Hunter, and Pete Blair. "The Evolution of Active Shooter Response Training Protocols Since Columbine: Lessons From the Advanced Law Enforcement Rapid Response Training Center." *Journal of Contemporary Criminal Justice* Vol. 35(3) 342–356 (2019): 341–56. https://doi.org/10.1177/1043986219840237.

Weapons and Tactics Teams.[28] The NTOA's initial schemes have enabled patrol officers to create "contact teams" in order to quickly move to eliminate the shooters while lowering the risk to officers.[29] These contact teams contained a minimum of three officers but preferred four officers to enter a facility in diamond formation if a "driving force" was present.[30] These tactics focused on reduction of the time gap. In doing so responders goal became to limit uninterrupted access to the victims. Uninterrupted time was seen to decreased survivability of victims and increased casualty counts. Garrett's article advocates the need for departments nationwide to adopt the NTOA model and begin to integrate patrol officer contact teams to mitigate casualty counts for active shooters. The concept of "contact teams" quickly began to gain momentum as various agencies quickly adopted and began to train patrol officers to counter this emerging threat.

While NTOA served as a key driver in changing early response models, ALERRT serves as another key organization in the innovation of tactics that sought to reduce casualty counts during active shooter events. Martindale and Blair while writing about post-Columbine response changes provide context into how the organizations studied, developed and then implemented the active shooter protocols that would become the national standard.[31] The construct also includes "contact teams" with expanded roles for officers plus including the introduction of the Rescue Task Force concept.[32] Under this concept, more risk was deemed acceptable in order to introduce better trained medical personnel in order to save the lives of civilians. The authors also highlight the fact that as lessons are learned from past events the model undergoes an evolution, meaning that the model is not static. An example of this is ALERRT's recognition of "solo officer response" as a key option versus waiting to establish contact teams. Martindale and Blair cite an active shooter in San Bernardino, California, in 2015, where the initial officer arrived about

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[28] Ronnie Garrett, "Marching to the Sound of Gunshots," *Law Enforcement Technology* 34, no. 6 (June 2007): 54–60,62-63.

[29] Garrett.

[30] Garrett.

[31] Martaindale and Blair, "The Evolution of Active Shooter Response Training Protocols Since Columbine: Lessons From the Advanced Law Enforcement Rapid Response Training Center."

[32] Martaindale and Blair.

one minute after the 911 call but the third and fourth officers arrived at the six- and one-half minute mark delaying the initial entry. Recognizing the importance of every second during these incidents, and that waiting for a full contact team could cost lives, the authors advocated that departments should authorize either a two-man team or even solo officer entry.[33] While many experts understand the need to rapidly employ assets to eliminate the threat, utilizing two-man contact teams or solo officers has been seen by some to be a much riskier option. Officer safety became the justification that has prevented many departments from sanctioning this type of response. The authors acknowledge this additional risk but deem it acceptable as the priority for safety in the authors' view should be given to the victims.[34]

In "Active Shooter Response Continues to Evolve," Frank Borelli addresses this concern.[35] The author begins with the assertion that at times tactics are developed without really understanding if the tactic will be beneficial in most circumstances.[36] He acknowledges that this could be a potential reason why some experts have not yet endorsed solo officer response. Yet he highlights the fact that when looking at an active shooter scenario, it is hard to deny the fact that immediate deployment of solo officers has and can save lives in future events.[37] He asserts, "if I'm the first officer there and I can go in to engage the one shooter, thereby saving lives and minimizing injuries, how can I morally, professionally, and ethically justify waiting for another officer?"[38] Borelli does acknowledge that not all police officers have the capacity or will to effectively make solo entry and neutralize the threat. To overcome this, he encourages officers to seek the best training possible, be proficient with their equipment, and be prepared mentally to live with whatever choice they make.[39] While Borelli does not bring up a scientific approach to

[33] Martaindale and Blair.

[34] Martaindale and Blair.

[35] Frank Borelli, "Active Shooter Response Continues to Evolve," *Cygnus Business Media* 48, no. 5 (May 2021): 18.

[36] Borelli.

[37] Borelli.

[38] Borelli.

[39] Borelli.

debate the higher levels of risk, he does pose an ethical argument: Should officers sworn to protect their population wait outside as innocents are killed when their immediate deployment may save countless lives?

B. SIMILAR ACADEMIC PROBLEM SETS

While there are a significant number of academic works that address active shooters, four published theses from the Naval Postgraduate School relate closely to the problem set that this work undertakes. Monica Mapel's thesis, "Protecting Those Who Protect Us," focuses specifically on officer deconfliction from an organizational level in order to better prevent blue-on-blue events.[40] However, this thesis is more focused on national level deconfliction, which is extremely important for proactive operations like a drug raid or high-risk warrant but has limited effect on exigent events such as response to an active shooter or bombing.

Jason Lyons' work specifically focuses on responding agencies and the likelihood of encountering armed civilians.[41] In his work, Lyons evaluates American gun culture and how during critical events first responders effectively address armed citizens. Specifically, he addresses armed staff members in educational institutions. While Lyons' work does address some of the same concerns, there are some key differences with civilians vs. non-traditional responders self-dispatching. One example would be that the key population group being untrained citizens has significantly different capabilities then trained law enforcement officers.

Charles Ergenbright and Sean Hubbard's work on defeating active shooters looks at utilizing facility upgrades to mitigate response time issues to active shooters.[42] This project identities another important solution for high occupancy facilities. The concept of

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[40] Monica Mapel, "Protecting Those Who Protect Us: Federal Law Enforcement Deconfliction" (master's thesis, Naval Postgraduate School, 2014), 1, https://calhoun.nps.edu/handle/10945/41414.

[41] Jason D. Lyon and Shannon A. Brown, "CONVERGENCE, GUNS, AND THE PUBLIC SAFETY RESPONSE" (master's thesis, Monterey, CA; Naval Postgraduate School, 2019), v, https://calhoun.nps.edu/handle/10945/63478.

[42] Charles Ergenbright and Sean Hubbard, "Defeating the Active Shooter: Applying Facility Upgrades in Order to Mitigate the Effects of Active Shooters in High Occupancy Facilities" (master's thesis, NAVAL POSTGRADUATE SCHOOL, 2012), 4, https://calhoun.nps.edu/handle/10945/63478.

making a target harder through facility upgrades is a parallel effort seeking the same outcome, reducing the loss of life by introducing unconventional mitigators. In the work, the authors identify that "the average duration of Active Shooter incidents in Institutions of Higher Education within the United States is 12.5 minutes. In contrast, the average response time of campus and local law enforcement to these incidents is 18 minutes."[43] This key point reinforces the fact that at times law enforcement processional must continue to identity factors that can enhance survivability of victims and or shorten the gap between initiation of the event and intervention from a responder.

Closest to the spirit of this work, Anna Brookes' work focuses on officer self-deployment to critical incidents.[44] This work identifies current shortfalls in the understanding and definition of "officer self-deployment," as well as opposes the view that such behavior is negative.[45] While she does acknowledge some of the concerns with accountability of self-dispatching assets as identified in her assessment of the response to the Boston Marathon Bombing, she concludes that the Incident Command System should acknowledge the reality of the problem and be better equipped to utilize the assets that participate.[46] While Brookes' work seeks to examine a similar problem, it does not specifically address some of the problems found in the active shooter problem set. Additionally, the focus of the solution is on the incident command structure as a whole and not on integrating technology to mitigate response concerns.

C. BLUE-ON-BLUE RISK

It is a widely held belief that non-traditional responders such as self-dispatched, plainclothes, and off-duty officers increase the risk of an unintended blue-on-blue during critical incidents.[47] Off-duty officers have been mistakenly killed multiple times

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43 Ergenbright and Hubbard, i.

44 Brookes, "Police Self-Deployment to Critical Incidents," i.

45 Brookes, 71.

46 Brookes, 75.

47 New York State Task Force on Police-on-Police Shootings, *Reducing Inherent Danger: Report of the Task Force on Police-on-Police Shootings* (New York: Harvard.edu, n.d.), 5, https://www.hks.harvard.edu/sites/default/files/centers/wiener/programs/pcj/files/Police-on-Police_Shootings_with_appendices.pdf.

responding to non-active shooter events. For example in 2005, a University of Central Florida Police Department officer was accidentally killed while participating in a possession crackdown (alcohol to minors) by fellow officers.[48] Likewise in 2008 a Mount Vernon Washington Police Detective was accidently killed by fellow officers while trying to break up a fight.[49] There are other examples of off-duty blue-on-blue events occurring. Yet only one blue-on-blue event has happened during response to an active shooter by non-traditional responders. In 2017 at Prince George's County Maryland Police an on-duty plainclothes officer responded to an active shooter outside his police station and was unintentionally killed by fire from fellow officers.[50] This incident is addressed in further detail in Chapter IV of this work.

While not a widely researched subject, there have been focused studies that have examined factors that contribute to these types of responders and actual blue-on-blue events as well as potential near misses. O'Neil, Spence, Lewinski and Novak conducted a study to specifically examine current training and safety concerns that contribute to these accidental events. One of the primary findings of the report is a lack of force-on-force training for resolving blue-on-blue encounters.[51] The report also identified the fact that off-duty or plainclothes officers should ensure they notify dispatchers of their presence, but found that many departments do not train this practice.[52] Another study that has specifically looked at this topic is the "New York Task Force Police on Police Shooting." Conducted at the state level as directed by governor of New York, the task force examined the key factors that contribute to blue-on-blue police events. This was one of the original studies which identified a lack of training among agencies with respect to blue-on-blue

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[48] Advanced Law Enforcement Rapid Response Training, *SORD*, 2.20.

[49] Advanced Law Enforcement Rapid Response Training, 2.18.

[50] Advanced Law Enforcement Rapid Response Training, 2.8.

[51] Dawn A. O'Neill et al., "Training and Safety: Potentially Lethal Blue-on-Blue Encounters," *Police Practice and Research* 22, no. 2 (January 2021): 1209–28, https://doi.org/10.1080/15614263.2019.1617143.

[52] O'Neill et al.

prevention.[53] These findings have been used at face value to discourage non-traditional response assets. Yet the findings also serve to support the claim that rather than finding ways to mitigate concerns with self-dispatch and non-traditional responders, many departments simply acknowledge the risk of carrying concealed weapons while off duty or in plainclothes with little or no attempt to incorporate safety measures into annual training or as a department priority.

D. OPPOSING VIEWS ON SELF DISPATCH

The national policy for self-dispatch is to discourage such practice.[54] The International Association of Chiefs of Police (IACP) recognize that at times officers on or off-duty might determine immediate action is required in order to prevent immediate loss of life.[55] The IACP has determined that "taking immediate action during active shooter incidents, rather than waiting for specially equipped and trained officers, can save lives and prevent serious injuries. Time lost by delayed action is likely to result in additional casualties."[56] The IACP guidance recognizes and acknowledges the risk associated with off-duty or plainclothes officer deployment during an active shooter, yet they determine a failure to intervene is the greater risk. Rather than discourage the practice, the IACP lays out practices that make a blue-on-blue event less likely. These practices include announcing an officer's presence, displaying a badge if possible, and communicating to the dispatcher of an officer's presence on the scene.[57] The IACP even goes as far as to encourage the utilization of non-traditional responders in the follow-on actions of a response, specifically medical assistance and casualty evacuation.[58]

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53 Raymond Kelly, *Active Shooter Recommendations and Analysis for Risk Mitigation*, 2012 Edition (New York City: New York City Police Department, 2012), 2.

54 Federal Emergency Management Administration, "National Incident Management System Third Edition," 14.

55 IACP Law Enforcement Policy Center, *Active Shooter: Model Policy Concepts & Issues Paper Need to Know.*., Model Policy (Alexandria, VA: IACP Law Enforcement Policy Center, 2018), 2, https://www.theiacp.org/resources/policy-center-resource/active-shooter.

56 IACP Law Enforcement Policy Center, 2.

57 IACP Law Enforcement Policy Center, 2.

58 IACP Law Enforcement Policy Center, 5.

The International Fire Chiefs Association (IAFC) and the National Volunteer Fire Council (NVFC) serve as major organizations within the emergency response community. In 2002 both of these organizations disagreed with the practice of self-dispatching assets and since that time, the stance for both organizations has remained the same.[59] The significance of these views lies in the fact that fire chiefs are often either the incident commander or are part of the Unified Command Structure. Therefore, in the Emergency Response Community the input from both organizations is significant.

The IAFC and NVFC have gone so far as to encourage policies against self-dispatch, making it possible for departments to discipline responders or hold liable officers who violate these policies.[60] While these practices were created to try and make response safer for responders, they do not take into account the need for immediate action during an active shooter response. Some administrators also see these policies as primarily intended to protect the departments from the liability associated with a non-traditional response. Yet, the practice of intervention is thus made risky for not only the officers or responders' personal safety but their professional safety as well. With these policies, even if an officer's intervention is successful, officers could face disciplinary action. Understanding the extra implication of professional risk may serve as one of the factors that have contributed to the declining number of interventions from non-traditional responders.

E. IS TECHNOLOGY THE SOLUTION?

Today, society looks to technology to fill the gap in common problems, which is also the case with regard to active shooter response. From gunshot detectors to facial recognition software, the law enforcement community has sought to integrate technology in order to mitigate mass casualty counts. Research on the effectiveness of such technology in the case of school shootings is currently scarce. In the "Road to Secure Schools," Zimmer addresses some of the technologies that have been adopted in recent years and

[59] John Buckman, "IAFC Position: Practice of Self-Dispatch Among Emergency Response Personnel," International Fire Chiefs Association, August 2002, https://www.iafc.org/topics-and-tools/resources/resource/iafc-position-practice-of-self-dispatch-among-emergency-response-personnel.

[60] Buckman.

appear promising in addressing key response issues.[61] Among these are integrated systems that allow for increased situational awareness through the use of panic buttons connected to dispatch centers, remote camera access and text message. Zimmer writes, "Whether the technology is a fully integrated school with dispatch-controlled countermeasures or a mobile app that sends a duress signal at the push of a button, new tools help to create more secure schools and allow for quicker notification, faster response times, real-time intelligence, increased two-way communications and much more."[62]

Yet some believe that the investment in such technology rarely produce fruitful outcomes. In "Active Shooter Defy Simple and Singular Solutions," Baker asserts that; "although people mean well, these myopic, one-dimensional approaches are shortsighted and do little in mitigating the problem. Total reliance on technology pits machines and unbending systems against the slyly adaptive species known as humans. People are good at outsmarting machines and changing attack strategies to exploit vulnerabilities."[63]

F. SUMMARY OF CONTRIBUTION OF WORKS

Understanding how emergency response procedures have been refined and adapted serves an important part of this research project. Aforementioned is due to the fact that implementing non-traditional responders into existing models would require an update in tactics and procedures. Therefore, prior to addressing potential technological mitigation, this project should demonstrate the need to implement non-traditional responders as the next logical step in the evolution of procedures.

In much of the literature, a major concern that comes forward any time new tactical solutions are proposed is the concern for officer safety. While this should serve as a key consideration, this project sides with Borelli's argument that ethically more risk should be accepted in order to prevent innocent loss of life.[64] This project, however, seeks to mitigate

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[61] Adrienne Zimmer, "The Road To Secure Schools," *Law Enforcement Technology* 45, no. 5 (June 2018): 14–16,18.

[62] Vaughn Baker, "Active Shooters Defy Simple and Singular Solutions," *Law Enforcement Technology* 47, no. 6 (September 2020): 16.

[63] Baker, 15.

[64] Borelli, "Active Shooter Response Continues to Evolve."

officer safety concerns through demonstrating through data that the risk may not be as much as is currently perceived. It also seeks to introduce some potential solutions that could further mitigate some of the risk associated.

Finally, this project addresses some of the inconsistencies identified above by some of the key organizations that are responsible for implementation of active shooter policies nationwide. The practice of self-dispatch for exigent circumstances could be seen as a stepping-stone for the use of non-traditional responders. Where in the past the risk associated with non-traditional responders might have been misunderstood or legitimately not acceptable, technology might serve to help alleviate key concerns or at least make the risk more manageable in some circumstances.

III. DATA ANALYSIS OF 2000–2020 ACTIVE SHOOTER INCIDENTS

This chapter examines the problem of the active shooter from various angles. By understanding basic facts of this specific topic, certain "truths" can be found, and assumptions can be reasonably drawn upon or challenged. Violence in U.S. society is not a new phenomenon; from gunslingers in the west to Prohibition, organized crime, drug violence, and gang violence, police agencies have had to learn to adapt to meet these threats posed to society. Yet the active shooter problem did not rise to national concern until the Columbine Attack on April 20, 1999. Since Columbine, the number of these types of events has continued to climb. In 2000, the year after Columbine, the number of active shooter events nationally was three.[65] The active shooter annual incident number has never again dipped below three. In fact, a look at number of incidents reveals a steady rate of growth, reaching the max number of events seen to date at forty in 2020.[66] What makes this trend even more alarming is the fact that this number continued to rise even in the midst of a pandemic in which many schools, malls, and businesses closed for much of the year. With society experiencing many periods of lockdown and limited access to groups of the population, one could reasonably expect the number of incidents to decrease, yet this was not the case. How, then, to better understand the problems presented by active shooters? One way is by looking at all the incidents, both collectively and individually, to determine which assumptions hold statistical weight. Statistical validations of assumptions can then be used to drive policy or the development of tactics. When applied, leaders can identify where risk could be reasonably taken and what areas of response require more focus.

In order to understand whether it might be useful or necessary to involve non-traditional responders to active shooter events, one must first seek to understand the nature of the threat. When considering the use of non-traditional responders within the active shooter construct, a key issue that could be asked is whether there is truly a need to

[65] Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019."

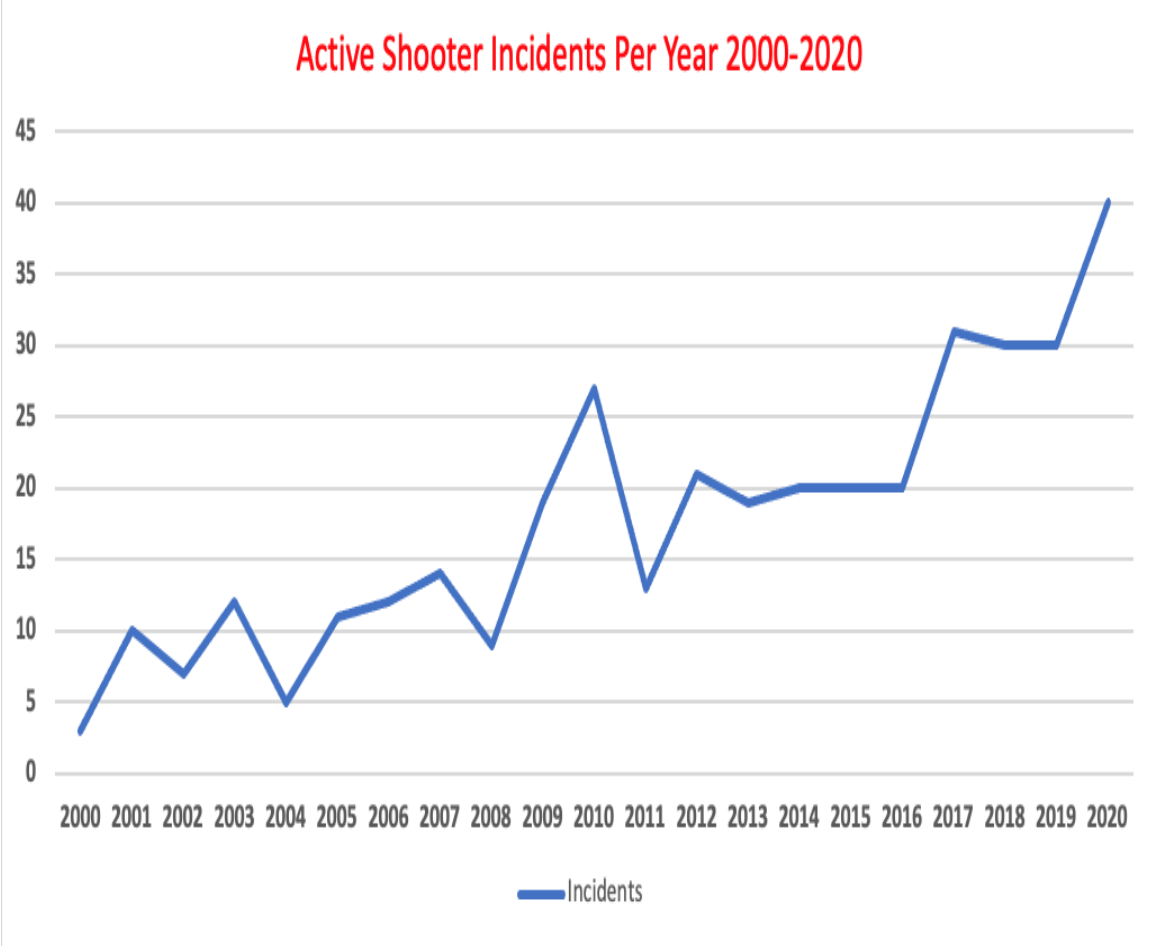
[66] Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

introduce non-traditional assets? Answers to a few pointed questions will influence this decision. Do these incidents tend to happen during the regular workday, when uniformed officers are more likely to be available? Do they tend to involve more than one shooter, employing sophisticated methods that overwhelm nontraditional responders? The following categories were studied to establish active shooter trends: Active shooter incident numbers 2000–2020, casualties by year, law enforcement casualties while responding to active shooters, days of the week active shootings events occur, shooter outcomes, and finally number of shooters per incident.

A. ACTIVE SHOOTER GENERAL FINDINGS

When considering the use of non-traditional responders within the Active Shooter construct, a key issue to be addressed is whether there is truly a need to introduce non-traditional assets. When examining the problem, one consideration should be the raw number of incidents. Understanding if active shooters incident trends are going up or down is significant. If the number of incidents is declining, then one could assume that the current construct serves society well and need not be adapted or examined. Yet an examination of the numbers in Figure 1 reveals that while there have been slight dips in numbers of incidents in the years 2002, 2004, 2008, 2011, 2013, 2018, overall, the number has continued to rise. Additionally, even the dips with the exception of 2004 have never been less than that previously low number (dip) of incidents.[67] Thus, a safe assumption to make is that this problem set will continue to steadily grow and thus require continual study and development of tactics and policy updates.

[67] Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019."



See the appendix for data table.

Figure 1. Active Shooter Incidents Per Year 2000–2020[68]

B. ACTIVE SHOOTER CASUALTY DATA 2000–2020

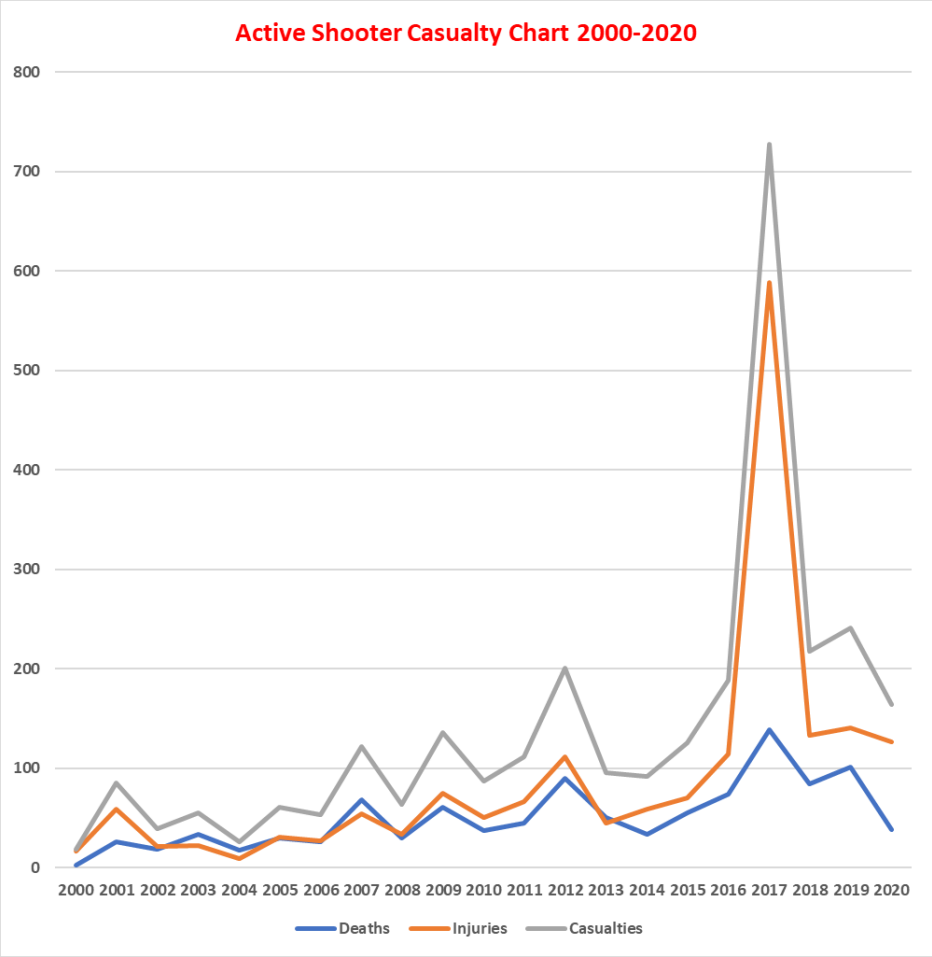
While the number of incidents continue to grow, there is also a question of the cost of each incident with respect to human physical injuries or death. While it is a safe assumption to make that more incidents will garner larger casualty numbers, there are incidents that can skew this general prediction. Examining the data found in Figure 2, the incident number for 2020 was forty incidents which accounted for 164 total casualties, resulting in thirty-eight deaths.[69] Compare the incident number to the thirty-one deaths

[68] Adapted from Federal Bureau of Investigation; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

[69] Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

from 2017, and a reasonable person would assume that with nine fewer incidents the casualty count would be significantly lower, yet in this case the assumption would not hold true. In fact, the 2017 numbers are significantly higher with a total of 727 casualties. However, by studying these numbers, experts can derive the fact that in some cases significant mass casualty events can have a huge impact on casualty counts. In the case of 2017, two events accounted for 593 of the 727 casualties that year.[70] Had the Sutherland Springs Church Shooting and the Route 91 Harvest Festival mass casualty events not occurred, and the other twenty-nine events of 2017 had, the casualty count would have been 134. A major point that can be drawn from this table and understanding is that reducing the number of events is important, but effective response to each individual event is critical in the reduction of overall casualty counts. Relative success in the responses in twenty-nine of thirty-one events still leaves significant room for human suffering. Therefore, a truth that can be derived is that every event deserves the best possible opportunity for quick intervention and mitigation.

[70] "Active Shooter Incidents in the United States in 2016 and 2017," Federal Bureau of Investigation, April 2018, https://www.fbi.gov/file-repository/active-shooter-incidents-us-2016-2017.pdf/view.



See the appendix for data table.

Figure 2. Active Shooter Casualty Chart, 2000–2020[71]

C. RISK TO RESPONDERS

When considering the intentional implementation of non-traditional responders into active shooter incidents, a major concern is the perceived risk involved. While this study could only identify ten incidents in which non-traditional responders played a significant role in the response, Figure 3 should help clarify the actual risk level. In ten events there were a total of three casualties for nontraditional responders. Thus, a simple statistic would be that in 70 percent of the time no harm came to the non-traditional responders in the

[71] Adapted from Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

incidents from 2000–2020. Of these ten incidents, only one resulted in a blue-on-blue event, which did lead to an officer death. In this case, the officer was an on-duty plainclothes officer responding to the incident. The other two casualties of non-traditional responders were at the Route 91 Harvest Festival as two off-duty officers were among the 547 casualties at the one mass casualty event. To summarize, the initial finding of risk to non-traditional responders was determined by examination of the ten non-traditional responder cases from 2000–2020. According to the data, non-traditional responders statistically have a 10% chance of experiencing a blue-on-blue event and (20%) chance of being killed by the shooter, with a total casualty rate of (30%).

Figure 4 demonstrates that the number incidents with traditional responders provide a much larger pool to draw statistics from. Out of 373 total events on duty law enforcement officers sustained 90 injuries, this equates to an injury rate of (24.12%). Of note the death rate was lower for on-duty response since only thirty-one fatalities within the 373 events or (8.57%). Additionally, the risk of a blue-on-blue event was less than (1%) with a total casualty rate of (32.7%).

When comparing the numbers in an attempt to measure risk of non-traditional responders, they were (9%) more likely to experience a blue-on-blue event and (21%) more likely of being killed by the shooter, but almost identical in casualty rates when considering the overall numbers of (30%) for non-traditional responders and (32.7%) for on-duty responders. Finally, the event with the largest casualty rate for non-traditional responders, the Route 91 Harvest Festival can be classified as an outlier event that is addressed in depth in Chapters IV and V.

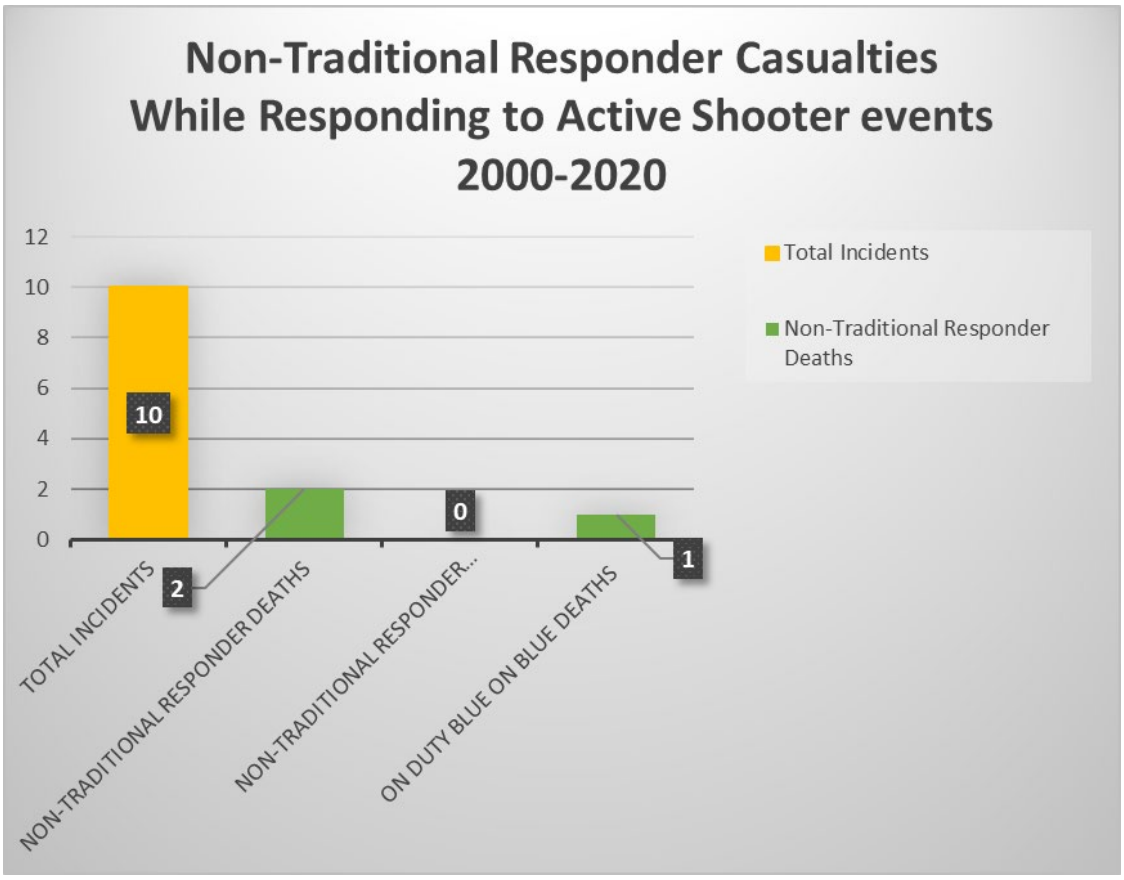
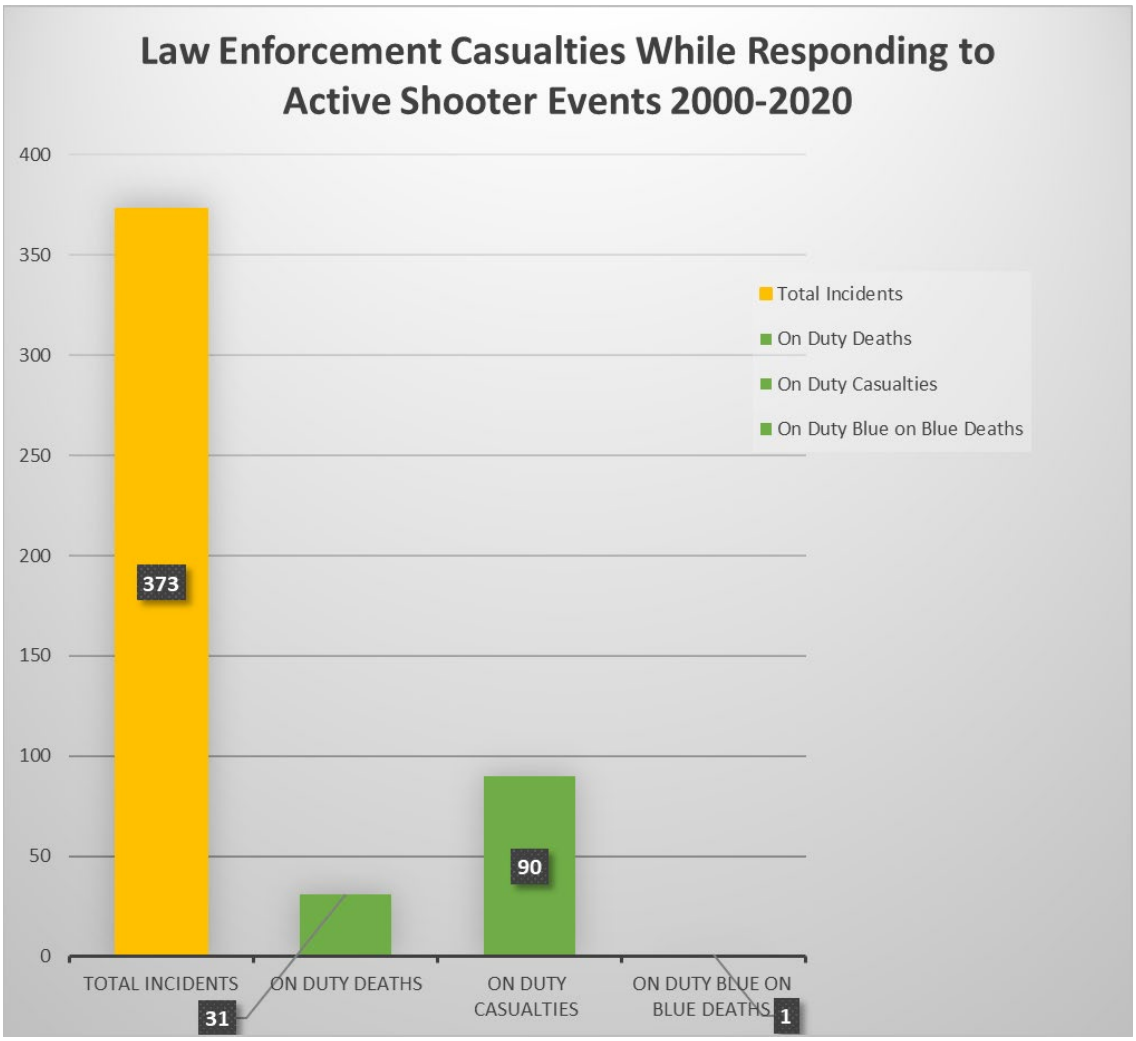


Figure 3. Non-Traditional Responder Casualties[72]

[72] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," Federal Bureau of Investigation, 2014, https://www.fbi.gov/file-repository/active-shooter-study-2000-2013-1.pdf/view; "Active Shooter Incidents in the United States in 2014 and 2015," Federal Bureau of Investigation, n.d., https://www.fbi.gov/file-repository/activeshooterincidentsus_2014-2015.pdf/view; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; "Active Shooter Incidents in the United States in 2018," Federal Bureau of Investigation, April 2019, https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2018-041019.pdf/view; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019."



See the appendix for data table.

Figure 4. Law Enforcement Casualty Data Active Shooter[73]

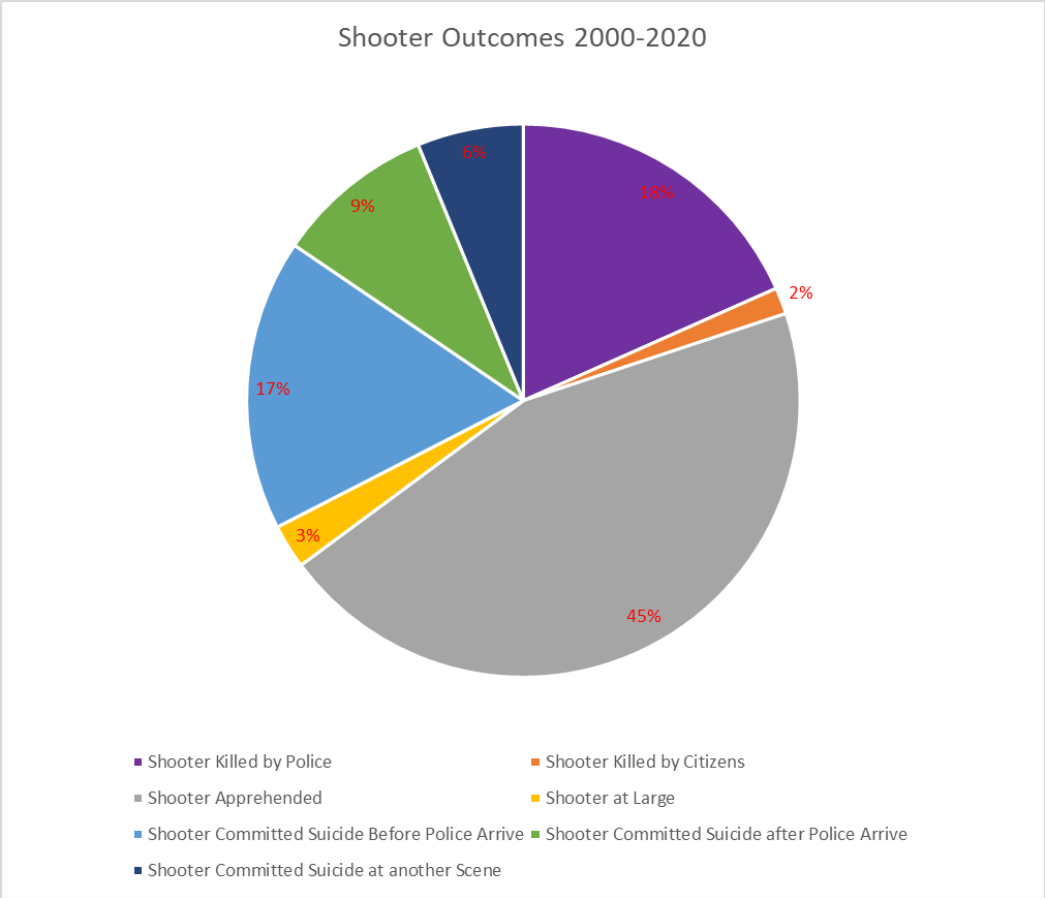
D. SHOOTER OUTCOMES

Understanding the risk to responders is an essential input to help determine the cost to outcome ratio with respect to the introduction of non-traditional responders or as experts

[73] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2019."

access the implementation of new tactics. Another major factor that should be considered is how active shooter events are resolved. Do most shooters simply decide that they have achieved their objective and end their lives before intervention? Or are most killed by law enforcement at the scene? What role do civilian interventions have? And how many active shooters live after their events to face prosecution? By examining shooter outcomes, experts can assess what actions cause a shooter to stop. Understanding this factor or factors could allow leaders the ability to recommend changes to policy with direct effect to the initial response.

When considering Figure 5, what can be seen in the incidents from 2000–2020 is the fact that in (17%) of the incidents, a shooter chose to end their lives prior to the police arriving. This choice may have been made from multiple factors: the shooter might have recognized that they have achieved their objective, maybe a moment of clarity, they had always intended to martyr themselves to their cause or they do not want to face the consequences of engagement with the police or the possibility of detention. Whatever the reason, responders are not able to get to the scene with enough time to intervene and the shooter makes the choice to resolve the event on their own. In (9%) of the cases, the shooter committed suicide after police intervention. In (6%) of the cases a shooter committed suicide at another location. In (20%) of the incidents, active shooters are killed by either the responding officers (18%) or by private citizens (2%). In (45%) active shooter incidents, the responding officers took a shooter into custody. Finally, (3%) of shooter fled from the scene of the event and remain at large. When considering the above number, an observation that can be made is that in most instances (83%), some type of intervention must occur for the shooter to have no longer remained a threat to the population.



See the appendix for data table.

Figure 5. Shooter Outcomes, 2000–2020[74]

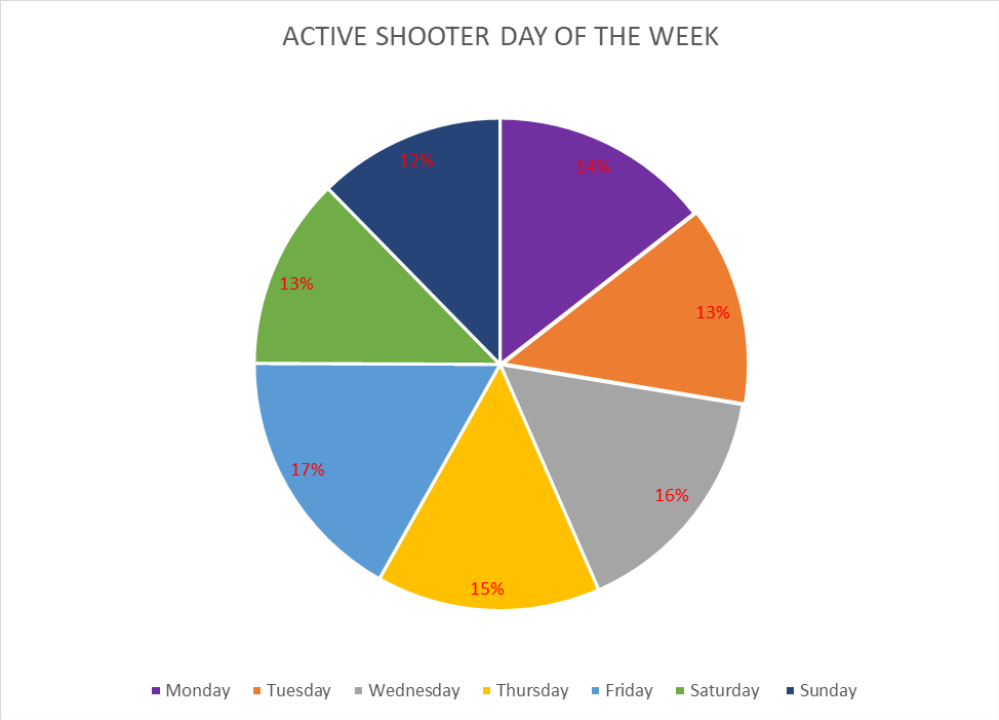
E. WHEN (DAY/TIME) EVENTS OCCUR

Police departments across the United States are generally at their maximal response capacities during or close to business hours. This is the time when staff duties are generally performed, day to day training is conducted, and investigators working on daily caseloads are available. Therefore, it would be reasonable to conclude that response capability or manpower would be greatest during these hours and days Monday through Friday from 0700–1800. While major departments may not need to utilize these extra resources in metropolitan areas or in areas with significant resources, many departments in lower populated areas may depend

[74]Adapted from Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

on all available assets and resources during a mass casualty event. Figure 6 and Figure 7 demonstrate how many of these events falls outside of traditional business hours or daytime hours may identify the need to for departments to be able to rapidly surge or utilize all available assets outside an organizations optimal staffing hours. When examining the days of the weeks that active shooter events occurred, (25%) of the events fell on a Saturday (13%) or Sunday (12%). When examining the factor of time of the day, (32%) of the events occurred between 1800 and 0600. Thus, it is reasonable to determine that a significant portion of events occur outside of hours in which many departments are best postured to respond to an active shooter event, especially those which lead to a mass casualty event.

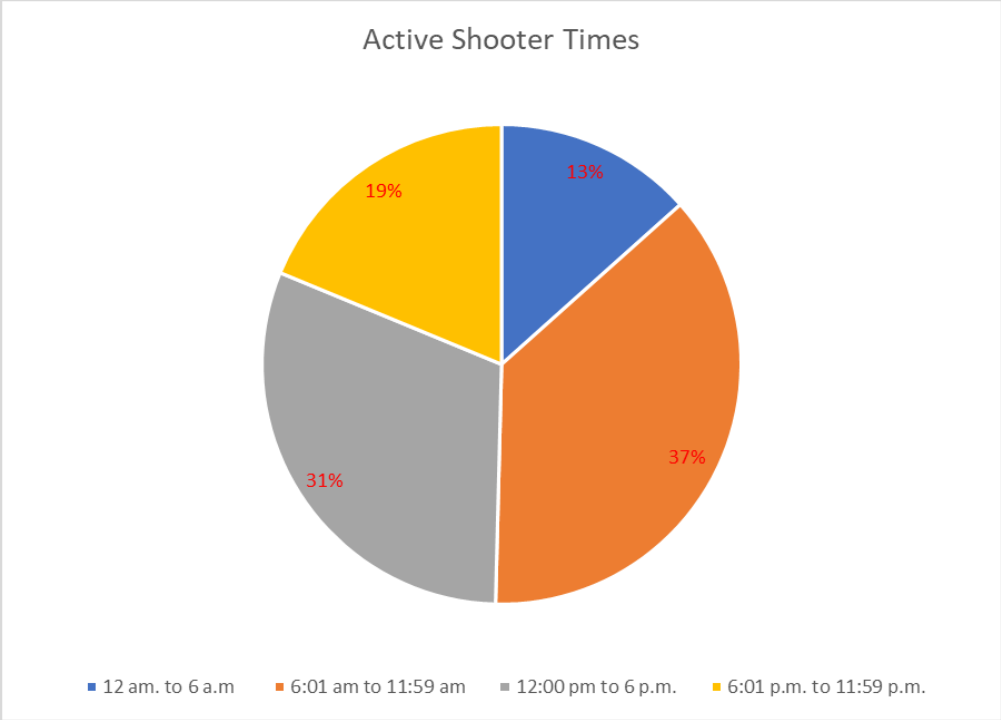
As most departments' traditional manpower is available during business hours, it can be reasonably concluded the largest population of non-traditional responders would be available outside these hours. Off-duty officers of all ranks and even former police officers or federal agents that maintain LEOSA credentials could potentially serve to widen the pool or available resources and serve as a rapid reserve or augmentation force.



See the appendix for data table.

Figure 6. Active Shooter Day of the Week 2000–2020[75]

[75]Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2019"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."



See the appendix for data table.

Figure 7. Active Shooter Times 2000–2020[76]

F. SHOOTER NUMBERS

Understanding what a non-traditional officer may face if an officer chooses to respond to an active shooter incident is paramount for the officer's safety. Departments should consider facts associated with this understanding as they set policy on this type of response. What is the reality of active shooters in America? A popular misconception may be more directly related to events in international vice domestic news. For example, the Mumbai incident showcased a worst-case scenario event for law enforcement officers. The highly coordinated attack was carried out by multiple shooters lasted 60 hours. The Mumbai attack quickly overwhelmed available responders, with the perpetrators killing

[76] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019."

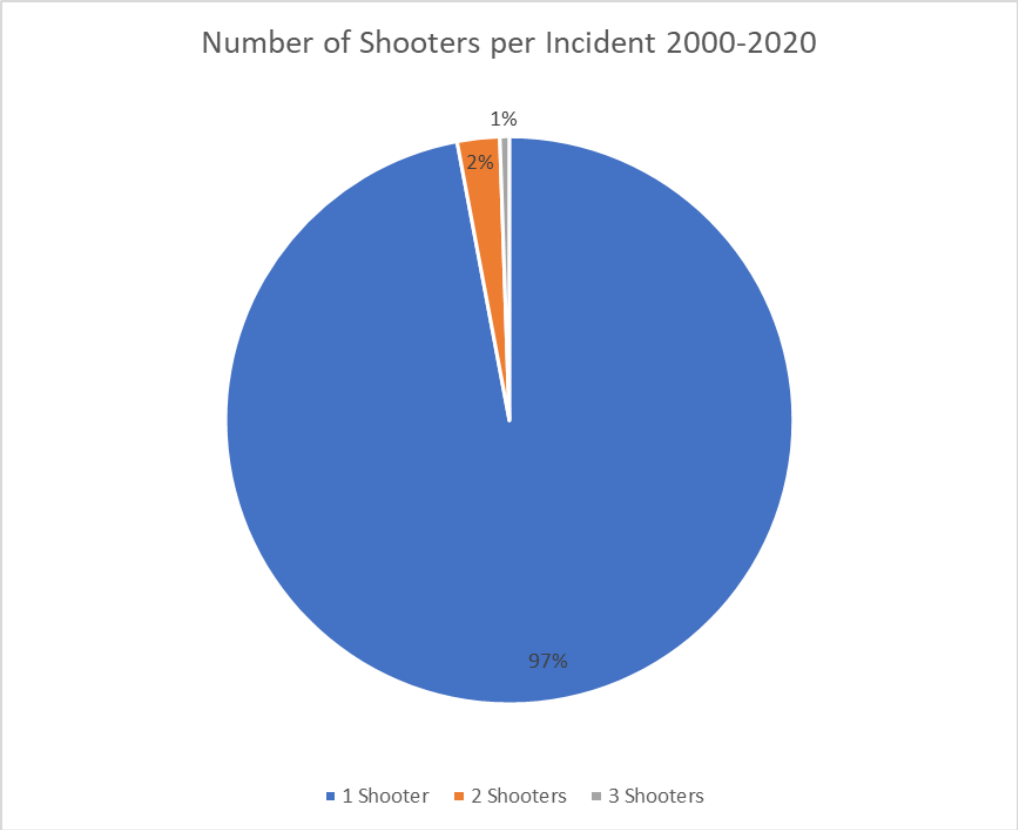
170 civilians.[77] However, this style of highly coordinated active shooters is far from the norm and has not occurred within the United States. Rather, when looking at the data in (97%) of active shooter incidents, the shooter acted alone. Thus, in the overwhelming majority of cases, should a shooter be eliminated, the "Stop the Killing" portion of the incident is concluded.[78] In total, out of the 377 active shooter events from 2000–2020, only eleven events were carried out by multiple shooters and only two of these events consisted of three shooters.

Figure 8 demonstrates that the 97% statistic is a major factor behind ALERRT's recommendation to introduce Rescue Task Forces or medical professionals into warm zones. While this is another characteristic of the response, it should be noted that the single shooter data point also has been the driving force behind the justification of risk acceptance of solo officer response at the national standard level.[79]

[77] Joel M Justice, "Active Shooters: Is Law Enforcement Ready for a Mumbai Style Attack?" (master's thesis, Naval Postgraduate School, 2019), 1, https://calhoun.nps.edu/handle/10945/37645.

[78] Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1.

[79] Advanced Law Enforcement Rapid Response Training, *SORD*.



See the appendix for data table.

Figure 8. Number of Shooters per Incident, 2000–2020[80]

G. CONCLUSION

In summation the data above demonstrates four critical points with respect to the problems that active shooters pose. First, while society should hope for the number of events to decrease annually, the data available suggests that the number of incidents will continue to climb. Casualty rates will most likely steadily increase but the potential for singular mass casualty events could cause major spikes. The 2017 example of this spike demonstrates what one or two major events can cost with respect to human life. Second,

[80] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2019"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

the data on risk to responders demonstrates that the use of non-traditional assets does not significantly increase the casualty numbers in responders and increases the risk of a blue-on-blue event only slightly at (9%). The finding that in (83%) of incidents intervention is necessary to eliminate the threat posed by active shooters should not be understated. This data point is significant in the justification for widening the pool of responders. Third, understanding that a significant portion of events happens outside key business hours reinforces the option of non-traditional responders as an available option. Finally, recognizing that in (97%) of events there is only a single shooter supports the likelihood that one non-traditional responding effectively is just as likely as one traditional responder to prevent or mitigate an event.

IV. CASE STUDIES: NON-TRADITIONAL RESPONDER INCIDENTS, 2000–2020

Numbers can help highlight certain key factors while studying a specific problem set, yet case studies often illuminate other key factors. In this chapter, the ten case studies in which non-traditional responders played a critical role in the response are examined more closely. In these ten events the FBI reports specifically identified non-traditional responders as directly contributing to the event resolution or response. This chapter provides a standardized approach at looking at these types of events.

To provide a standardized approach for summarizing and pulling key data, the following factors are considered: the FBI short summary of event, number of shooters, number of casualties, conclusion of the event, location of the event, population of the location, agency responsible for response, day of the week, time of day, weapon used, and significant information not identified in an above category. This information can create a basic understanding of the nature of the event, demonstrate the capabilities of law enforcement agencies responding, and identify factors that may have affected the outcome. Factors like day and time specifically matter for these case studies as agencies are best postured to respond during normal business hours. Factors such as population and department size provide a brief snapshot of the capacity of responding agencies. The maps also provide a quick overview of the distances while also demonstrating that at times responders from multiple agencies will respond. The goal of these case study is to illuminate key observations not immediately visible through a numerical analysis. The case studies are organized chronologically and local maps are shown in Figures 9-18.

A. NON-TRADITIONAL RESPONSE CASE STUDIES

1. Santana High School Shooting

On March 5, 2001, at 9:20 a.m., Charles Andrew Williams Jr., 15, armed with a handgun, began shooting in Santana High School in Santee,

California. Two people were killed; 13 were wounded. The shooter was apprehended by an off-duty officer who heard gunshots.[81]

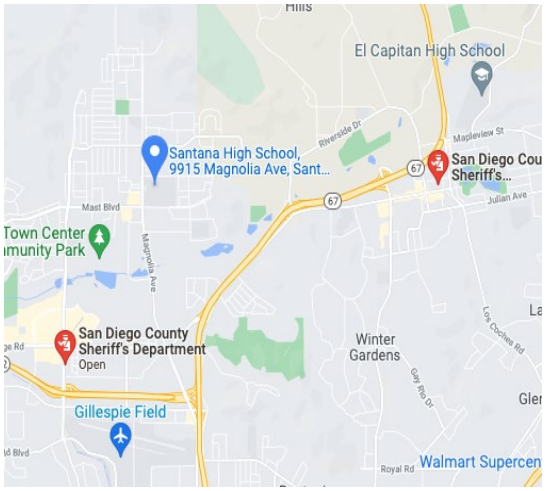


Figure 9. Santana High School Map [82]

The location of the Santana High School is in the town of Santee, California, which falls within San Diego County. The population of the town was 53,413;[83] Santee has a medium-large department capable of responding to a full spectrum of incidents. The San Diego County Sheriff's Department with 2500 sworn officers operates the two closest police stations to the school.[84] The locations for these departments are 3.3 miles and 4.1 miles away. The event occurred during key business hours, so response capabilities should have been significant. During the incident a non-traditional responder from San Diego Police Department was able to integrate with three responding San Diego County

[81] Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," 22.

[82] Google Maps, *Santana High School*, accessed January 8, 2022, https://www.google.com/maps/search/police+stations/@32.8575681,-117.0393915,12z/data=!3m1!4b1!4m8!2m7!3m6!1spolice+stations!2sSantana+High+School,+9915+Magnolia+Ave,+Santee,+CA+92071!3s0x80dbe2bbc7e5122b:0x7508a0116d060038!4m2!1d-116.9691709!2d32.8572238.

[83] "QuickFacts: Santee City, California" (U.S. Census Bureau, July 1, 2021), https://www.census.gov/quickfacts/santeecitycalifornia.

[84] "Diversity & Inclusion," San Diego County Sheriff," accessed January 7, 2022, https://www.joinsdsheriff.net/diversity-inclusion.

Deputies.[85] As a team of responders approached the bathroom in which the shooter was reloading, the contact team confronted and immediately took the shooter into custody.[86] The shooter was armed with a .22 caliber pistol and surrendered it when challenged by responding officers. It should be noted that in this case an off-duty officer from a different law enforcement organization integrated safely with responding units.

2. Appalachian School of Law

On January 16, 2002, at 1:15 p.m., Peter Odighizuma, 43, armed with a handgun, began shooting in the Appalachian School of Law located in Grundy, Virginia. Three people were killed; three were wounded. Three students two of whom were off-duty police officers tackled and restrained the shooter until police arrived and took him into custody.[87]

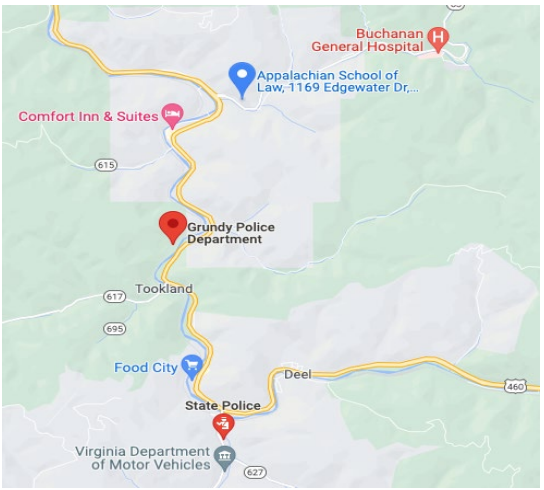


Figure 10. Appalachian School of Law Map [88]

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[85] Artie Ojeda, "First Responders Reflect on Santana High School Shooting 20 Years Later," *NBC 7 San Diego* (blog), March 5, 2021, https://www.nbcsandiego.com/news/local/first-responders-reflect-on-santana-high-school-shooting-20-years-later/2541201/.

[86] Ojeda.

[87] Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," 23.

[88] Google Maps, *Appalachian School of Law*, accessed January 8, 2022, https://www.google.com/maps/search/police+station/@37.278122,-82.1315851,13z/data=!3m1!4b1!4m8!2m7!3m6!1spolice+station!2sAppalachian+School+of+Law,+1169+Edgewater+Dr,+Grundy,+VA+24614!3s0x89b11138f53e565f:0x9ccfd8128205524!4m2!1d-82.0964692!2d37.2780504.

The Appalachian School of law is located in Grundy, Virginia, a small town with a population of 875.[89] The Grundy Police Department is the primary law enforcement agency responsible for responding to the university. The Grundy Police Department is composed of 8 sworn law enforcement officers.[90] The police station is 2.6 miles from the university. The second closest responding assets would be from the Virginia State Police Office area 24 Office 4.8 miles away. The incident took place on a Sunday afternoon, and thus fell outside business hours, which could have made already limited response capabilities less available. The offender in this incident utilized a single .380 pistol during the incident. The New York Times reported that two off duty officers and one former police officer subdued the offender.[91] The former police officer was not identified in the 2019 FBI report but may have been qualified under the Law Enforcement Officers Safety Act to carry a concealed weapon nationally. Neither of the off-duty officers identified in the report were from the agency responsible for responding. A key take-away from this event was that off-duty officers from two different departments were able to respond during non-optimal hours for the Grundy PD and safely integrated as first responders arrived.

3. Parking Lots in Philadelphia, Pennsylvania

> On October 7, 2005, at 10:13 a.m., Alexander Elkin, 45, armed with a handgun, shot two people in different parking lots in Philadelphia, Pennsylvania. He shot his ex-wife and then drove with her body in the car to kill her friend at another location. An off-duty police officer witnessed the shooting and flagged down an on-duty police officer to pursue the shooter. After an exchange of gunfire with police, the shooter retreated to his car, where he committed suicide. The shooter had killed victims, no other victim casualties occurred.[92]

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89 US Census Bureau, "Population of Grundy, VA" (US Census Bureau, 2020), https://www.census.gov/search-results.html?q=grundy%2C+VA&page=1&stateGeo=none&searchtype=web&cssp=SERP&_charset_=UTF-8.

90 "Grundy Police Annual Report," accessed January 8, 2022, https://townofgrundy.com/police_department/annual_report.

91 Francis X. Clines, "3 Slain at Law School; Student Is Held," January 17, 2002, sec. U.S., https://www.nytimes.com/2002/01/17/us/3-slain-at-law-school-student-is-held.html.

92 Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," 26.

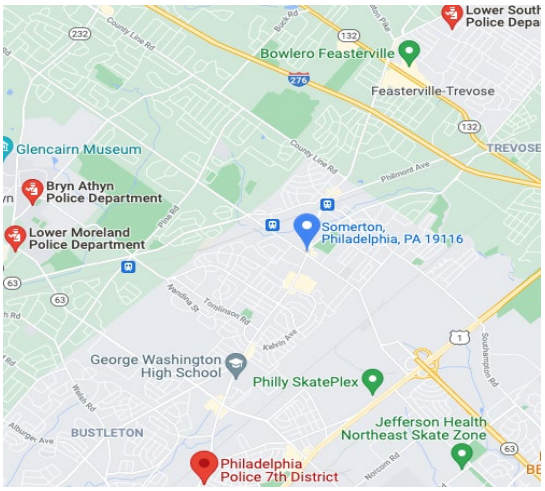

Figure 11. Parking Lots in Philadelphia [93]

The incident occurred in Philadelphia, a major city with a population of 1.5 million.[94] The agency responsible for response to this location is the Philadelphia Police Department, with 2600 sworn officers.[95] The department's District 7 station is 2.5 miles away from where the shooting occurred. The second nearest responding agency is the Bryn Athyn Police Department, located 3.2 miles away from the incident. The incident occurred on a Friday morning during business hours. The caliber of the weapon utilized was not identified in the official FBI report or local news coverage, but it was identified as a pistol. In this incident the shootings occurred at a separate location from the final engagement and subsequent suicide in the parking lot at Somerton. The perpetrator engaged the police prior to ending his own life. A key factor in this event was that the off-duty officer did not

[93] Google Maps, *Police Station near Somerton*, accessed January 10, 2022, https://www.google.com/maps/place/Philadelphia+Police+7th+District/@40.1163976,-75.0476313,13z/data=!4m16!1m9!2m8!1spolice+station!3m6!1spolice+station!2sSomerton,+Philadelphia,+PA+19116!3s0x89c6b2f5c717127f:0xc3803597cf3e3662!4m2!1d-75.0154199!2d40.1236423!3m5!1s0x89c6c86ad9e5a00f:0xead0bb2375c054c8!8m2!3d40.0909281!4d-75.0317894!15sCg5wb2xpY2Ugc3RhdGlvbpIBEXBvbGljZV9kZXBhcnRtZW50.

[94] "QuickFacts: Philadelphia County, Pennsylvania" (U.S. Census Bureau, July 1, 2021), https://www.census.gov/quickfacts/fact/table/philadelphiacitypennsylvania,philadelphiacountypennsylvania/POP010210.

[95] "A Message from Commissioner Outlaw," Philadelphia Police Department, accessed February 16, 2022, https://www.phillypolice.com/.

directly engage the shooter but was able to communicate with an on-duty patrolmen and direct them to the perpetrator.

4. Trolley Square Mall

On February 12, 2007, at 6:42 p.m., Sulejman Talovic, 18, armed with a shotgun and a handgun, began shooting as he entered the Trolley Square Mall in Salt Lake City, Utah. Five people were killed; four were wounded. The shooter was killed during an exchange of gunfire by responding officers, including an off-duty police officer who was in the mall at the time of the shooting.[96]

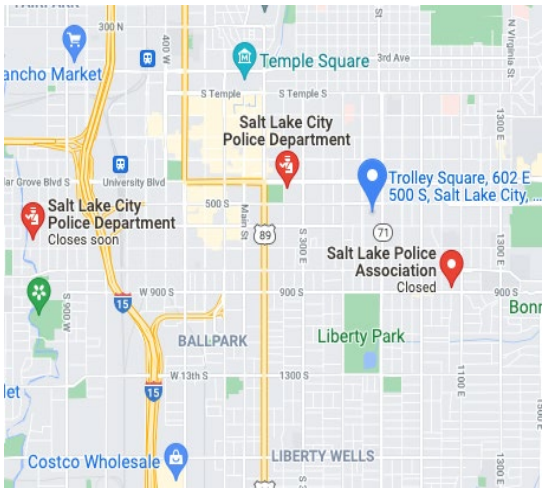

Figure 12. Trolley Square Mall Map [97]

With 199,723 residents, Salt Lake City is the most populated metropolitan area in Utah.[98] This incident occurred in the jurisdiction of the Salt Lake City Police Department.

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[96] Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," 28.

[97] Google Maps, *Trolley Square Mall*, accessed March 5, 2022, https://www.google.com/maps/place/Trolley+Square/@40.7572068,-111.8746098,17z/data=!3m1!4b1!4m5!3m4!1s0x8752f542777ee745:0xaa14335155925588!8m2!3d40.7572068!4d-111.8724211.

[98] "QuickFacts: Salt Lake City Utah; United States" (U.S. Census Bureau, July 1, 2021), https://www.census.gov/quickfacts/fact/table/saltlakecitycityutah,US/PST045219?

The Salt Lake City Police Department has over 500 sworn officers.[99] The two closest precincts are .9 miles and 3.2 miles from the location of the incident. The incident occurred on a Monday evening, outside traditional business hours. While the calibers of the weapons were not identified in the report, the shooter was armed with two weapons: a shotgun and a pistol. The non-traditional responder was able integrate into a contact team with Salt Lake City Police Officers responding even though he was from a separate police organization. Acting as a member of the contact team in this case the non-traditional responder was the member that effectively engaged and killed the shooter.

5. AT&T Cellular

> On May 27, 2010, at 1:00 p.m., Abraham Dickan, 79, armed with a handgun, began shooting in an AT&T Wireless Store in New York Mills, New York. He had recently been reported to the police by AT&T for harassing and threatening employees. No employees or customers were killed; however, one victim was wounded. The shooter was killed by an off-duty police officer who was a customer in the store.[100]

[99] Salt Lake City Police Department, "SLCPD – Serving with Integrity," accessed February 16, 2022, http://www.slcpd.com/.

[100] Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," 35.

Figure 13. AT&T Wireless Store, New York Mills[101]

This incident occurred in New York Mills, a small village on the outskirts of Utica, NY, with a population of 3,182.[102] The New York Mills Police Department has eleven sworn officers and is the primary agency responsible for the jurisdiction of the location of the incident.[103] However, the New Hartford Police Department is the closest agency to the location of the incident at .9 miles away. The incident occurred on a Thursday during key business hours. The situation unfolded rapidly, and in this case the non-traditional responder killed the shooter before any other agency could respond. As a result, this case study is unhelpful in the examination of integration between traditional and non-traditional responders in a crisis situation. This case is useful, however. to show the lives saved were attributable to the timeliness afforded by non-traditional response; it is very likely the killer would have completed his kill list task before either New Hartford or New York Mills officers could have effectively responded. The non-traditional responder who engaged the shooter was from the Rome Police Department. A local news channel reported that the

101 Source: Google Maps, *AT&T Store · New Hartford*, accessed March 8, 2022, https://www.google.com/maps/place/AT%26T+Store/@43.0954287,-75.3117809,17z/data=!3m1!4b1!4m5!3m4!1s0x89d941ba53c72ec3:0x32026a98068b4b03!8m2!3d43.0952606!4d-75.3085993.

102 "New York Mills, New York Population 2021 (Demographics, Maps, Graphs)," World Population Review, accessed January 28, 2022, https://worldpopulationreview.com/us-cities/new-york-mills-ny-population.

103 "Police Department – New York Mills," Police Department – New York Mills, accessed January 28, 2022, https://nymills.com/departments/police-department/.

shooter had a kill list with the names of six employees on it, thus the officer is credited with saving at least six lives.[104]

6. Suburban Northwest Neighborhood in Tallahassee, Florida

On November 22, 2014, at 10:15 a.m., Curtis Wade Holley, 53, armed with a handgun, began shooting at officers responding to a 911 call at his residence in Tallahassee, Florida. The shooter appeared to have purposely set his house on fire so he could ambush first responders. One law enforcement officer was killed; one law enforcement officer was wounded. The shooter was killed by an off-duty law enforcement officer during an exchange of gunfire.[105]

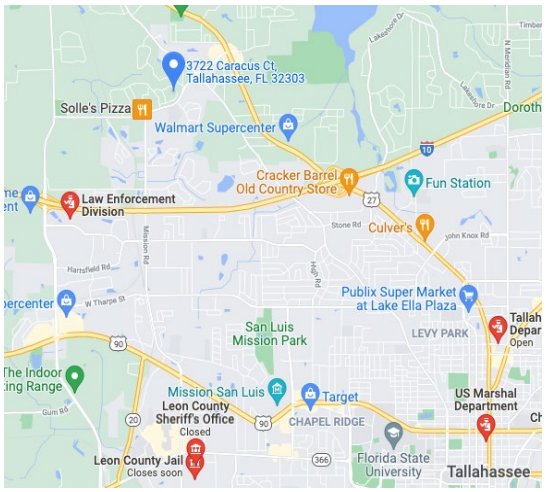

Figure 14. Tallahassee Neighborhood Map[106]

The incident transpired in Tallahassee, a city with a population of 196,169.[107] The primary law enforcement agency responsible for this location is the Leon County Sheriff's

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104 Mulcahy, Matt. "Off-Duty Police Officer Kills Angry Customer with Gun." WSTM, May 27, 2010. https://cnycentral.com/news/local/off-duty-police-officer-kills-angry-customer-with-gun.{Citation}3/16/2022 10:18:00 AM

105 Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015," 15.

106 Source: Google Maps, *Tallahassee Neighborhood*, accessed February 12, 2022, https://www.google.com/maps/search/police/@30.4855914,-84.3553234,13z/data=!4m8!2m7!3m6!1spolice!2s3722+Caracus+Ct,+Tallahassee,+FL+32303!3s0x88ecf41de9e26943:0x5a8d118246e0fd2!4m2!1d-84.3393535!2d30.4959553.

107 "QuickFacts: Tallahassee City, Florida" (U.S. Census Bureau, July 1, 2021), https://www.census.gov/quickfacts/tallahasseecityflorida.

Office. The Leon County Sherriff's Department contains 500 sworn officers.[108] The suspect in this incident was armed with a .40 caliber handgun and had intentionally set up an ambush for first responders. The two off-duty officers were from the Tallahassee Police Department and resided in the neighborhood. They responded immediately upon hearing gunfire. The officer who engaged the shooter donned his police vest and coordinated with officers who were on scene. It should be noted that wearing his vest may have helped responding patrols with positive identification that the off-duty officer was law enforcement, although detail on the specific markings of the vest were not available in the report. The off-duty officer engaged the shooter with his patrol rifle and ended the gunfight as other units were arriving on scene.[109]

7. Prince George's County Police Department District 3 Station

On March 13, 2016, at 4:30 p.m., Michael Ford, 22, armed with a handgun, began shooting at the Prince George's County Police Department District 3 station in Landover, Maryland. One plainclothes law enforcement officer was killed by friendly fire; no one was wounded. The shooter was wounded in an exchange of gunfire with law enforcement officers before being apprehended.[110]

[108] "Leon County Sheriff's Office," Leon County, accessed February 16, 2022, https://www.leoncountyso.com/.

[109] Sean Rossman, "Scott Angulo: A Reluctant Hero," Tallahassee Democrat, November 21, 2015, https://www.tallahassee.com/story/news/2015/11/21/scott-angulo-reluctant-hero/76118386/.

[110] Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017," 9.

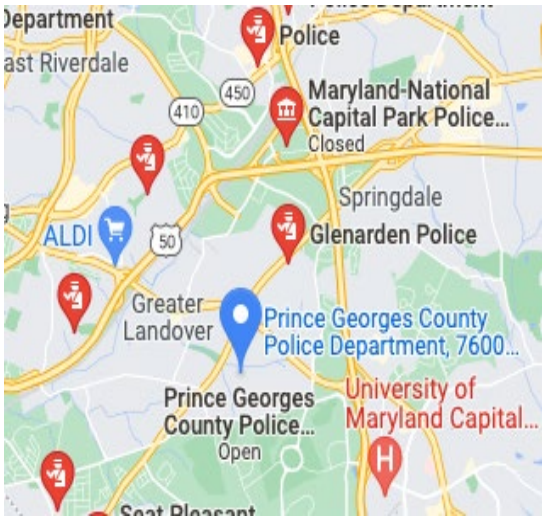

Figure 15. Prince George County Police District 3 Station[111]

This event occurred outside of the Prince George County Police Department Station 3 in Landover, Maryland. Landover is a town with approximately 25,998 residents.[112] The department is a medium sized agency with over 1500 sworn officers.[113] The event occurred on a Sunday at 4:30 pm. Since the event occurred outside a police department, officers immediately responded. The shooter was armed with a pistol and was seated in a vehicle with two other individuals opened fire outside the station. The officer killed was a plain clothes narcotics officer with four years on the police force. During the incident the officer killed had exited his unmarked vehicle and fired at the suspect. At least four other officers fired on the officer inadvertently killing him mistaking the officer for the suspect.[114] The suspect was also shot and apprehended with two accomplices, yet in this incident there was a single shooter.

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[111] Source: Google Maps, *Prince George County Police District 3 Station*, accessed February 12, 2022, https://www.google.com/maps/search/police/@38.9149727,-76.9449535,12z/data=!4m8!2m7!3m6!1spolice!2sPrince+Georges+County+Police+Department,+7600+Barlowe+Rd,+Landover,+MD+20785!3s0x89b7c0863d099a83:0x548e9c3ba767004!4m2!1d-76.8749155!2d38.9178046.

[112] "QuickFacts: Landover CDP, Maryland" (U.S. Census Bureau, July 1, 2021), https://www.census.gov/quickfacts/fact/table/landovercdpmaryland/PST045221.

[113] "Police Department," Prince George's County, MD," accessed February 16, 2022, https://www.princegeorgescountymd.gov/345/Police.

[114] David Riedman, "Active Shooter: Armed Samaritans Present More Risks than Reward," *Homeland Security* (blog), November 13, 2017, https://medium.com/homeland-security/active-shooter-armed-samaritans-present-more-risks-than-reward-717cceef8a77.

8. Route 91 Harvest Festival

On October 1, 2017, at 10:08 p.m., Stephen Craig Paddock, 64, armed with four rifles (and access to 23 additional weapons in his hotel room) began shooting into a crowd of people attending the Route 91 Harvest Festival in Las Vegas, Nevada, from the 32nd floor of an adjacent hotel. Fifty-eight people were killed (including two law enforcement officers who were attending the concert); 489 people were wounded (many more sustained injuries incidental to the event). The shooter committed suicide at the scene before law enforcement arrived.[115]

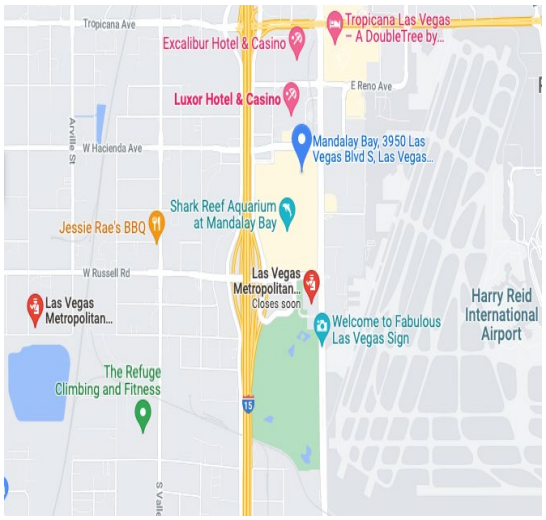

Figure 16. Route 91 Harvest Festival Map[116]

This event is the worst active shooter incident in U.S. history. The incident occurred in Las Vegas right on the main strip. The official population of the city is 641,943 yet the location is a major tourist destination so actual population size varies.[117] The primary law enforcement agency responsible for the response to the incident was the Las Vegas

115 Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017," 15.

116 Source: Google Maps, *Route 91 Las Vegas Strip*, accessed March 5, 2022, https://www.google.com/maps/search/police+station/@36.0919383,-115.2450364,12z/data=!3m1!4b1!4m8!2m7!3m6! 1spolice+station!2sMandalay+Bay,+3950+Las+Vegas+Blvd+S,+Las+Vegas,+NV+89119!3s0x80c8c5cffb824261:0x97f68a25c5b4ddef!4m2!1d-115.1749426!2d36.0919588.

117 "QuickFacts: Las Vegas City, Nevada" (U.S. Census Bureau), accessed January 11, 2022, https://www.census.gov/quickfacts/lasvegascitynevada.

Metropolitan Police (LVMP) who currently have 2900 sworn officers.[118] LVMP's two closest locations were .7 miles and 2.4 miles away from the incident making dispatch times extremely short, even though the event occurred on a Monday evening outside normal business hours. The event hosted 22,000 attendees, across a 17.5-acre venue.[119]

The shooter fired on a crowd from the 32nd Floor from inside the hotel room of the Mandalay Bay Casino and Hotel with semi-automatic rifles that were enhanced with bump-stocks, a feature that significantly increases the rate of fire on a semi-automatic weapon. While the official casualty rates for the FBI were 58 killed and 489 wounded, the official after-action report claims injures as high as 850.[120] One explanation for the discrepancy in casualty numbers was the fact that injuries from the event overwhelmed local capabilities and multiple victims were transported and self-transported to hospitals all over the surrounding area.

While only two non-traditional responders were identified in the FBI report, the official after-action report credits "several hundred" off-duty responders participated and contributed to the response.[121] Note, non-traditional responders served in multiple areas from traffic control, and rendering first aid to critically wounded victims. As one report noted, "off-duty public safety personnel also assisted in the response, providing valuable surge support for local responders."[122] These actions certainly helped save lives.[123] While there are many takeaways from the event, three of the most important are that 1) During a mass casualty event, off-duty responders will take it upon themselves to respond. 2) Off-Duty officers can contribute even after the shooter has been eliminated. 3) There are events that can completely overwhelm on-duty capabilities even in areas covered by major

118 "LVMPD Home," Las Vegas Metropolitan Police Department, accessed February 16, 2022, https://www.lvmpd.com/en-us/Pages/default.aspx.

119 Federal Emergency Management Administration, *Las Vegas Route 91 Harvest Music Festival Shooting After-Action Report*, 1 Oct After Action Report (Las Vegas: Department of Homeland Security, 2018), 1, https://www.policefoundation.org/uncategorized/las-vegas-route-91-harvest-music-festival-shooting-after-action-report/.

120 Federal Emergency Management Administration, 1.

121 Federal Emergency Management Administration, 17.

122 Federal Emergency Management Administration, 1.

123 Federal Emergency Management Administration, 19.

departments. Finally, it should also be noted that the two off-duty casualties during this event occurred as the officers moved into direct fire or a "kill zone" in an attempt to rescue victims. In both cases, officers did not have the opportunity to engage the shooter due to his location.

9. University of Cincinnati Medical Center

On December 20, 2017, at 2:00 p.m., Isaiah Currie, 20, armed with two handguns, began shooting in the lobby of the psychiatric emergency services wing of the University of Cincinnati Medical Center in Cincinnati, Ohio. The shooter struggled with and shot an unarmed security guard and fired several shots at a responding off-duty law enforcement officer working security nearby. No one was killed; one was wounded (the unarmed security guard). The shooter committed suicide at the scene as additional law enforcement arrived.[124]

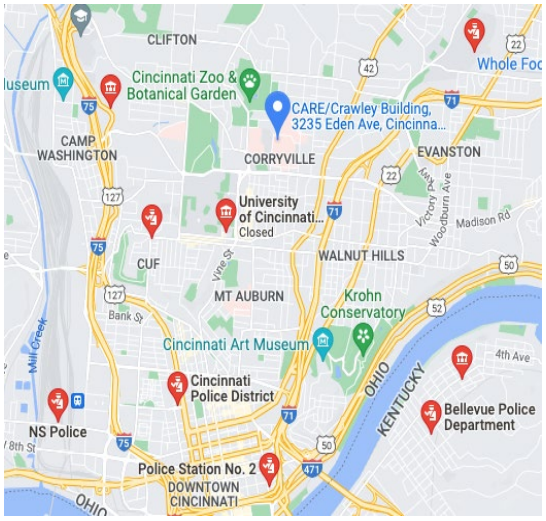

Figure 17. University of Cincinnati Map[125]

[124] Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017," 17.

[125] Source: Google Maps, *UC Hospital Map*, accessed February 12, 2022, https://www.google.com/maps/search/police/@39.1387394,-84.5306184,13z/data=!3m1!4b1!4m8!2m7!3m6!1spolice!2sCARE%2FCrawley+Building,+3235+Eden+Ave,+Cincinnati,+OH+45229!3s0x8841b397a08d667f:0x275ddd4685a36e2e!4m2!1d-84.5043539!2d39.1386618.

The incident occurred in Cincinnati Ohio, a metropolitan area with 309,317.[126] For this incident the University of Cincinnati Public Safety Department was the agency responsible for the response. The agency has 72 sworn officers.[127] The non-traditional responder was an off-duty police officer from a separate agency working for the hospital as additional security. The non-traditional responder was wearing a police uniform and had his radio immediately available.[128] Upon confronting the suspect, the suspect immediately retreated and took his own life. The non-traditional responder was able to effectively integrate with responding units. The shooter killed himself as a group of officers entered the facility.

10. Tin Cup Campground

> On August 1, 2020, at approximately 10:15 p.m., a male, 73, armed with a handgun, began shooting in the Tin Cup Campground within the Salmon-Challis National Forest in Challis, Idaho. There were no casualties reported amongst the campers. The shooter was killed by an off-duty law enforcement officer at the scene.[129]

126 "QuickFacts: Cincinnati City, Ohio" (U.S. Census Bureau, July 1, 2021), https://www.census.gov/quickfacts/cincinnaticityohio.

127 Robin Engel, "UC Safety and Reform: Update and Discussion" (Public Forum, University of Cincinnati, November 10, 2015).

128 Ken Brown, "Police: UC Health Gunman Released from Jail Week before Shooting," https://www.fox19.com, December 21, 2017, https://www.fox19.com/story/37118313/gunman-shoots-security-officer-kills-self-at-university-of-cincinnati-medical-center.

129 Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020," 22.

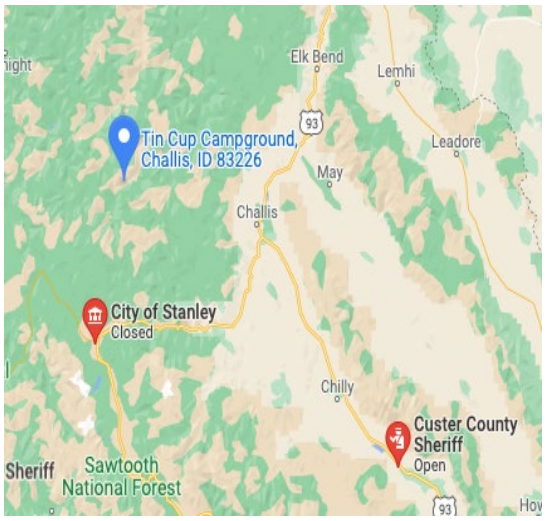

Figure 18. Tin Cup Campground Map[130]

This incident occurred in a remote section of the largest national forest inside the continental United States. The nearest town to the incident is Challis, Idaho, with a population of 902.[131] The agency responsible for response to that area is the Custer County Sheriff's Office located 127 miles from where the event occurred. However, the closest agency to the incident is the City of Stanley Police Department which is 47 miles from the location of the event. Both Departments are quite small, with Custer County only having seven sworn law enforcement officers including the sheriff.[132] This event happened on Saturday evening, outside ideal response hours. The shooter was armed with a .45 caliber semi-automatic pistol and was killed by an off-duty police chief carrying a .22 caliber

[130] Source: Google Maps, *Tin Cup Campground*, accessed January 10, 2022, https://www.google.com/maps/search/police+station/@44.5981869,-115.3736132,9z/data=!3m1!4b1!4m8!2m7!3m6!1spolice+station!2sTin+Cup+Campground,+Challis,+ID+83226!3s0x54a873872d77721f:0x9bdfd6bcb22eed34!4m2!1d-114.8117985!2d44.5985527.

[131] Tableau Public, "Idaho Population," Tableau Software, accessed January 27, 2022, https://public.tableau.com/views/IdahoPopulation_1/PopulationEstimates?:embed=y&:showVizHome=no&:host_url=https%3A%2F%2Fpublic.tableau.com%2F&:tabs=yes&:toolbar=yes&:animate_transition=yes&:display_static_image=no&:display_spinner=no&:display_overlay=yes&:display_count=yes&:showVizHome=no&:showTabs=y&:loadOrderID=0.

[132] "Sheriff « Custer County Montana," Custer County, Montana, accessed February 16, 2022, https://custercountymt.com/emergency-enforcement/sheriff/.

pistol.[133] Key takeaways: The two officers who eventually responded were a Sheriff's Deputy and a State Police Trooper, and both arrived approximately around 1:44 am over three hours from when the event occurred.[134]

B. CONCLUSION

As stated in the introduction, while numbers can tell one side of the story, case studies help illuminate details not found in larger statistical data. An example of this can be found in the Prince George County incident in which the on-duty responders killed the plainclothes officer. As revealed by the statistics in Chapter III, the numbers show that there was only one blue-on-blue out of ten incidents, yet what is not brought to light from this simple number is the fact that the incident was outside a police station, and that four separate officers fired on the non-traditional responder. Understanding these additional factors can contribute to the argument that training in positive identification and response discretion should be included into possible risk mitigation and policy changes.

Another good example is the casualty statistic identified in Chapter III. Apart from the single blue-on-blue incident, two other non-traditional responders were killed within the ten events bringing the casualty percentage to 30%. Yet what is not clear by just looking at the numbers was that these two officers were concert goers who were killed while trying to rescue victims of the Route 91 Harvest Festival. This event is the worst active shooter event in the history of the United States. These officers had no opportunity to confront the shooter, nor did they interact with on-duty responders. This event serves as an outlier due to sheer volume of victims and complexity of the response. Thus, although the sheer numbers suggest the risk to non-traditional responders is about equal to traditional response, the case studies show the risk may actually be lower.

Non-traditional responders were generally able to effectively communicate and even integrate into the responses in all but the Prince George incident. In many cases non-

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[133] KTVB, "More Details Released in Deadly Shooting of Boise Man at Custer County Campground," KVTB, October 12, 2020, https://www.ktvb.com/article/news/crime/tin-cup-campground-shooting-chief-brian-zimmerman-confrontation-details/277-bf028522-b2f7-4999-b46a-5cea76111645.

[134] KTVB.

traditional responders attached themselves as part of a contact team. This contributed to success in the elimination of the threat in nine out of ten instances. In only one instance the shooter killed himself prior to law enforcement arrival, while in two the shooter killed themselves post-intervention. In four cases the shooter was killed by the non-traditional responder. In three incidents the shooter was apprehended by non-traditional responders or by a contact team with a non-traditional responder.

The three non-traditional responders who became casualties occurred in two separate events, the Route 91 Harvest Festival and Prince George County blue-on-blue event. The Route 91 Harvest Festival was the deadliest event in U.S. history and also with respect to casualties for non-traditional responders responding to this type of event. The Route 91 Harvest festival accounted for two of the three non-traditional responder deaths. In this event however, the FEMA AAR specifically identifies that not only two non-traditional responders identified in the FBI report, but "hundreds" of non-traditional responders participated in the event response, serving in multiple capacities and roles.[135] These efforts are also credited with saving countless lives. The Tin Cup Campground case study serves as an example of non-traditional response in sparsely populated areas. Had the non-traditional responder not been present the response time to the incident would have been over an hour long due to the area where the incident occurred. In eight out of the ten instances the shooter was armed only with handguns. In one instance in which the shooter had a shotgun, the non-traditional responder, as part of a contact team, was able to kill the shooter.

The key lessons from these case studies are: first, that non-traditional responders will most likely face a single shooter with a handgun. Second, non-traditional responders are generally able to communicate well enough to mitigate additional blue-on-blue events. A key observation from the case study is that location should play a factor on choosing to respond. The Prince George County blue-on-blue could have been prevented had the plainclothes officer chosen not to respond due to the number of officers immediately on

135 Federal Emergency Management Administration, *Las Vegas Route 91 Harvest Music Festival Shooting After-Action Report*, 17.

scene. This tragic event also shows the potential consequences of the inability to identify as a law enforcement officer in a rapid response. While mitigation tools that are discussed in Chapter V may aid with this, they should not be a substitute for training, and establishment of clear methods for positive identification.

Finally, the third key lesson learned is that the FBI reports provide only a brief snapshot of the incidents and do not provide key pieces of data in news reporting and official after-action reports. While these 10 case studies were highlighted in the reports, a deeper dive into more of these events is likely to find that non-traditional responders are present in more active shooter events than the FBI reports indicate. Unfortunately, many of these reports are not readily available to the public. In Chapter V, the Route 91 event plays a critical role in providing requirements for an effective technological mitigation since it provides a worst-case scenario event in which hundreds of non-traditional responders contributed.

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V. CAN TECHNOLOGY BE LEVERAGED TO REDUCE RISK?

Up until this chapter, much of this project has been focused on numerical data or understanding case studies in order to comprehend the benefits and dangers associated with non-traditional response. This chapter, however, shifts focus in order to determine if technology—such as a smart phone app—can be leveraged to reduce risk, enhance accountability, improve communication, and ensure rapid notification during an incident. In order to determine if an app would be effective, there needs to be a basic understanding of what functions should be included in order to better integrate non-traditional responders to a scene. In the first part of this chapter, observations listed from FEMA's After-Action Report about non-traditional responders as well as the Las Vegas Metropolitan Police After Action Review are utilized to establish and support requirement claims.[136] The Route 91 Harvest Festival Case Study's observations provide an opportunity to determine requirements for such a tool, as hundreds of non-traditional responders participated in the response.[137] The second part of this chapter specifically examines the Hero911 app, which is currently available to Law Enforcement Officers nationwide to determine if this platform meets the earlier identified needs for an ideal platform.

A. FEMA AAR OBSERVATIONS FOCUSING ON NON-TRADITIONAL RESPONDERS

The below observations were taken from the FEMA after action report on the Las Vegas mass shooting. The observations were selected because they specially identified the participation of non-traditional responders with respect to both the positives and negatives of their participation.

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136 Joseph Lombardo, *1 October After-Action Review* (Las Vegas: Las Vegas Metropolitan Police, 2018), https://www.lvmpd.com/en-us/Documents/1_October_AAR_Final_06062019.pdf; Federal Emergency Management Administration, *Las Vegas Route 91 Harvest Music Festival Shooting After-Action Report*.

137 Federal Emergency Management Administration, *Las Vegas Route 91 Harvest Music Festival Shooting After-Action Report*, 1.

Observation 4

> The tent size and pre-staged medical supplies for the festival's medical tent were insufficient for a mass casualty incident of this scale. Personnel were quickly overwhelmed, as trauma equipment was exhausted within minutes of treating initial patients. Community Ambulance, overtime (OT) officers, and multiple off-duty first responders assisted in making improvised tourniquets, treating patients, and loading them into ambulances and private vehicles.[138]

Observation 11

> Self-dispatching of law enforcement officers, fire personnel, and other external agency personnel created staffing challenges and hampered the Incident Commanders' and dispatchers' ability to maintain personnel and unit accountability.[139]

Observation 14

> Venue participants and local civilians volunteered their assistance to firefighters, police officers, and ambulance personnel. While these volunteers caused some confusion, they also assisted greatly in transporting victims out of the area and provided some basic first aid to victims.[140]

When considering the observations above, the concept of accountability stands out as a significant issue. In the Route 91 Active Shooter event, non-traditional responders utilized all available resources to transport victims to emergency rooms. While these actions helped save lives, they also made it difficult for leaders to maintain accountability of officers and victims. The ability to identify non-traditional responder assets, communicate with, and provide status checks could help leaders maintain better accountability during the incident. Observation 14 also identifies that not only on-scene commanders, but dispatchers should have access to this information.[141]

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[138] Federal Emergency Management Administration, 12.

[139] Federal Emergency Management Administration, 17.

[140] Federal Emergency Management Administration, 19.

[141] Federal Emergency Management Administration, 19.

B. LAS VEGAS METRO AFTER ACTION REPORT

The Las Vegas Metropolitan Police after action report made two recommendations that address the issue of nontraditional responders.

> **Recommendation 14**
>
> Create and strengthen policy to control and manage the inevitable self-deployment of off-duty first responders during these types of incidents.[142]
>
> **Recommendation 30**
>
> Purchase a notification concept and/or program that allows employees to log in remotely with call signs, assignments, and locations. Create policy, procedures, and protocols regarding the use of this technology.[143]

The Las Vegas Metro Report Recommendations identity that two specific takeaways should be acted upon in order to strengthen the ability to employ non-traditional responders. Recommendation 30 specifically highlights that subject matter experts believe technology should help bridge the gap experienced during the shooting.

C. FACTORS OF RESPONSE

Generally, an act of violence (active shooter) presents itself as a threat to innocent victims. As the incident unfolds, a notification is made (normally by victim or bystanders) to a 911 dispatcher. The 911 dispatcher then pushes an emergency notification to available units to immediately respond to the Active Shooter. Dispatched officers then proceed to the location of the incident and move to resolve the event. An on-scene commander establishes control of the response and employs active shooter constructs. When this sequence is broken down, in order to establish situational awareness dispatchers must identify the location of the incident, communicate to responding officers, and coordinate with other first responders (fire, EMS, bomb squad). Responding officers should be able to communicate with each other as well as other response assets deploying. While agencies responding may operate off

142 Lombardo, *Route 91 Harvest Festival*, 39.

143 Lombardo, 58.

different frequencies, generally the structure for dispatching, communicating, and controlling assets are in place.

There are a few key differences when introducing a non-traditional responder into the equation. The key differences are notification of the event, communication, and identification. As demonstrated in Chapter III, many of the non-traditional responders who were able to respond were in the immediate area of the incident. Yet a notification could serve to alert non-traditional responders within a certain distance of the event. Next, in a traditional response, dispatchers and officers are able to communicate with each other, ensuring effective communication. Communication allows officers to become aware of each other as they arrive on scene, be integrated effectively into various parts of the response, or directed to a rally location for tasking. Key information is also passed, such as shooter down, casualty status or Rescue Task Force entering and establishing a casualty collection point. The notification and communication gaps should be identified as the most essential tools not generally available to non-traditional responders during these events.

D. AN APP AS A SOLUTION

Today the majority of first responders living within the United States use smart phones. The Emergency Alert System has demonstrated the capability to use cell phones as a notification system by law enforcement agencies during national disasters or for critical emergencies like Amber-Alerts. This type of notification, however, serves as, one-way communication and would serve to partially fill, yet not be the ideal solution for a technological mitigation tool.

An app capable of operating with both iPhone and Android Technology capable on integrating into the existing Emergency 911 structure would serve as an enabling technology during these types of events. Apps today have the capability of providing notification, tracking users, linking data to maps, communicating, and authenticating. While not mentioned specifically in the after-action report above, having an authentication process when downloading the app to verify credentialed non-traditional responders would be ideal. Current apps on the market showcase the ability to function as walkie talkies, push to talk,

through text and exchange of pictures or video, all of which could be useful during these types of events.

E. HERO911

Hero911 is an app created to provide on and off-duty law enforcement officers notification of a school shooting in their vicinity. Hero911 is capable of being downloaded on both iPhone and Android phones, and features compatibility with the two smart phone operating systems.[144] Hero911 also allows schoolteachers and administrators to download a School Guard Emergency Alert App and link it to the Hero911 system. The School Guard Emergency app has a panic button that simultaneously notifies 911 dispatchers and all on/ off duty officers who have downloaded the app in a 20-mile radius of the event. Those officers are given an option to identify if they are in uniform or plain clothes, and the system communicates how many officers have been identified with their configuration status (in uniform/plain clothes).[145]

The Hero911 app pushes the location and a map of where the notification came from while allowing responders to see the location of other officers using the app. This function enables better situational awareness as the event unfolds. The Hero911 App also requires that also requires that a user submits credentials before it gives the ability to receive notifications thus making it secure for Law Enforcement.[146] Hero911 is endorsed by multiple police chiefs and officers who have responded to active shooter incidents as well as Lt Col. Dave Grossman U.S. Army (Ret), an active shooter subject matter expert and author of multiple books relating to the topic of Law Enforcement and Active Shooter Response.[147] The two apps (School Emergency Guard/and Hero911) have received nationwide coverage, and many educational institutions have encouraged participation by their faculty.[148]

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144 McVicker, "When Seconds Save Lives Testimonials."

145 McVicker.

146 McVicker.

147 McVicker.

148 "Embracing the World of Technology for the Safety of Our Students," Law Enforcement Today, November 23, 2016, https://www.lawenforcementtoday.com/embracing-the-world-of-technology-for-the-safety-of-our-students/; "HERO911," American Cop, April 30, 2014, https://americancop.com/hero911/.

F. STRENGTHS/RECOMMENDATIONS FOR THE HERO911 APP OR A SIMILAR PLATFORM

The Hero911 apps seems a promising first step in a sequence of technical evolutions to better incorporate non-traditional responders. This app specifically can reduce the risk during the "stop the killing phase" of an active shooter event for both officers and victims.[149] The ability to identify the fact that plain-clothes officer is responding in itself would help raise situational awareness of all involved. The app satisfies the requirement for notification through its map and immediate alert functions. The platform also provides a basic accountability function as it shows other responders the location of those using the app. As far as reducing risk for responders, this platform has already begun to generate support within the law enforcement community.

The Hero911 app demonstrates that apps can make active shooter response safer. However, for the next generation of this app or similar apps a more robust accountability and communication function would serve to enhance this current platform during the "Stop the Dying and Rapid Casualty Evacuation phases."[150] A function that allowed the non-traditional responder the ability to log in remotely with call signs, be tasked with an assignment, and provide location updates could make the current capability even more effective in communicating with both dispatchers and an on-scene commander while meeting the recommendations from the FEMA and Las Vegas Metro AARs.[151] An additional capability that could also prove extremely useful would be a plotting function on the map overlay. This would allow incident commanders the ability to identify the location of casualty evacuation points, cordon locations, rally points, and victim holding areas. Finally, a training function in which responders can incorporate the technology in a training mode would help mitigate issues with user capability. Like many tools, experience using it in a sterile environment would help not only with the functions of the app but also with identifying its limitations of it ahead of an actual event (lack of internet service, issues with

149 Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1.

150 Advanced Law Enforcement Rapid Response Training, 1.1.

151 Lombardo, *Route 91 Harvest Festival*, 58.

platform integration). Without consistent training, capabilities, like mapping functions recommended earlier, might become more of a distraction than a force multiplier.

If technologies such as the Hero911 app are to be used effectively, they must be incorporated into law enforcement policies and procedures. Rather than a voluntary app, those departments who opt to utilize this type of app should make the use mandatory. Alignment of policies coupled with sound training provides departments with the best opportunity for successful use of this tool. Additionally, regional standardization efforts to encourage sister departments in the same or nearby jurisdictions to utilize the same platform provides the opportunity for safer integration. Finally, making the Guard 911 app available to the larger public vs. only schools enables the likelihood of utilization. While educational institutions accounted for the location of 62 of the 373 incidents, enabling the Guard 911 app to the public would provide a more robust capability to utilize non-traditional responders nationwide.[152]

G. CONCLUSION

While not a perfect solution, the Hero911 app does provide educators and responders the capability to notify and track non-traditional responders in order to enhance situational awareness. The ability to identify that a non-traditional responder is on the scene in plain clothes enhances situational awareness to responding units. While this may not serve to completely mitigate the risk of a blue-on-blue event, it is a significant step in the right direction. Among the most clearly beneficial recommendations, the potential to make the app type of tool, the notification app Guard 911 should be available to the greater public, and not only to educators. The Las Vegas Route 91 event demonstrated the capability to utilize effectively non-traditional responders during the "stop the dying, and rapid casualty evacuation phase," yet it also identified that technology could help mitigate the gaps found.[153]

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[152] Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019," 7.

[153] Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1; Lombardo, *Route 91 Harvest Festival*, 58.

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VI. FINDINGS, RECOMMENDATIONS, AND CONCLUSION

The threats and problems presented by active shooters are not decreasing. As demonstrated in Chapter III, while numbers of casualties dipped in 2020, incident numbers continued to climb. The fact that in 2000 there were only three active shooter incidents nationwide and in 2020 the number peaked at 40 incidents should be alarming. First Responders must continue to leverage every tool at their disposal to ensure that each event provides the opportunity for the best response. Incident numbers from 2017 demonstrated the impact on mass casualty events on the numbers. In the case of 2017, the Sutherland Springs Church shooting and Route 91 Harvest Festival Shooting accounted for 593 of the 727 casualties that year.[154]

While not the only option to increase the pool of available responders, non-traditional responders in the ten case studies examined contributed in varying degrees to the three priorities of response outlined by the ALERRT Model (Stop the Killing, Stop the Dying, Rapid Casualty Evacuation).[155] While some have argued that the risk to non-traditional responders is too great, this study concluded that the overall casualty rate is almost identical, as one can assume about three responder casualties for every ten incidents for both traditional and non-traditional responders. Additionally, the case studies in Chapter IV found that while there are still limitations to communication and recognition overall, non-traditional responders were capable of incorporating with on-duty traditional responders as examples showed they eliminated threats, participated in contact teams, and directed officers to a shooter's location for apprehension. The efforts of all responders in this study should be lauded as they sought and, in many cases, paid the ultimate price in order to protect the innocent.

[154] Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017."

[155] Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.

A. FINDING 1: NON-TRADITIONAL RESPONDERS CAN MAKE A DIFFERENCE

When looking at the overall active shooter numbers from 2000–2020, (97%) of the time there was a single shooter. The finding that overwhelming active shooter events are carried out by single shooters was not a new finding, as the original statistic was identified in the 2000–2013 study, yet the finding was reinforced and validated through the 2020 numbers.[156] Additionally, when combined with the shooter outcomes it can be determined that off-duty officers or any responder can play a vital role in the "Stop the Killing Phase" as (83%) of the time some type of intervention is required.[157] What these numbers together provide is that non-traditional responders will likely confront a single shooter and their immediate response can significantly impact the loss of life. This illumination was also further supported through case studies such as the Route 91 Harvest Festival, where non-traditional responders were found to serve in multiple areas from traffic control to rendering first aid to critically wounded victims. The FEMA after action report noted that "off-duty public safety personnel also assisted in the response, providing valuable surge support for local responders."[158] These actions contributed to saving a significant number of lives.[159]

B. FINDING 2: THE RISK FOR BLUE ON BLUE DURING NON-TRADITIONAL EVENTS IS HIGHER BUT NOT SIGNIFICANTLY SO

It should be acknowledged that the case studies identified during this project do not serve to identify every active shooter event in which a non-traditional responder was present. Rather, the events were selected because the FBI identified their presence in their official reports. Yet even excluding many events in which non-traditional responders may have contributed, there has only been a single blue-on-blue event for a non-traditional responder. While this equaled a (9%) increase in the likelihood of a blue-on-blue, it did not

156 Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013," 7.

157 Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1.

158 Federal Emergency Management Administration, *Las Vegas Route 91 Harvest Music Festival Shooting After-Action Report*, 1.

159 Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019," 19.

significantly contribute to an increase in the overall casualty rate. Active Shooter events present a risk to first responders, but the casualty numbers found for both traditional and non-traditional responders was almost identical.

C. FINDING 3: TECHNOLOGICAL TOOLS CAN HELP

The Hero911 app provides a solid option available to responders today that could help mitigate blue-on-blue events through the ability for non-traditional responders to announce their presence as plain clothes officers. The ability to rapidly notify non-traditional responders of an event serves to enhance the ability and capability for non-traditional responders during the "Stop the Killing" phase of the response.[160] Additionally, the ability to show other responders where they/others on the scene are on the map is an invaluable function that, if used correctly, not only helps with identification but also effective consolidation, integration, and command control. The ability to communicate through the app would be beneficial feature to include in the future development of this type of tool. As well as a more robust map function in which active shooter incident commanders can identify casualty collection points, cordon location, and rally points. Incorporation of these upgrades would make integration of non-traditional responders not only safer but more effective when being utilized during the "Stop the Dying" and the "Rapid Casualty Evacuation" phases of the response.[161]

D. FINDING 4: TECHNOLOGY IS ONLY PART OF THE ANSWER

While tools like the Hero911 app provide the potential for to a safer response, they do not completely mitigate the chances for a blue-on-blue. Policies should clearly delineate when an off-duty officer should or should not respond. In most cases officers should leave response to those on-duty, but active shooter response should be one of the exceptions to this rule. Many of the blue-on-blue events identified in the Solo Officer Response Course were in response to non-life-threatening offenses like underage drinking or a minimal drug

[160] Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1.

[161] Advanced Law Enforcement Rapid Response Training, 1.1.

possession incident.[162] While officers do serve as law enforcement officers at all times, one should consider if a non-coordinated intervention into small drug bust in plain clothes is worth the risk associated with it. Officers should be trained on response discretion and how to effectively identify themselves as an officer. Training in positive identification for example, is a critical component to blue-on-blue threat reduction and should be a key portion of every police departments annual training. Courses like the Solo Officer Response Course should continue to be offered and attendance encouraged as this type of course specifically teach officers safer ways to incorporate into active shooter and other critical event responses as a non-traditional responder.

E. RECOMMENDATION 1: KEY FIRST RESPONDER ORGANIZATIONS SHOULD ENDORSE AND EMPLOY NON-TRADITIONAL RESPONDERS

The use of non-traditional responders does not come free of risk or management challenges. Yet when considering the threats posed by active shooters, these problems should not deter key organizations like FEMA from updating NIMS policies on self-dispatch as it directly relates to active shooters response. While there are many types of incidents in which the self-dispatch is too risky, active shooter response should be the exception. Additionally, the Federal Bureau of Investigation, as the lead federal agency for active shooter response, should not only endorse non-traditional response but continue to promote additional training and funding streams in order to standardize and make this type of response safer for all.

F. RECOMMENDATION 2: ACCEPT THE RISK AND EMPLOY NON-TRADITIONAL RESPONDERS

When studying the single blue-on-blue event, two significant factors can be identified. 1) the non-traditional responder in the blue-on-blue event was outside a police station with multiple other responders immediately available when he chose to intervene. 2) the non-traditional responder who was in plain-clothes was not able to effectively identify himself as a police officer. While the officer's actions were brave, discretion on

[162] Advanced Law Enforcement Rapid Response Training, *SORD*, 2.8-2.26.

how he chose to respond may have led to a different outcome. Just because a non-traditional officer can respond does not always mean he or she should. Teaching officers the risk while providing them tools to help enable effective decision making is critical to all type of active shooter response, but even more so for responding as a non-traditional responder. A (9%) increase in the likelihood of a blue-on-blue event is not insignificant, yet when considering the outcome of not acting or intervening leaders as well as individual officers should accept the risk. This risk, rather than deter response should serve as a motivator to identify additional mitigation and training options. Therefore, leaders should accept the additional risk that comes with non-traditional responder employment and shift tactics and policies as they did post-Columbine, switching from waiting for SWAT to direct to threat tactics.

G. RECOMMENDATION 3: DEPARTMENTS SHOULD MANDATE THE USE OF HERO 911 OR A SIMILAR TOOL

While the Hero911 app could be updated with functions that make it even more effective, technology is advanced through its usage and feedback. Currently the app is being adopted by the Florida Department of Education, an increase of usage will generate even more effective products.[163] The Hero911 app is making schools safer therefore this product or a similar concept should be taken to a larger scope and made available to the whole public. The two-app concept in which there is an open app available to private citizens and a closed system available only to first responders helps ensure that those responding are first responders.

Another capability that would be extremely beneficial would be the ability to incorporate the app in a training scenario that would benefit incident commanders by ensuring they practice and understand the benefits and limitations of the technology. Having to figure out a piece of technology during a hectic response is not ideal, and it has the potential to disincentivize utilization of this type of tool. Another benefit of incorporating the Hero911 app in training is that there will be more opportunities for agencies to receive feedback and lessons learned, which can then help to create a better product. Within the last 20 years, for instance, there have only been 373 active shooter

[163] McVicker, "Guard911 Awarded State of Florida Department of Education Contract for Alyssa's Law."

events in the United States, but many departments in the United States train on active shooter response as an annual or semi-annual requirement.[164] These types of events provide opportunities that could have been used to develop recommendations for the future.

H. RECOMMENDATION 4: PUT OUT GUIDANCE AT THE NATIONAL LEVEL FOR EXCEPTIONS TO SELF-DISPATCH POLICIES WHILE ALSO PROMOTING TRAINING

National level guidance provides a standardized approach for active shooter response. Therefore, national organizational guidance should be in alignment. This should not only be true in the law enforcement community but for first responders as a whole. The NIMS approach to active shooter response should be the ALERRT model. Therefore, recommendations that the Federal Bureau of Investigations makes on self-dispatching for active shooters should not be contradicted. Non-traditional responders should be able to intervene in active shooter scenarios with the confidence that the legal system and their departments believe that their use is not only appropriate but the expectation. This recommendation is so critical because it helps assume the risk away from the individual departments. Additionally, recommending and providing standardized curricula and training enables these policies to have the greatest opportunity for success. The case studies demonstrated that many non-traditional responders came from different departments than the on-duty responder at the scene. Therefore, additional funding should be provided to continue to develop curriculum like the solo officer response course and make the curriculum and standards available to all law enforcement and responders within the United States.

I. LIMITATIONS TO THIS PROJECT

One of the most significant limitations to this study was the fact that there were only 10 case studies to examine with respect to non-traditional responders in the FBI reports. While this study was able to find common threads in the cases, a wider capability may have provided a better sample size. This is especially true due to the fact that the Route

[164] Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

91 event, which could be considered an outlier event that accounted for two out of the three non-traditional responder casualties. This can be partially attributed to the information included in incident active actions reports given to the FBI. In the 2019 20-year review, the Federal Bureau of Investigation identified that reporting was an issue and identified 28 active shooter incidents over the years that had not been reported in previous reports.[165] Therefore, this project likewise identifies that there may be events those non-traditional responders participated in that were not identified in current FBI reports.

Another limitation to this project was the fact that incident time was not included in the FBI reports. Incident time is critical in determining response effectiveness, and the ability to identify response times of non-traditional responders vs. traditional responders could illuminate key insights in the best integration of these assets. An after-action process which seeks to determine the timeline for at least the three major portions of the response (Stop the Killing, Stop the Dying, Rapid Casualty Evacuation) would be useful not only for this project but for other active shooter projects as well.[166]

J. AREAS OF FUTURE STUDY

As tools like the Hero911 app or similar technology becomes more available and more widely used, data should be collected to identify how effective this tool is in mitigation of risk. While this type of data is not currently available, eventually availability could definitely shape the overall recommendation for future projects with similar topics or follow-on research. Conducting focus group studies to compare app use to additional positive identification training could help determine which methods produce the best outcomes in blue-on-blue reduction.

The topic of the utilization of private citizens to reduce the response gap. While this project did not specifically examine the use of private citizens, it would serve as a parallel discussion and a possible option. The FBI reports in this study could provide a sound baseline of information as citizen response was included and measured.

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[165] Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019," 2.

[166] Advanced Law Enforcement Rapid Response Training, *AAIR Version II*, 1.1.

K. CONCLUSION

Over the past 20 years of active shooter responses, first responders have missed an opportunity with respect to the use of non-traditional responders. The research for this project demonstrates that not only are events increasing, but a significant number of events happen outside of ideal response times for traditional responders. This thesis found that in 9 out of 10 events, non-traditional responders effectively contributed to the three phases of active shooter response (Stop the Killing, Stop the Dying, Rapid Casualty Evacuation). Yet, the example of one blue -on-blue tragedy provided a real-world example of the risk that should be mitigated.

This thesis showed that tools such as Hero911 can reduce the risks involved in non-traditional officer response, but also found that not much hard data is available to support this claim. The project also acknowledges that technology without training often equals more confusion; thus, the ability to training with the technology is paramount. Tools without standardized policy also fall short of the best the community can provide for all responders. As identified in this study some brave responders have individually accepted the risk associated with this type of response, yet as a community we can do better to foster standardized support.

On or off-duty non-traditional responders serve as a force multiplier, which widens the pool of available responders. This project lauds the efforts of those leaders and organizations that have continued to study this problem set and seek to make response to active shooter events safer and more effective for all. The same can be said about the private companies seeking to provide the responder community with better tools that mitigate risk and increase capability. The responder community overall is in a much better place today with the utilization of the national standardized model, yet the benefits of intervention in the first critical minutes of an active shooter event indicates it is time to integrate more non-traditional responders. Perpetrators have continued to evolve their tactics; the responder community must not fall into the mindset that they are currently good enough.

APPENDIX. DATA TABLES

Table 1. Active Shooter Incidents 2000–2020[167]

Year	Incidents
2000	3
2001	10
2002	7
2003	12
2004	5
2005	11
2006	12
2007	14
2008	9
2009	19
2010	27
2011	13
2012	21
2013	19
2014	20
2015	20
2016	20
2017	31
2018	30
2019	30
2020	40

[167] Adapted from Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

Table 2. Casualties by Year Data [168]

Year	Killed	Wounded	Total Casualties
2000	16	2	18
2001	26	59	85
2002	18	21	39
2003	33	22	55
2004	17	9	26
2005	30	31	61
2006	26	27	53
2007	68	54	122
2008	30	33	63
2009	61	75	136
2010	37	50	87
2011	45	66	111
2012	90	111	201
2013	50	45	95
2014	33	59	92
2015	55	70	125
2016	74	114	188
2017	139	588	727
2018	84	133	217
2019	101	140	241
2020	38	126	164

[168] Adapted from Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

Table 3. Law Enforcement Casualties While Responding to Active Shooter Incidents 2000–2020 [169]

Year	On-Duty Deaths By Shooter	On-Duty Casualties By Shooter	On Duty Blue on Blue Death	On Duty Blue on Blue Casualties	Non-Traditional Responder Deaths By Shooter	Non-Traditional Responders Casualties By Shooter	Non-Traditional Responders Blue on Blue Death	Blue on Blue Casualties
2000	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0
2002	0	3	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0
2006	0	1	0	0	0	0	0	0
2007	1	3	0	0	0	0	0	0
2008	3	1	0	0	0	0	0	0
2009	4	3	0	0	0	0	0	0
2010	1	3	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0
2012	0	7	0	0	0	0	0	0
2013	0	7	0	0	0	0	0	0
2014	3	2	0	0	0	0	0	0
2015	1	8	0	0	0	0	0	0
2016	9	17	0	0	0	0	0	0
2017	4	3	0	0	2	0	1	0
2018	2	6	1	0	0	0	0	0
2019	2	15	0	0	0	0	0	0
2020	1	11	0	0	0	0	0	0
Total	31	90	1	0	0	0	0	0

[169] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

Table 4. Shooter Outcomes 2000–2020 [170]

Shooter Killed by Police	71
Shooter Killed by Citizens	6
Shooter Apprehended	174
Shooter at Large	10
Shooter Committed Suicide before Police Arrive	66
Shooter Committed Suicide after Police Arrive	36
Shooter Committed Suicide at Another Scene	24

Table 5. Active Shooter Days of the Week [171]

Year	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2000	0	1	0	1	1	0	0
2001	3	2	1	2	1	0	1
2002	1	1	1	1	2	1	0
2003	1	4	2	3	2	0	0
2004	1	0	1	1	1	0	1
2005	3	2	1	0	2	1	2
2006	3	1	2	1	2	1	2
2007	5	0	3	2	0	1	3
2008	1	2	1	2	1	0	2
2009	2	4	3	1	3	3	3
2010	6	7	4	5	4	0	1
2011	0	2	3	2	2	2	2
2012	3	2	2	4	7	1	2
2013	3	2	2	1	6	3	2
2014	0	4	2	4	4	4	2
2015	2	1	3	5	1	5	3
2016	3	2	2	3	2	4	4

[170] Adapted from Federal Bureau of Investigation, “Active Shooter Incidents in the United States in 2020”; Federal Bureau of Investigation, “Active Shooter Incidents 20-Year Review, 2000–2019.”

[171] Adapted from Federal Bureau of Investigation, “A Study of Active Shooter Incidents in the United States Between 2000 and 2013”; Federal Bureau of Investigation, “Active Shooter Incidents in the United States in 2014 and 2015”; Federal Bureau of Investigation, “Active Shooter Incidents in the United States in 2016 and 2017”; Federal Bureau of Investigation, “Active Shooter Incidents in the United States in 2018”; Federal Bureau of Investigation, “Active Shooter Incidents 20-Year Review, 2000–2019”; Federal Bureau of Investigation, “Active Shooter Incidents in the United States in 2020.”

Year	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2017	4	3	7	3	6	2	6
2018	5	2	9	4	6	1	3
2019	4	7	5	4	3	3	4
2020	4	0	5	6	7	15	3
Total	54	49	59	55	63	47	46

Table 6. Active Shooter Times [172]

Year	12 a.m.–6 a.m.	6:01 am–1159 a.m.	12:00 pm–6 p.m.	6:01 p.m.–11:59 p.m.
2000	0	2	1	0
2001	2	3	3	2
2002	0	5	2	0
2003	0	8	2	2
2004	0	1	3	1
2005	0	3	6	2
2006	1	5	5	1
2007	2	4	5	3
2008	1	2	5	1
2009	1	9	5	4
2010	1	7	13	6
2011	3	3	6	1
2012	5	12	4	0
2013	3	10	3	3
2014	3	8	6	3
2015	4	7	3	6
2016	6	6	4	4
2017	1	15	12	3
2018	4	11	10	5
2019	4	9	12	5
2020	9	8	5	18
Total	50	138	115	70

[172] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

Table 7. Number of Shooters Per Incident 2000–2020 [173]

Year	1 Shooter	2 Shooters	3 Shooters
2000	3	0	0
2001	10	0	0
2002	7	0	0
2003	12	0	0
2004	5	0	0
2005	11	0	0
2006	11	1	0
2007	14	0	0
2008	9	0	0
2009	19	0	0
2010	27	0	0
2011	11	2	0
2012	20	1	0
2013	18	0	1
2014	19	1	0
2015	19	1	0
2016	20	0	0
2017	31	0	0
2018	30	0	0
2019	27	3	0
2020	39	0	1
Total	362	9	2

[173] Adapted from Federal Bureau of Investigation, "A Study of Active Shooter Incidents in the United States Between 2000 and 2013"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2014 and 2015"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2016 and 2017"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2018"; Federal Bureau of Investigation, "Active Shooter Incidents 20-Year Review, 2000–2019"; Federal Bureau of Investigation, "Active Shooter Incidents in the United States in 2020."

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