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**THESIS**

**RESPONDING TO HIGH-RISE ACTIVE SHOOTERS**

by

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December 2018

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**RESPONDING TO HIGH-RISE ACTIVE SHOOTERS**

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Submitted in partial fulfillment of the  
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## **ABSTRACT**

On October 1, 2017, a mass shooting took place in Las Vegas in which the active shooter—perched on the thirty-second floor of a high-rise building—killed fifty-eight people at an outdoor concert below. Law enforcement last modified its active-shooter response practices after the mass shooting at Columbine High School in 1999. Since then, agencies across the United States have based their active-shooter responses on the assumption that the shooter is on the move and in the same two-dimensional environment as the responding officers; the response practices, training, and resource requirements do not address a three-dimensional threat in a semi-fixed position. This thesis analyzed case studies from the University of Texas tower shooting, the Mumbai terrorist attack, and the Las Vegas mass shooting to illuminate patterns, nuances, practices, techniques, tactics, and procedures related to high-rise active shooters. The conclusions identified training procedures, equipment considerations, and response practices that may help first responders mitigate damage from similar attacks in the future.

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## LIST OF ACRONYMS AND ABBREVIATIONS

ADP	Austin Police Department
ARV	armed response vehicle
CCFD	Clark County Fire Department (Nevada)
CRS	Congressional Research Service
DHS	Department of Homeland Security
IACP	International Association of Chiefs of Police
IED	improvised explosive device
LVMPD	Las Vegas Metropolitan Police Department
MACTAC	Multi-Assault Counter-Terrorism Action Capabilities
NSG	National Security Guard (India)
PERF	Police Executive Research Forum
RTF	rescue task force
SWAT	Special Weapons and Tactics

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## EXECUTIVE SUMMARY

On October 1, 2017, a mass shooting took place at an outdoor concert in Las Vegas that killed fifty-eight people. Unlike active shooters who are on the same plane as the victim, the Las Vegas shooter perched himself vertically above his victims in a high-rise building. In doing so, he created a challenge for responding law enforcement, who had to traverse a building before they could take steps to stop the killing. Though not novel, the tactic of using high-ground or sniper positioning in mass shootings is infrequent; it is a threat for which law enforcement has not actively trained or prepared.

Law enforcement modified its active-shooter response practices after the mass shooting at Columbine High School in 1999. Since then, law enforcement agencies across the United States have based their active-shooter responses on the assumption that the shooter is on the move and in the same two-dimensional environment as the responding officers. The response practices, training, and resource requirements do not address a three-dimensional threat in a semi-fixed position, such as an active shooter firing down from a high-rise building.

This thesis answers the question, What can be learned from responses to previous high-rise structure active shooters to help law enforcement respond effectively to similar attacks that may occur in the future? The purpose is to identify smart response practices, training, and resource considerations that law enforcement can use to counter this threat, which may help first responders mitigate future attacks. To answer the research question, the thesis presents case study research and analysis of the University of Texas tower shooting, the Mumbai terrorist attack, and the Las Vegas mass shooting. All of these cases provide examples of active shooters using high-rise tactical positioning to their advantage. Three facets of the cases that most affect response elements were collectively examined for patterns, nuances, practices, techniques, tactics, and procedures; these facets are representing by the three following questions: What role did training play? Which equipment was used? What did the law enforcement response look like?

A high-rise active shooter is entirely different from a traditional active shooter; the case study findings affirm that any law enforcement strategy that hastens response times through tactics, training, and equipment will save lives. The three cases all concluded with responding officers or the military arriving, having to ascend to the same floor as the shooter, and eventually physically confronting him. The case studies did distinguish several tactics for reducing, mitigating, or shortening the duration of shooting from an active shooter in a high-rise position. A new and improved response tactic includes a collaborative or multi-team response that incorporates the use of counter-sniper officers—even if there is only a limited opportunity for this tactic to succeed.

Another response model was identified through the case studies, which demonstrates that an array of equipment options must be consistently available to the street officer during a time-sensitive critical response. Creating properly equipped response vehicles and manning them with officers who are properly trained can become a force multiplier during the initial active-shooter response. These vehicles and complementary teams fill a response gap that sits between active-shooter strike teams and Special Weapons and Tactics (SWAT) team responses, and offer an array of skills and weaponry options not commonly seen in the patrol environment. In the modern policing era, swift, tactically trained, and properly equipped agile teams in equipment-laden response vehicles are the way forward in responding to high-rise active shooters.

The findings suggest tactics to limit the consequences of a high-rise active-shooter, such as government partnerships with the private sector. Additionally, the federal government needs to revisit its existing public awareness campaign that teaches people what to do during an active-shooter event. The present Department of Homeland Security policy for the public to follow in the event of an active shooter is known as “Run, Hide, Fight.”<sup>1</sup> It is designed for people who are inside a building when an active shooter enters. However, the policy does not address how an innocent person should respond if a shooter

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<sup>1</sup> “Active Shooter Preparedness,” Department of Homeland Security, accessed October 29, 2017, <https://www.dhs.gov/active-shooter-preparedness>.

is in a perched position or has vertical tactical advantages.<sup>2</sup> Continued research into technologies that can identify the location of the active shooter would save lives. Similarly, technology such as unmanned aerial vehicles, also known as drones, that could thwart or distract the shooter are a worthy investment for law enforcement. Furthermore, equipping responding law enforcement personnel with enough equipment to at least match or overcome the threat is critical. The equipment includes firepower, ballistic protections, and other utilitarian tools such as elevator keys and door-breaching equipment.

The findings also identify the significance training has on responding law enforcement officers, and the important role uniformed officers play in these situations. The training is not limited to firearms and associated equipment but also includes tabletop exercises and having the proper policies in place before an incident occurs. Officers save lives through the sacrifice of their own personal safety; in all three case studies, it was the line-level officer who was the first to respond and the first to confront the high-rise active shooter. Training and equipment recommendations should be put in place with these street officers in mind. Having SWAT team response helps, but the street officer is the one best positioned to make all the difference in an active-shooting response.

Response practices need to change to confront the threat of future high-rise active shooters. With the growth of urbanization and increase in high-rise structures, these attacks could increasingly happen anywhere. Because we cannot entirely prevent atrocities, mitigation is imperative; the speed of the response is the most significant factor in mitigating and eventually stopping the attack. It is imperative to learn from previous incidents and apply that knowledge to respond effectively to similar attacks that may occur in the future. The recommendations and conclusions in this thesis identify potential areas of change worthy of consideration. The recommendations are part of the ongoing evolution of law enforcement response practices. Focusing on training, equipment, and police response strategies—combined with effective public and private partnerships—will increase the speed of the response and, thus, save lives.

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<sup>2</sup> David Riedman, “Active Shooter: When You Can’t Run, Can’t Hide, and Can’t Fight,” *Medium* (blog), November 6, 2017, <https://medium.com/homeland-security/active-shooter-when-you-cant-run-can-t-hide-and-can-t-fight-938d5d106340>.

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## I. INTRODUCTION

On October 1, 2017, a mass shooting took place at an outdoor concert in Las Vegas that killed fifty-eight people. The suspect fired more than 1,200 rounds for more than eleven minutes from the thirty-second floor of a hotel room into the open-air venue. Unlike active shooters who are on the same plane as the victim, the Las Vegas shooter perched himself vertically above his victims in a high-rise building. In doing so, he created a challenge for responding law enforcement, who had to traverse a building before they could take steps to stop the killing. Though not novel, the tactic of using high-ground or sniper positioning in mass shootings is infrequent; it is a threat for which law enforcement has not actively trained or prepared.

Law enforcement modified its active-shooter response practices after the mass shooting at Columbine High School in 1999. Since then, law enforcement agencies across the United States have based their active-shooter responses on the assumption that the shooter is on the move and in the same two-dimensional environment as the responding officers. The response practices, training, and resource requirements do not address a three-dimensional threat in a semi-fixed position, such as an active shooter firing down from a high-rise building.

This thesis seeks to answer the question, What can be learned from responses to previous high-rise structure active shooters that can be used to respond effectively to similar attacks that may occur in the future? Research focusing on high-rise active shooters is critical because copycat actors may want to replicate the tactics that accomplished a high death count in Las Vegas. According to Towers et al., copycat shootings act like a contagious disease; the likelihood of another similar-style shooting increases following major media coverage of the original event.<sup>1</sup> Coupled with this concern is the growth of urbanization, which leads to more high-rise structures in metropolitan areas. Identifying

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<sup>1</sup> Sherry Towers et al., “Contagion in Mass Killings and School Shootings,” *PLoS ONE* 10, no. 7 (July 2, 2015): e0117259, <https://doi.org/10.1371/journal.pone.0117259>.

smart response practices, training, and resource needs that law enforcement can use to counter this threat may prepare first responders to mitigate future attacks.

## **A. LITERATURE REVIEW**

The purpose of this literature review is to explore law enforcement’s methodology for countering active shooters. More narrowly, it explores existing government strategies and policies surrounding the threat of mass shooters exploiting high-rise buildings to their tactical advantage. The review also identifies current literature that speaks to policies and practices for law enforcement responses to shooters in high-rise structures.

### **1. Countering Active-Shooter Tactics**

Tactics to counter active-shooter incidents have been relatively consistent in the United States since the aftermath of the Columbine shooting. In 2014, a major law enforcement association, the Police Executive Research Forum (PERF), reviewed eighty-four active-shooter incidents between 2000 and 2014. The study concluded that police tactics have evolved as they relate to countering active shooters. Prior to the Columbine shooting, police were trained not to enter a building when an active shooting was in progress. Instead, the police isolated the building and waited for a Special Weapons and Tactics (SWAT) team to make entry. According to PERF’s study, police officers have since recognized they should not wait but form contact teams and tactically enter the building to neutralize the threat.<sup>2</sup> PERF research also highlights the “360 degrees of vulnerability” to which the contact teams are exposed.<sup>3</sup> This warning has more to do with threats appearing from behind in a hallway, however, as opposed to a high-rise structure.

Law enforcement experts disagree about whether individual officers should enter a building to thwart an active shooter. PERF provides examples of solo officers entering a building but does not indicate whether this is preferred over contact team entry.<sup>4</sup> An article

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<sup>2</sup> Police Executive Research Forum (PERF), *The Police Response to Active Shooter Incidents* (Washington, DC: PERF, 2014), [http://www.policeforum.org/assets/docs/Critical\\_Issues\\_Series/the%20police%20response%20to%20active%20shooter%20incidents%202014.pdf](http://www.policeforum.org/assets/docs/Critical_Issues_Series/the%20police%20response%20to%20active%20shooter%20incidents%202014.pdf).

<sup>3</sup> PERF, 9.

<sup>4</sup> PERF, 3.

in *Law and Order* magazine argues the need to accelerate an officer's response: "Over a 10-year period, no four-officer patrol formation actually stopped the ongoing killings. It was all over just too quickly."<sup>5</sup> This point seems to justify solo-officer entry.

Another major law enforcement organization, the International Association of Chiefs of Police (IACP), cites the sensibility of a solo-entry officer in its 2014 model policy, which recommends using "rapid intervention" when responding to active shooters.<sup>6</sup> The policy defines the concept as "immediate response by one or more officers to an active shooting based on an objectively reasonable belief that failure to take action pending the arrival of additional officers would result in death or serious bodily injury."<sup>7</sup> Research from Texas State University on active-shooter response in 2013 did not oppose the use of individual officer entry but highlights that 14 percent of all unaccompanied officers are shot. The paper further states, "This makes single officer entry an extremely dangerous activity. We are not presenting this data to argue that officers should not make solo entry. We are presenting these findings because we feel that officers should be appropriately informed about the risks associated with solo officer entry."<sup>8</sup> This statement shows an impartial position on solo-officer entry.

Finally, these law enforcement organizations and studies focus specifically on the tactics of the officer and focus on only one environment—buildings. They do not specifically discuss the uniqueness of responding to an active sniper in a high-rise. Instead, the officer tactics are geared toward building searches for active shooters on the same plane.

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<sup>5</sup> Ed Sanow, "Latest Active Shooter Tactics," Hendon Media Group, accessed March 28, 2018, [http://www.hendonpub.com/resources/article\\_archive/results/details?id=4781](http://www.hendonpub.com/resources/article_archive/results/details?id=4781).

<sup>6</sup> "Active Shooter," International Association of Chiefs of Police (IACP), accessed October 28, 2017, <http://www.theiacp.org/Portals/0/documents/pdfs/MembersOnly/ActiveShooterPaper.pdf>.

<sup>7</sup> IACP.

<sup>8</sup> John P. Blair and M. Hunter Martaindale, "United States Active Shooter Events from 2000 to 2010: Training and Equipment Implications" (report, Texas State University, 2013), <http://www.acphd.org/media/372742/activeshooterevents.pdf>.

## 2. High-Rise Building Exploitation

There appears to be a void in the literature on counteractive shooter tactics in high-rise building environments. The research gap may have to do with the limited examples or incidents in which an active shooter has leveraged the tactical advantage of a high-rise structure. Author Gary Lavergne provides details of how, in 1966, University of Texas tower shooter Charles Whitman utilized vertical positioning to his advantage to commit mass murder.<sup>9</sup> Whitman ascended a tower building to an observation deck on the University of Texas campus and opened fire on the students below. Mary Sisson also presents how, during the Mumbai attacks in 2008, high-rise buildings were exploited by terrorists to their tactical advantage.<sup>10</sup> In Mumbai, the terrorists impeded the military force's response because they "set themselves up on higher floors in order to have better sight lines on the forces below them."<sup>11</sup> Adam Dolnik remarks that the Mumbai terrorists threw grenades off the top of the Trident Hotel at the responding officers.<sup>12</sup> A 2009 RAND study entitled *The Lessons of Mumbai* states that local police lacked the appropriate training and equipment to respond effectively to the attack, which unintentionally aided the terrorists.<sup>13</sup>

A 2013 Congressional Research Service (CRS) publication on public mass shootings in the United States provides no evidence about specific threats or vulnerabilities associated with high-rise buildings. Instead, the CRS report identifies the two most prevalent locations for a mass shootings as the perpetrator's workplace and educational

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<sup>9</sup> Gary M. Lavergne, *A Sniper in the Tower: The Charles Whitman Murders* (Denton: University of North Texas Press, 1997).

<sup>10</sup> Mary Sisson, "Mumbai Attack, 2008," *The SAGE Encyclopedia of Terrorism*, ed. Gus Martin, 2nd ed. (Thousand Oaks, CA: SAGE, 2011), 407–409, <https://doi.org/10.4135/9781412980173>.

<sup>11</sup> Sisson.

<sup>12</sup> Adam Dolnik, "Fighting to the Death," *The RUSI Journal* 155, no. 2 (April 1, 2010): 60–68, <https://doi.org/10.1080/03071847.2010.486553>.

<sup>13</sup> Angel Rabasa et al., *The Lessons of Mumbai*, 1st ed. (Santa Monica, CA: RAND, 2009), 9–12, <http://www.jstor.org/stable/10.7249/op249rc.7>.

facilities.<sup>14</sup> However, the CRS did identify a 1988 mass shooting during which the shooter roamed his neighborhood, randomly shooting people in an open-air setting.<sup>15</sup> This setting differs from the growing trend of terrorists targeting mass gatherings in open-air environments such as concerts or sporting events.<sup>16</sup> The focus of this thesis remains on the response to high-rise active shooters but acknowledges a high-rise shooting situation such as Texas or Mumbai is marginalized if there is no large crowd or mass gathering for a shooter to target.

An FBI report entitled “A Study of Active Shooter Incidents in the United States between 2000 and 2013” similarly found no instance out of 160 cases, including those at schools and malls, in which the perpetrator used high-rise structures to his advantage.<sup>17</sup> A few years after this report the FBI separately released an updated report of the same nature that focuses on active-shooter incidents from 2014 to 2015. The updated report, like the previous one, did not identify any instances in which an active shooter used high ground to his advantage.<sup>18</sup> Overall, there are limited instances in which high-rise buildings have been tactically exploited by active shooters.

### **3. Strategy and Policy**

The U.S. government provides the public with strategic guidance and policies regarding active-shooter incidents. The present Department of Homeland Security (DHS) strategy for the public to follow in the event of an active shooter is known as “Run, Hide,

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<sup>14</sup> Jerome P. Bjelopera et al., *Public Mass Shootings in the United States: Selected Implications for Federal Public Health and Safety Policy*, R43004 (Washington, DC: Congressional Research Service, 2013), <https://fas.org/sgp/crs/misc/R43004.pdf>.

<sup>15</sup> Bjelopera et al.

<sup>16</sup> Elaine C. Duke, “World Wide Threats: Keeping America Secure in the New Age of Terror,” U.S. House of Representatives, November 30, 2017, <http://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=106651>.

<sup>17</sup> Pete J. Blair and Katherine W. Schweit, “A Study of Active Shooter Incidents in the United States Between 2000 and 2013” (report, FBI, 2013), <https://www.fbi.gov/file-repository/active-shooter-study-2000-2013-1.pdf/view>.

<sup>18</sup> Katherine W. Schweit, “Active Shooter Incidents in the United States in 2014 and 2015,” FBI, accessed October 11, 2018, [https://www.fbi.gov/file-repository/activeshooterincidentsus\\_2014-2015.pdf/view](https://www.fbi.gov/file-repository/activeshooterincidentsus_2014-2015.pdf/view).

Fight.”<sup>19</sup> It is designed for people who are inside a building when an active shooter enters. However, this guidance does not address what a person should do in an open-air environment during an active shooting. Further, the strategy does not address how an innocent person should respond if a shooter is in a perched position or has vertical tactical advantages. DHS’s internal policy outlines the procedures and expectations for all federal employees if an active shooter incident occurs at a federal facility, which mirrors the Run, Hide, Fight strategy.<sup>20</sup>

A 2002 RAND article, “Protecting Occupants of High-Rise Buildings,” evaluates Los Angeles high-rise buildings’ vulnerabilities to terrorism. It focuses on mitigating the effects of an attack after it is over but does not specifically focus on active-shooter response tactics by law enforcement.<sup>21</sup> The article provides a list of strategic recommendations for government and private-sector entities to improve the security posture at these types of buildings. Coordinating threat assessments, mandating comprehensive preparedness drills, and formulating emergency plans jointly with public agencies are some of the strategies discussed in the article.<sup>22</sup>

## **B. RESEARCH DESIGN**

For this thesis, three case studies with similar characteristics were selected: the University of Texas tower shooting, the Mumbai terrorist attack, and the Las Vegas mass shooting. Information about the Las Vegas shooting is included where applicable based on the limited material available at the time of publication. The case studies focus on three specific facets of each case; a structured focus comparison is a variant of case study

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<sup>19</sup> “Active Shooter Preparedness,” Department of Homeland Security, accessed October 29, 2017, <https://www.dhs.gov/active-shooter-preparedness>.

<sup>20</sup> Interagency Security Committee, “Planning and Response to an Active Shooter: An Interagency Security Committee Policy and Best Practices Guide” (report, Department of Homeland Security, 2015), <https://www.dhs.gov/sites/default/files/publications/isc-planning-response-active-shooter-guide-non-fouo-nov-2015-508.pdf>.

<sup>21</sup> Rae Archibald et al., “Protecting Occupants of High-Rise Buildings,” RAND, accessed October 29, 2017, <https://www.rand.org/pubs/periodicals/rand-review/issues/rr-08-02/occupants.html>.

<sup>22</sup> Archibald et al.

research design.<sup>23</sup> The facets provide boundaries for the case study in order to properly scope the data collection for in-depth analysis.<sup>24</sup> The results are compared with each other to identify greater insights into the three focus areas. The facets were determined based on the assertion that they most affect the response elements to an active shooter. These facets are represented by the following questions:

- Which role did training play?
- Which equipment was used?
- What did the law enforcement response look like?

Limited background on each case study event is provided, but the majority of the research and analysis specifically surrounds the law enforcement responses. The results of these questions are compared and contrasted with each other and formulated into conclusions and recommendations. The research contained in this thesis is anticipated to complement the information that will eventually emerge about the Las Vegas shooting through after-action reports, investigative updates, and academic research.

In addition to limited information about the Las Vegas shooting information, there is another limitation to this thesis based on its methodology: case studies may identify conditional generalizations, yet the correlations identified may not necessarily mean causation. There may be a causal relationship identified through the research, but commonly the relationships are found only under certain conditions.

The primary source of data is literature, accompanied by archived interviews from various media. The interviews are from people who have a significant relationship to the events. Further data sources include official police or other government reports. Lastly, reports and recommendations from reputable organizations and think tanks are queried for data applicability. The analyzed data was examined for patterns with the intent to identify lessons learned and smart practices and to create a list of recommendations for responding

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<sup>23</sup> Robert K. Yin, *Case Study Research: Design and Methods (Applied Social Research Methods)*, 5th ed. (Thousand Oaks, CA: SAGE, 2014), Kindle loc. 56.

<sup>24</sup> Yin, 33.

to active shooters in high-rise structures. Additionally, the research will help determine whether existing response tactics and strategies are still applicable under the high-rise threat. The resulting outcomes can be provided to law enforcement agencies for their consideration.

### **C. CHAPTER OUTLINE**

The next three chapters of this thesis present the case studies of the University of Texas tower shooting, the Mumbai terrorist attack, and the Las Vegas mass shooting, respectively. Each case study chapter is similarly structured into six parts. The first part provides a general overview of the incident and highlights its significance. The second section provides case-specific details and a chronological narrative of the attack. The next three sections discuss discrete issues related to training, equipment, and police response. The final two sections analyze the case and provide key takeaways.

Chapter V provides a combined analysis of all three case studies and Chapter VI offers conclusions and recommendations based on the analysis from the previous chapter.

## II. UNIVERSITY OF TEXAS TOWER SHOOTING

On August 1, 1966, Charles Whitman appeared at the top of a twenty-eight-story observation deck at the University of Texas and opened fire on the unsuspecting people within range of his rifle. On that day, Whitman changed the course of modern policing, with effects still apparent to this day. This chapter deconstructs the events that occurred and analyzes police training, use of equipment, and response to the first high-rise active shooter in America.

### A. BACKGROUND

Charles Whitman's first murder victim was his mother, who he killed in the pre-dawn hours on August 1, 1966. Then, at approximately 11:00 a.m., he killed his wife at his house on Jewell Street in Austin, Texas, and got in his car.<sup>25</sup> Whitman drove to the University of Texas en route to the iconic tower. His destination was the most prominent building on campus, a high-rise constructed with an outdoor observation deck on all four sides of the building. The observation deck overlooked the entire campus as well as parts of the city of Austin. After parking nearby, Whitman checked in with a University of Texas security officer, presented his legitimate identification as a lab assistant to a professor, and explained his need to unload some items.<sup>26</sup> From his car, Whitman unloaded a footlocker and some bundled items, which concealed rifles and ammunition.<sup>27</sup> Using a dolly to carry them, he took an elevator to the twenty-seventh floor and then traversed the stairs with the equipment-laden dolly to the landing on the reception area of the twenty-eighth floor, which led to the observation deck.<sup>28</sup> Whitman then killed the receptionist and barricaded the stairway door by turning her desk on its side.<sup>29</sup>

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<sup>25</sup> Lavergne, *Sniper in the Tower*, 124.

<sup>26</sup> Lavergne, 125.

<sup>27</sup> Tomas C. Mijares and Ronald M. McCarthy, *Significant Tactical Police Cases: Learning from Past Events to Improve upon Future Responses* (Springfield, IL: Charles C. Thomas, 2015), 17.

<sup>28</sup> Lavergne, *Sniper in the Tower*, 126.

<sup>29</sup> Mijares and McCarthy, *Significant Tactical Police Cases*, 17.

Whitman's tactics—arriving with significant amounts of firepower and ammunition as well as positioning himself high on a fortress—suggest he had no intention of escaping. Had he wanted to escape, Whitman could have retreated out of the building during the lengthy police response toward the tower and the flood of people fleeing the scene.<sup>30</sup> Whitman did not retreat that day; instead, just before noon, he began his unprecedented attack. Whitman opened fire with a shotgun, shooting and killing two more people inside the building who were trying to make their way past the fortified stairway door.<sup>31</sup> He exited onto the observation deck, which overlooked the densely populated campus and community below, and wedged the dolly against the access door to the observation deck.<sup>32</sup> Once on the platform, 231 feet above the ground, Whitman, armed with one of his hunting rifles, began a killing spree that lasted more than ninety minutes.<sup>33</sup> In the aftermath, sixteen people lay dead and twenty-three had been wounded.<sup>34</sup>

## **B. TRAINING**

When police respond to a dynamic incident, their actions and decision-making are usually rooted in the foundation of training they received to that point. Having a thorough understanding of the training of officers who responded to the University of Texas shooting puts their response into context. The responding officers' actions highlight the inadequacy of their training, particularly in response to a threat from a high-rise shooter. The vertical threat was so novel that there had not been a demonstrated need to provide the appropriate training prior to the incident.

Whitman's tactics caught the first responder community off guard; his height advantage made the standard police training tactics of cover and concealment only minimally beneficial.<sup>35</sup> Up to this incident, standard training had officers running directly

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<sup>30</sup> Lavergne, *Sniper in the Tower*, 201.

<sup>31</sup> Lavergne, 135.

<sup>32</sup> Lavergne, 139.

<sup>33</sup> Lavergne, 142.

<sup>34</sup> Mijares and McCarthy, *Significant Tactical Police Cases*, 17.

<sup>35</sup> Mijares and McCarthy, 22.

from one position of cover to another because most shooters are on the same plane. In the Texas tower shooting, the responding officers had increased exposure, which increased their vulnerabilities because Whitman had unobstructed views from his vantage point. For example, patrolman Bob Day with the Austin Police Department (APD) had to run in a zigzag pattern, and other officers used buildings to block themselves from shots while they made their way to the main tower building.<sup>36</sup> A bullet hit one APD officer as it traveled between a six-inch gap in a concrete wall, which highlights—after the fact—the need for officers to utilize proper cover.<sup>37</sup>

The APD had no precedent, no plans, and no previous training to draw from to handle such a situation.<sup>38</sup> The department attempted to establish a command post, but communication issues made it nearly impossible to coordinate arrest and rescue efforts.<sup>39</sup> This made the command post a de facto staging area and rallying point. No research or published department material documents provided for flying helicopters or airplanes. Furthermore, no after-action reports have outlined the actions Austin Police Chief Bob Miles took that day.<sup>40</sup> Researcher and author Gary Lavergne concludes, simply, that “The department was not prepared for this incident and no other city had ever been faced with a crime such as the one Charles Whitman inflicted on Austin from his perch at the University of Texas Tower.”<sup>41</sup>

### C. EQUIPMENT

When police respond to emergency situations, they do not rely solely on training; they also rely on the equipment to which they have immediate access. General equipment issuance to police officers have evolved over time, usually based on technology and lessons

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<sup>36</sup> Lavergne, *Sniper in the Tower*, 175.

<sup>37</sup> Joshua Logan, “Reviewing Past Events Leading up to What’s Next, Part 1,” *Officer.com*, February 7, 2017, <https://www.officer.com/training-careers/article/12312183/reviewing-past-events-leading-up-to-whats-next-part-1>.

<sup>38</sup> Mijares and McCarthy, *Significant Tactical Police Cases*, 21.

<sup>39</sup> Mijares and McCarthy, 21.

<sup>40</sup> Lavergne, *Sniper in the Tower*, 206.

<sup>41</sup> Lavergne, 206.

learned. For example, present-day officers all carry semi-automatic handguns instead of revolvers. This is partially because of handgun technology advancements but also out of the need to have more ammunition to confront present-day threats. Further, specialized police equipment has routinely been issued to specialized sections within a police department, such as SWAT teams, and benefits the department as a whole. However, the front-line officer lacks access to this specialized equipment when time is of the essence, and SWAT team response may not be immediate. Therefore, equipment issuance should not only incorporate what average officers carry on their person but should also consider the resources to which officers have immediate access, and what the department has available when the situation has specialized needs. Identifying equipment use and availability in the case study provides insight into how and why the APD officers responded in the manner they did—and helps identify equipment recommendations for future incidents.

The APD officers were minimally equipped to handle the tower incident. They lacked adequate communication devices to effectively coordinate their response and did not have the appropriate ballistic protection to traverse their path to the tower safely. In 1966, walkie-talkies were a relatively new technology in policing; the APD had a total of twelve walkie-talkies that worked within limited range.<sup>42</sup> The devices, however, did not work inside the tower building, which forced officers to use landlines.<sup>43</sup> Eventually, landlines became overloaded with calls and jammed.<sup>44</sup> Furthermore, without bulletproof vests, ADP officers were naturally restricted from taking calculated risks toward Whitman, or from rescuing downed citizens or removing people from harm's way.<sup>45</sup> In part for this reason, an armored bank truck was repurposed to safely evacuate wounded victims who were pinned down during the gunfire.<sup>46</sup>

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<sup>42</sup> Charles Bowden, "Houston. and Ramiro," *Esquire*, February 1999, <http://search.proquest.com/docview/210280518/abstract/68FFF162A8DD439DPQ/1>.

<sup>43</sup> Mijares and McCarthy, Significant Tactical Police Cases, 21.

<sup>44</sup> Lavergne, Sniper in the Tower, 207.

<sup>45</sup> Lavergne, 175.

<sup>46</sup> Lavergne, 173.

Weapon options for the APD were also limited. In 1966, APD officers were issued revolvers and shotguns. The APD had access to 35-caliber Remington rifles, which had not been used for twenty years and were not deployed during the tower incident for unknown reasons.<sup>47</sup> The majority of the rifles used during the incident response came from hunting stores or from citizens who provided them to police. Tear gas—which is not a lethal weapon—was considered for use during the response but eventually dismissed by APD officers, who determined this was a deadly force situation only.<sup>48</sup> This point highlights that the APD did have other weapon options, but that they were not useful during this incident. Lastly, the research did not uncover what types of small equipment were needed to negotiate Whitman’s placed obstacles, such as the barricaded doors and stairwells or the dolly that was wedged against a door to the observation deck. It is unknown whether officers carried, had access to, or even needed pry bars, battering rams, or ladders.

The APD did have access to helicopters and planes to assist with the response. Although the APD feared a helicopter would be too vulnerable, the department did employ a fixed-wing airplane.<sup>49</sup> Since the shooting transpired over a long period of time, APD officers were able to drive to an airport, get in a small airplane, and fly to the tower. A sharpshooter flew above and confirmed over radio that there was only one gunman, Whitman. However, due to the communication gap, the message was not received until much later.<sup>50</sup> Furthermore, because the airborne officer was unable to get a firm shot due to the movement of the plane, he did not fire. The use of the airplane did draw attention from Whitman, who ultimately fired twice at the air asset.<sup>51</sup> The airplane distraction potentially saved innocent lives because it caused Whitman to divert his firing away from civilians.

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<sup>47</sup> Lavergne, 247.

<sup>48</sup> Lavergne, 202.

<sup>49</sup> Lavergne, 207.

<sup>50</sup> Lavergne, 207.

<sup>51</sup> Lavergne, 207.

#### D. POLICE RESPONSE

Whitman proved a capable adversary for the police.<sup>52</sup> A former Eagle Scout, he was later trained as a sniper when he served in the U.S. Marine Corps.<sup>53</sup> At the top of the tower, he killed the only people present. It is unknown whether he killed them because they took heroic actions to stop him, because he thought they alerted police to pinpoint his exact location, or for some other reason. Whitman possessed multiple firearms and ammunition. His tactics included ducking down between shots, staying crouched as he ran, and making full use of all sides of the high-rise observation deck.<sup>54</sup> Additionally, Whitman listened to live radio broadcasts of the incident, which detailed first responders' efforts, while he was shooting.<sup>55</sup> Whitman's awareness of the first responders' locations likely gave him a further tactical advantage.

Responding officers had to overcome each of these tactics physically as well as temporally. Whitman's vertical advantage provided a significant lethal ability typically unseen during police responses to traditional barricaded individuals.<sup>56</sup> In 1966, the term *active shooter* referred to a sportsman shooter.<sup>57</sup> Additionally, the training and experience for how to respond to this new kind of active shooter were foreign to the police. Traditionally, during that era, officers went directly to the scene of the crime. In this instance, the officers' response to the scene and subsequent entry into the tower were delayed because of their inability to safely approach the high-rise structure occupied by the shooting sniper.

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<sup>52</sup> H. B. Shaffer, *Alienated Youth* (Washington, DC: CQ Press, 1966), <http://library.cqpress.com/cqresearcher/cqresrre1966101200>.

<sup>53</sup> "Charles Whitman," Biography.com, accessed May 20, 2018, <https://www.biography.com/people/charles-whitman-11495598>.

<sup>54</sup> Lavergne, *Sniper in the Tower*, 151.

<sup>55</sup> Lavergne, 190.

<sup>56</sup> Mijares and McCarthy, *Significant Tactical Police Cases*, 22.

<sup>57</sup> Kory Stamper, "'Active Shooter' Used to Refer to Sportsmen. Now You Cringe When You Hear It," *Washington Post*, June 16, 2017, [https://www.washingtonpost.com/outlook/active-shooter-used-to-refer-to-sportsmen-now-you-cringe-when-you-hear-it/2017/06/16/f281209c-5216-11e7-91eb-9611861a988f\\_story.html](https://www.washingtonpost.com/outlook/active-shooter-used-to-refer-to-sportsmen-now-you-cringe-when-you-hear-it/2017/06/16/f281209c-5216-11e7-91eb-9611861a988f_story.html).

As the incident unfolded, all off-duty Austin police officers were called back to duty to respond and protect the citizens in the area.<sup>58</sup> Minutes into the shooting, the APD dispatched its first police officer to the scene—Houston McCoy.<sup>59</sup> Some of the officers who responded did so in a coordinated effort by checking in with superiors for instructions while others self-deployed directly to the University of Texas. As instructed, the responding Austin police officers cleared as many people from the area as possible. Additionally, the officers formed a large perimeter around the campus, tending to the wounded and returning gunfire.<sup>60</sup> Unarmed security officers from the University of Texas—not the police—initiated a shelter-in-place for the safety of people trapped inside the tower. In 1966, the University of Texas did not have police officers working on campus. Once the shooting began, University of Texas security officers responded to the tower and began to lock it down by instructing personnel to lock out the elevators, secure the exits, and tell others to shelter in place.<sup>61</sup>

The long duration of the shooting resulted in a multitude of police responding from neighboring jurisdictions as well as citizens who took up their rifles to join the response. Austin police officers and dozens of civilians who joined the armed response fired back at the tower. Both the police and the citizens armed themselves primarily with personally owned deer hunting rifles.<sup>62</sup> Two off-duty APD officers and a civilian with a telescope sat in an elevated position six floors off the ground with a hunting rifle, attempting to take sniper shots at Whitman. All of these attempts were unsuccessful. Officers from the APD and Texas Department of Public Safety, Travis County deputies, and a Secret Service agent armed with rifles, including a 30.06 rifle, went to the tops of nearby buildings and fired on Whitman when he appeared on the side of the building nearest their positions.<sup>63</sup> Although the large number of civilians who took up arms did help keep Whitman at bay, their

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<sup>58</sup> Mijares and McCarthy, Significant Tactical Police Cases.

<sup>59</sup> Lavergne, Sniper in the Tower, 152.

<sup>60</sup> Lavergne, 206.

<sup>61</sup> Lavergne, 150.

<sup>62</sup> Lavergne, 170.

<sup>63</sup> Lavergne, 171.

presence increased the chances of friendly fire striking responding officers as they approached the observation deck.<sup>64</sup>

According to police reports, many officers were unable to move from their positions because Whitman had them pinned down and was using bolt-action and automatic rifles.<sup>65</sup> Shooting back from the ground as well as elevated locations did slow Whitman's ability to kill, but it did not stop him altogether. Whitman killed the majority of his victims during the first twenty minutes of the attack; thereafter, the firepower from citizens and responding officers affected his ability to shoot accurately.<sup>66</sup>

After overcoming the tactical disadvantages encountered by a high-rise active shooter, the APD was able to confront Whitman. Close to ninety minutes after the shooting began, APD Officers Martinez and Day, Department of Public Safety Officer Cowan, and a citizen, Allen Crum, armed with revolvers, shotguns, and a rifle, made their way to the top of the tower via the elevator to the twenty-seventh floor.<sup>67</sup> Martinez and Crum were veterans with previous military training.<sup>68</sup> Officer McCoy from the APD also joined them. Initially, the officers had wanted to position themselves above the observation deck and fire downward, but they could not safely traverse the platform where Whitman was positioned.<sup>69</sup> Eventually, McCoy, Martinez, and Crum would be the ones to confront Whitman on the observation deck, where he was killed during an exchange of gunfire.

## **E. ANALYSIS**

Analysis of the University of Texas attack highlights the need for more effective communication technologies for American policing. The incident further establishes a need to meet or overpower the abilities and weaponry used by nefarious actors.<sup>70</sup> The events

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<sup>64</sup> Lavergne, 201.

<sup>65</sup> Lavergne, 181.

<sup>66</sup> Lavergne, 171.

<sup>67</sup> Lavergne, 175.

<sup>68</sup> Lavergne, 203.

<sup>69</sup> Lavergne, 202.

<sup>70</sup> Mijares and McCarthy, Significant Tactical Police Cases, 22.

reveal that criminals' skills, tactics, and weaponry are always evolving. Law enforcement must therefore evolve as well. Police cannot rely on ad hoc responses; they must develop training and maintain the necessary tools and equipment to be effective for unique situations. Whitman had a superior position. He was behind adequate cover and controlled firepower that was superior to the responding officers'.<sup>71</sup> As Lavergne concludes, "Police departments should have weapons of better, or at least equal, quality than those available to the general public, even if they are not likely to be used."<sup>72</sup>

The University of Texas shooting also underscores the need for crowd and traffic control in volatile police response incidents.<sup>73</sup> Quickly removing innocent civilians is paramount when a high-rise shooter is taking aim at an innocent populace. Taking practical actions reduces the police department's liability and builds public trust because the public recognizes the police are proactively trying to protect them from harm.<sup>74</sup> Lastly, isolating the perpetrator, although challenging in high-rise scenarios, through the use of effective security perimeters can be a successful tactic that reduces the shooter's ability to kill or harm more people.<sup>75</sup> This incident helped usher in the modern SWAT era for American policing; within one year of the attack, the Los Angeles Police Department created the first SWAT team.<sup>76</sup> Having a specialized team allows for specific training within police departments for low-probability, high-consequence incidents such as this one.

The University of Texas shooting introduced America to the concepts of *suicide by cop*—based on a note left by Whitman in which he predicted the police would kill him—and *mass-casualty active shooters*.<sup>77</sup> It was also an early example of criminal acts

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<sup>71</sup> Derrick D. Bartlett, "Criminal Snipers: What Every Chief Should Know," *Law & Order* 50, no. 3 (March 2002): 72–74, <http://search.proquest.com/docview/197227648/abstract/D1AA899D362940DDPQ/1>.

<sup>72</sup> Lavergne, *Sniper in the Tower*, 247.

<sup>73</sup> Mijares and McCarthy, *Significant Tactical Police Cases*, 22.

<sup>74</sup> Mijares and McCarthy, 23.

<sup>75</sup> Mijares and McCarthy, 22.

<sup>76</sup> Chris George, "Managing the Tactical Unit," *Sheriff* 64, no. 1 (February 2012): 20–21, <http://search.proquest.com/docview/918692365/abstract/BA39BBD07A564C73PQ/1>.

<sup>77</sup> Mijares and McCarthy, *Significant Tactical Police Cases*, 23.

captured live by the media. The media not only educated the viewers but also allowed Whitman to listen live as the event unfolded, potentially giving him tactical advantages.<sup>78</sup> Though not part of any predetermined response plan, the APD deployed the first rapid response model for an active shooter.<sup>79</sup> The response effectiveness was determined by individual officers' actions based on their training and experience; the progress of each officer's actions was based on the situation that unfolded. The clash between Whitman and police also provides evidence that police response does save lives. The quicker officers arrive, the sooner an opportunity is created for the shooter to take aim at police instead of innocent civilians. The APD considered shooting from an airplane, and they did use counter-snipers and even ground-level return fire to effectively slow Whitman's shooting.

Having to safely approach a high-rise active shooter is challenging for police—especially in this case, as Whitman had a 360-degree shooting platform from the observation deck. Once police safely made it to the tower, they had to reach the floor Whitman was on. The police in this case chose to take the elevator to one floor below and negotiate Whitman's obstacles; fortunately, the tipped-over desks and blocked doors were not a substantial hindrance and the officers were able to successfully overcome them. However, these factors delayed police response, as did equipment gaps. This case demonstrates the significance of communication technologies during critical events and the importance of an organized, command-and-control police response during dynamic occurrences. Additionally, the shooting highlights the need to create perimeters around an impacted area, the consequences of live media during a prolonged event, and the need for swift police response.

Whitman's high-rise position—combined with his tactics, determination to keep shooting, and decision to not escape—increased the death and injury count. It also created delays for responding officers, which further impacted Whitman's success. Officers were challenged to safely and efficiently traverse the vertical environment; a safe vertical ascent

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<sup>78</sup> Mijares and McCarthy, 23.

<sup>79</sup> Michael Marino et al., "To Save Lives and Property: High Threat Response," *Homeland Security Affairs* XI (2015), <http://search.proquest.com/docview/1728289872/abstract/89C621FFF0DF4180PQ/1>.

takes time in high-rise locations and creates more opportunities for shooters to harm civilians. Better training and equipment issuance can add to the effectiveness of officers' response and ultimately reduce the casualty count. In this case, the shooting did not stop until officers successfully ascended to Whitman's high-rise location and effectively neutralized him.

#### **F. KEY TAKEAWAYS**

- Responder communication and coordination is essential.
- Superior firepower over your adversary is a must.
- A high-rise active shooter event was always possible but was not realized until this event.
- A safety perimeter will help keep civilians out of harm's way.
- SWAT teams enhance response.
- Predetermined plans can create effective response.
- Media coverage may work against responders.
- Speed in response saves lives.
- Uniformed police presence and identifiable police assets can be purposely targeted.
- High-rise shooters may put obstacles in the path of responders.
- Essential training includes:
  - Command and control
  - Use of cover
  - Tabletop exercises.

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### III. MUMBAI, INDIA, TERRORIST ATTACK

On November 26, 2008, ten Pakistani terrorists illegally entered Mumbai, India, from the sea. The local media and the public would later call the attack that followed India's 9/11. Also later defined as a complex coordinated terrorist attack, the attackers utilized improvised explosive devices (IEDs), rifles, handguns, and hand grenades and communicated via cell phone; their targets in Mumbai included a train station, luxury hotels, restaurants, and some of the landmarks of the city.<sup>80</sup> The attack overwhelmed Mumbai police in part because of the terrorists' tactics. The attackers struck multiple locations at the same time and incorporated fire as a weapon. They further exploited their high-rise active-shooter vantage point to impede police and military responses by shooting firearms or throwing hand grenades down on responders. Additional tactics included having outside "controllers" watch the events unfold on live television and then provide those updates via cell phone to the terrorists. A report by RAND succinctly summarizes the terrorist team's tactics: "The attack was sequential and highly mobile. Multiple teams attacked several locations at once—combining armed assaults, carjacking, drive-by shootings, prefabricated IEDs, targeted killings (policemen and selected foreigners), building takeovers, and barricade and hostage situations."<sup>81</sup>

This chapter examines specific portions of the Mumbai attack. Similar to the previous chapter about the University of Texas tower shooting, this chapter demonstrates the difficulties faced by first responders—in this case, police and military—when trying to stop an active shooter embedded in a high-rise location.

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<sup>80</sup> Åshild Kolås, "The 2008 Mumbai Terror Attacks: (Re-)Constructing Indian (Counter-)Terrorism," *Critical Studies on Terrorism* 3, no. 1 (April 26, 2010): 83–98, <https://doi.org/10.1080/17539151003594244>.

<sup>81</sup> Rabasa et al., "Lessons of Mumbai," 5.

## A. BACKGROUND

On November 26, at approximately 8:30 p.m., a team of ten terrorists made landfall in Mumbai after traveling from Karachi, Pakistan, by sea and hijacking a fishing vessel.<sup>82</sup> Entering from the sea helped the terrorists avoid Indian security checkpoints commonly seen at airports or the border.<sup>83</sup> The terrorists were armed with IEDs, Kalashnikov AK-47 rifles, hand grenades, 9mm pistols, ammunition, and cell phones.<sup>84</sup> They divided themselves into teams of two and took taxis to different parts of the city.<sup>85</sup> In two of the taxis, IEDs were detonated after the terrorists left the vehicles, killing the drivers and creating confusion with first responders.<sup>86</sup>

Two of the terrorists went to the CST Railway Station, where 3.5 million people commute daily. At approximately 9:20 p.m., they began firing their weapons and throwing hand grenades into the crowd. Once the carnage stopped, fifty-eight people had been killed and 104 had sustained injuries.<sup>87</sup> The attackers left the train station to continue their attack at a hospital. During their commute, the terrorists were confronted by police on two separate occasions. During the first confrontation, the terrorists exchanged gunfire with the police and stole a police car. The next confrontation was another shootout, but this time one terrorist was killed and one was captured. The terrorist who was arrested would be the only terrorist to survive the attack.

Another team went to a Jewish outreach center and began to shoot inside the lobby and took several hostages.<sup>88</sup> The takeover lasted into the next day, with police exchanging

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<sup>82</sup> Kolás, “Mumbai Terror Attacks,” 87.

<sup>83</sup> Rabasa et al., “Lessons of Mumbai,” 4.

<sup>84</sup> “Mumbai Terrorist Attacks (Nov. 26-29, 2008),” Investigative Project, accessed June 3, 2018, 1–2, <https://www.investigativeproject.org/documents/277-mumbai-terror-attacks-dossier-of-evidence.pdf>.

<sup>85</sup> Kolás, “The 2008 Mumbai Terror Attacks,” 87.

<sup>86</sup> Kolás, 87; Shahrzad Rizvi and Joshua L. Kelly, “The Continued Relevance of the November 2008 Mumbai Terrorist Attack: Countering New Attacks with Old Lessons,” *Homeland Security Affairs* XI (2015): 2, <http://search.proquest.com/docview/1728289873/abstract/7A1641A3FAAD4492PQ/1>.

<sup>87</sup> Kolás, “Mumbai Terror Attacks,” 87.

<sup>88</sup> Rabasa et al., “Lessons of Mumbai,” 6.

gunfire with the terrorists. The terrorists detonated one IED and were eventually killed by National Security Guard (NSG) commandos who responded from New Delhi, India.

The third team went to the Oberoi-Trident Hotel and laid siege for over seventeen hours.<sup>89</sup> The two-man team fired their AK-47 rifles and tossed hand grenades throughout the lobby, into a restaurant, and at patrons on several hotel floors.<sup>90</sup> Ascending the building, they took hostages between the sixteenth and eighteenth floors.<sup>91</sup> During the takeover, the terrorists fired their rifles down from above and threw grenades from their high-rise location onto the security forces below, which caused the police and other quick response forces to retreat temporarily.<sup>92</sup> NSG commandos eventually killed the terrorists but not before the pair killed thirty-three people at the hotel.

The fourth team of terrorists targeted two locations, but began with a soft target—the Leopold Café. The team entered the cafe and opened fire with their rifles and tossed hand grenades at the innocent patrons. They killed a total of ten people. Either the police did not respond quickly enough to stop them or the terrorists acted quickly; they were able to attack this target and move on to their primary target—the Taj Mahal Palace hotel, where they joined up with the last team of two.<sup>93</sup> Together, the fourth and fifth teams entered the iconic hotel, each from a different side. Both teams fired AK-47 rifles and threw hand grenades into crowds of people and then ascended to higher floors of the hotel. As the teams went higher, they began to set fires behind and below them, causing more carnage and confusion.<sup>94</sup> During the attack, the terrorists communicated with “controllers” in Pakistan. The controllers were watching all the media coverage and provided tactical guidance.<sup>95</sup> They told the terrorists where to go, what to eat, and what to do with the

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<sup>89</sup> Rabasa et al., 6.

<sup>90</sup> Investigative Project, “Mumbai Terrorist Attacks.”

<sup>91</sup> Investigative Project, 6.

<sup>92</sup> Dolnik, “Fighting to the Death,” 62.

<sup>93</sup> Rabasa et al., “Lessons of Mumbai,” 6.

<sup>94</sup> Investigative Project, “Mumbai Terrorist Attacks,” 7.

<sup>95</sup> Investigative Project, 12.

hostages, and even reminded them that their mission would end in martyrdom.<sup>96</sup> While the terrorists took hostages, other patrons locked themselves in their rooms out of fear, where they were trapped amid the fire and danger. The terrorists steadily moved throughout the high-end hotel and set fires on lower floors. The attack at the Taj Mahal Palace hotel lasted sixty hours and ended once NSG commandos killed the terrorists.<sup>97</sup>

The attack on the city was entirely over on November 29. In the end, the ten terrorists killed 165 people and injured 304.<sup>98</sup>

## **B. TRAINING**

Mumbai police did not have any training to counter the active shooters, nor did they have any SWAT teams.<sup>99</sup> They did have quick reaction teams, but they were ineffective and played no role during the critical first hours. The reaction team lead commander was one of the officers killed near the hospital, which stymied the command and control functions of the team.<sup>100</sup> Responding special teams also lacked command and control skills. The Mumbai Police Anti-Terrorism Squad lacked training for setting up command posts and the ability to cordon off the area of the attacks.<sup>101</sup> Additionally, the NSG leadership failed to set up a command center, which meant the hostage rescue teams were not able to coordinate with each other or the leadership.<sup>102</sup> Lastly, emergency managers lacked a formal structure for communicating and responding to a coordinated attack.<sup>103</sup>

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<sup>96</sup> Kolás, “Mumbai Terror Attacks,” 91.

<sup>97</sup> Rabasa et al., “Lessons of Mumbai,” 6.

<sup>98</sup> Investigative Project, “Mumbai Terrorist Attacks,” 1.

<sup>99</sup> Rizvi and Kelly, “Continued Relevance,” 5.

<sup>100</sup> Dolnik, “Fighting to the Death,” 63.

<sup>101</sup> Rabasa et al., “Lessons of Mumbai,” 10.

<sup>102</sup> Rabasa et al., 11.

<sup>103</sup> Rizvi and Kelly, “Continued Relevance,” 4.

The Mumbai Police had not done any firearm training since 2007 due to inadequate ammunition supply.<sup>104</sup> A New Delhi newspaper blamed this equipment shortfall on “bureaucratic roadblocks.”<sup>105</sup> The average Mumbai police officer fires less than five bullets a year during training, compared to 150 for NSG commandos.<sup>106</sup> Indirectly, India acknowledged that its commandos were slow to respond to the attack; the country implemented reforms in 2009 aimed at making the commandos better trained, properly equipped, and able to respond to a critical incidents more quickly.<sup>107</sup>

### C. EQUIPMENT

As mentioned, the Mumbai Police has a limited number of weapons and as ill-equipped to confront the terrorists; the majority of officers carry only bamboo sticks called *lathis*.<sup>108</sup> The railway police protection forces of the Mumbai Police, for example, had only one firearm per every two-officer team.<sup>109</sup> Mumbai had eighty-six police stations the night of the attack, but none of them had an AK-47 rifle that could be used as part of the response.<sup>110</sup> Officers were issued antiquated guns from World War II, which were self-loading and not semi-automatic; the officers’ bulletproof vests did not fit them, and their vehicles were unable to drive over thirty miles per hour.<sup>111</sup> During the attack, a team of

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<sup>104</sup> Dolnik, “Fighting to the Death,” 63; “Police Depend on Commandos When the Going Gets Tough,” *Hindustan Times*, November 29, 2008, <http://search.proquest.com/docview/470164084/citation/E29727A04E2743BFPQ/1>.

<sup>105</sup> *Hindustan Times*.

<sup>106</sup> Malini Bhupta, Aditi Pai, and Swati Mathur, “The Lessons Learnt from Mumbai: Intelligence Failure, Ill-Equipped Forces, Lack of Coordination and Apathy. Everything That Could Go Wrong Went Wrong in Mumbai,” *India Today*, December 15, 2008, <http://search.proquest.com/docview/198737363/abstract/377AC991823B4656PQ/1>.

<sup>107</sup> Kolás, “Mumbai Terror Attacks,” 93.

<sup>108</sup> Eric Bellman, “Police Morale Takes a Hit after Attacks in Mumbai—Officers and Families Struggle with Blame, Negative Stereotypes,” *Wall Street Journal*, December 30, 2008, <http://search.proquest.com/docview/308724881/abstract/ADEB597AB88E4C92PQ/1>.

<sup>109</sup> Rabasa et al., “Lessons of Mumbai,” 9.

<sup>110</sup> Dolnik, “Fighting to the Death,” 63.

<sup>111</sup> *Hindustan Times*, “Police Depend on Commandos.”

two terrorists was confronted by Mumbai Police at a roadblock and exchanged gunfire. Only two of the sixteen police officers at the roadblock were armed.<sup>112</sup>

Due to equipment deficiencies, Mumbai Police had to wait for the NSG commandos to respond from New Delhi to help counter the attack. The NSG is very well-armed, trained, and capable of handling such occurrences.<sup>113</sup> However, a New Delhi newspaper reported that the NSG was still trying to get ballistic vests for its officers just before the Mumbai attacks, which demonstrates a lack of preparedness and inadequate equipment issuance.<sup>114</sup> Many of the Mumbai Police officers were issued 5mm-thick plastic protectors as opposed to bulletproof vests.<sup>115</sup> These are acceptable for riot control but not for countering heavily armed terrorists. The Mumbai Police equipment gap was addressed a year after the attack, in 2009, when the department introduced special forces response teams armed with sub-machine guns and pistols, and purchased bulletproof light armor vehicles and speedboats to better patrol the coast.<sup>116</sup> The NSG equipment issues were solved after reforms were introduced following the attack.

There were also technology gaps; specifically, Mumbai Police lacked communications-jamming devices.<sup>117</sup> These devices may have been helpful to thwart or complicate the controllers who were communicating with the terrorists via cell phones. Additionally, once the power went out in the Taj Mahal Hotel, the NSG was handicapped because they possessed neither night vision goggles nor thermal imaging equipment.<sup>118</sup>

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<sup>112</sup> Bellman, "Police Morale."

<sup>113</sup> *Hindustan Times*, "Police Depend on Commandos."

<sup>114</sup> Bhupta, Pai, and Mathur, "Lessons Learnt from Mumbai."

<sup>115</sup> Rabasa et al., "Lessons of Mumbai," 11.

<sup>116</sup> "Sixty Hours of Terror," VQR Online, accessed June 3, 2018, <https://www.vqronline.org/web-exclusive/sixty-hours-terror>.

<sup>117</sup> Dolnik, "Fighting to the Death," 64.

<sup>118</sup> Rabasa et al., "Lessons of Mumbai," 11.

#### **D. POLICE AND MILITARY RESPONSE**

The different responding elements sent to confront the terrorist attackers all faced specific challenges that impacted their effectiveness. The police in Mumbai were quickly overpowered with the firearms and weaponry of the terrorists. Hours into the attack, the Indian naval special forces arrived to help.<sup>119</sup> However, they were promptly pulled back before they were able to take any concrete actions because no naval officer was willing to approve the use of military assets in a civilian response.<sup>120</sup> It was not until the next morning that NSG commandos finally arrived from New Delhi to assist.<sup>121</sup> Indian government bureaucracy would not allow the NSG to have its own air assets, which stymied its response; air assets were not readily available in New Delhi to fly special forces to Mumbai.<sup>122</sup> The NSG had no aircraft of its own, and locating a pilot and crew to fly the reaction force ultimately created a delay of almost ten hours. Adding to the delayed response was the fact that the NSG was based 877 miles away in New Delhi, and no other cities in India had a team that could adequately counter the terrorists in Mumbai.<sup>123</sup>

The team of two terrorists that started at the train station was able to overcome several police response challenges during different confrontations that evening. The police at the train station were so poorly equipped that they had to hide behind columns to protect themselves and could not take any offensive actions.<sup>124</sup> After the police response proved ineffective at the train station, the terrorists left and headed to a hospital to continue their rampage. The attackers' plans were interrupted, however, when a car full of police officers confronted them near the hospital. The two groups exchanged gunfire, which killed six police officers and injured a seventh.<sup>125</sup> The terrorists then stole the police car after

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<sup>119</sup> Rabasa et al., 20.

<sup>120</sup> Rizvi and Kelly, "Continued Relevance," 5.

<sup>121</sup> Rabasa et al., "Lessons of Mumbai," 20.

<sup>122</sup> Rizvi and Kelly, "Continued Relevance," 5.

<sup>123</sup> Rabasa et al., "Lessons of Mumbai," 20.

<sup>124</sup> Kolås, "Mumbai Terror Attacks," 87.

<sup>125</sup> Investigative Project, "Mumbai Terrorist Attacks."

removing the bodies.<sup>126</sup> The team later abandoned the police vehicle and hijacked another vehicle. As the terrorists fled, the pair attempted to ram a police roadblock. At the roadblock, a shootout occurred which resulted in one terrorist dying and another being captured by police.<sup>127</sup>

The attackers at the Jewish outreach center could not be thwarted. Throughout the takeover, the terrorists exchanged gunfire with the police and took hostages.<sup>128</sup> Mumbai Police requested NSG commandos from New Delhi for assistance. The siege lasted until the next morning when the NSG commandos arrived. The NSG utilized helicopters to drop commandos on the roof of the outreach center, which allowed them to safely approach the terrorist who had a vertical tactical advantage.<sup>129</sup> The commandos eventually killed the terrorists but not before the suspects detonated one IED. Seven people died during the attack, including the two terrorists and an NSG commando.

At the third location, the Oberoi-Trident Hotel, the attackers had a high-rise position of supremacy. The Mumbai police officers had to avoid hand grenades being thrown down at them and evade gunfire. They once again had to rely on NSG commandos to effectively respond to this location on the morning of November 27.<sup>130</sup> Since the terrorists had already demonstrated a willingness to hurl explosives down upon the responders from the eighteenth floor, the NSG decided to approach via helicopters. This allowed the NSG to deploy personnel from the top of the hotel and work down.<sup>131</sup> It took the NSG commandos forty-two hours after the initial shooting had started to declare the hotel safe.<sup>132</sup>

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<sup>126</sup> Investigative Project, 6.

<sup>127</sup> Kolås, "Mumbai Terror Attacks," 87.

<sup>128</sup> Kolås.

<sup>129</sup> Investigative Project, "Mumbai Terrorist Attacks," 9.

<sup>130</sup> Investigative Project.

<sup>131</sup> VQR Online, "Sixty Hours of Terror."

<sup>132</sup> Investigative Project, "Mumbai Terrorist Attacks," 8.

The police response to the Taj Mahal Palace hotel faced similar circumstances. Eight Mumbai Police officers cordoned off the area around the hotel, but they were unable to overcome the terrorists. The police had to avoid hand grenades being thrown outside the hotel; when they finally entered the hotel's atrium area, they were targeted with hand grenades again from the terrorists above.<sup>133</sup> With the police on the lower floors, the terrorists had excellent sight lines and a vertical tactical advantage.<sup>134</sup> Additionally, at this location, the terrorists were using fire as a weapon and distraction, impacting the response efforts. NSG commandos had to clear over 500 rooms during their response. The commandos announced their presence at each room, and if there was no answer, they opened the door with a master key. If the room was double locked, they used explosives to open it. Many patrons thought they were being duped by the terrorists and refused to open their doors. The patrons' fear and uncertainty created substantial delays for the NSG because all locked rooms needed to be checked for terrorists.<sup>135</sup> The NSG took fifty hours to finally clear the Taj Mahal Palace, and the police were finally able to take back the hotel on November 29.<sup>136</sup>

## E. ANALYSIS

Even with its significant number of officers, the Mumbai Police response to this attack was minimal at best. Mumbai has a police force of 40,000 that serves a population of 16 million people.<sup>137</sup> The police mostly work twelve-hour shifts, six days a week.<sup>138</sup> Despite the government's ability to employ a large number of police officers, it was unable to provide the equipment the officers needed to do their job. Moreover, the police force was ill-prepared and lacked tactics, strategy, and training.<sup>139</sup> These combined inadequacies

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<sup>133</sup> VQR Online, "Sixty Hours of Terror."

<sup>134</sup> Sisson, "Mumbai Attack," 407–409.

<sup>135</sup> VQR Online, "Sixty Hours of Terror."

<sup>136</sup> Bhupta, Pai, and Mathur, "Lessons Learnt from Mumbai."

<sup>137</sup> "India Census: Population: City: Mumbai," CEIC, accessed June 10, 2018, <https://www.ceicdata.com/en/india/census-population-by-selected-cities/census-population-city-mumbai>.

<sup>138</sup> Bellman, "Police Morale."

<sup>139</sup> Bhupta, Pai, and Mathur, "Lessons Learnt from Mumbai."

help explain why the Mumbai Police had to call in national assets—NSG commandos from New Delhi. These conclusions are supported by the fact that a year later, the Indian government created terrorism response teams in many urban areas, to include Mumbai.<sup>140</sup> Additionally, a RAND report on the Mumbai attack concluded, “Intelligence failure, inadequate counterterrorist training and equipment of local police, delays in the response of NSG commandos, flawed hostage-rescue plans, and poor strategic communications and information management all contributed to a less-than-optimal response.”<sup>141</sup>

A combination of issues contributed to the response problems. The Mumbai Police had inadequate equipment and many officers were unarmed. Further, they had inadequate training. The NSG commandos’ response was delayed, they had flawed hostage-rescue plans, and they did not set up a command center, which was needed to coordinate ground assets and which resulted in commandos attempting rescues with no clear understanding of what was occurring within the unit.<sup>142</sup> These factors, coupled with the fact that the NSG could not locate a pilot to fly the commandos, demonstrate the logistical response issues and underlying organizational concerns seen throughout the episode.

The Mumbai attacks were orchestrated to obtain maximum media attention.<sup>143</sup> The orchestration included soft targets—luxury hotels, a cafe, a religious center, and a train station filled with crowds of people. Mumbai Police did not have the technology to respond to the attack; for instance, a social media aggregator could have reviewed the thousands of Twitter messages being posted every minute during the attack.<sup>144</sup> Access to real-time social media postings could have provided better intelligence and situational awareness. Additionally, the media attention was purposely exploited by the terrorists, who had co-conspirators calling them via cell phone and providing them with real-time updates of the

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<sup>140</sup> Erika Kinetz, “A Year after Terror Attacks, Mumbai Remembers Dead, Calls for Further Police Reforms,” *Canadian Press*, November 26, 2009, <http://search.proquest.com/docview/360096489/abstract/9AFC40EE6584861PQ/1>.

<sup>141</sup> Rabasa et al., “Lessons of Mumbai,” 22.

<sup>142</sup> Rabasa et al., 22, 11.

<sup>143</sup> Kolås, “Mumbai Terror Attacks,” 83.

<sup>144</sup> Rizvi and Kelly, “Continued Relevance,” 5.

responder actions. Ironically, India intelligence agencies did have the ability to listen in on the phone calls between the controllers in Pakistan and the terrorists, but did not do so in real-time to aid response efforts; this intelligence capability therefore did not equate to operational success because it neither mitigated nor stopped the attack.

Unique to the Mumbai attack was the use of fire as a weapon at the Taj Mahal Palace hotel. The fire, resulting smoke, and vertical location of the terrorists added complexity for the police response. The responders had to navigate through the fire and smoke to get to the terrorists that were still a threat. Additionally, the responders had to protect firefighters—who were tasked with extinguishing the flames and freeing people who were still trapped in hotel rooms. The fire on the lower floors of the hotel slowed counter actions by responders who were trying to reach the terrorists. The fire obstacle allowed terrorists to go to higher floors, unapproached by police. The result was a higher death toll and more hostages being taken on the upper floors of the hotel.

The terrorists' persistent vertical advantage, however, was the biggest threat to the responders at the Taj Mahal Palace hotel. The fire and the subsequent smoke provided concealment for the attackers to move higher and delayed the responders' ability to advance toward them. These unchallenged actions, aided by the fire, and their tactical positioning kept responders at bay, and endangered the innocent civilians trapped on upper floors. The terrorists' superior position also delayed the police who were responding to the building. During the Mumbai attack, the responders at both hotels were forced to move their perimeter back when hand grenades rained down from above as they surrounded the buildings.<sup>145</sup> Further, Mumbai officers were fired upon from above when they were attempting to traverse to the upper floors.<sup>146</sup> At times, the high-rise locations paralyzed the responses by the Mumbai Police and NSG commandos. NSG commandos used a top-down tactic to gain entry to the buildings and relied on their air asset to put military responders on the roof.<sup>147</sup>

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<sup>145</sup> VQR Online, "Sixty Hours of Terror."

<sup>146</sup> VQR Online.

<sup>147</sup> VQR Online.

The terrorists' high-rise advantage created more than sixty hours of delays for police. The time it takes to respond to an active shooter is often proportionate to the harm the active shooter inflicts on an innocent public. The Mumbai attack clearly demonstrates the consequences of having an ill-prepared and insufficiently equipped police force. The attack also demonstrates the need for safety perimeters around dynamic scenes. Further, it exhibits why preparation and training can become vital in speeding up response times, which equates to saving lives. Lastly, the attack demonstrates how an active shooter in a high-rise environment creates response challenges that are unique in vertical environments. If the responders to these types of attacks are neither trained nor properly equipped, the consequences can be devastating.

#### **F. KEY TAKEAWAYS**

- Responders need proper equipment to respond effectively.
- Properly trained response teams must be ready at all times.
- Communication is essential.
- Command and control skills are necessary.
- Command posts improve coordination efficiencies.
- Responders must prepare for soft targets of both small or large crowds.
- Social media can be a real-time source of intelligence.
- Attacks can be designed for media attention.
- Live coverage on media can aid the attackers.
- Fire can be used as a weapon.
- Helicopters can be used to alleviate an attacker's vertical advantage.
- Safety perimeters are a must.

## IV. LAS VEGAS MASS SHOOTING

On October 1, 2017, the deadly consequence of a high-rise active shooter perched above an unsuspecting mass gathering of people was exposed in Las Vegas. That evening, 22,000 people were attending the Route 91 Harvest music festival, an open-air concert across from the sixty-three-floor Mandalay Bay hotel. Starting at 10:05 p.m. and for the next eleven minutes, Stephen Paddock opened fire into the crowd of concertgoers from his room on the thirty-second floor using various rifles.<sup>148</sup> Paddock shot over 1,200 times into the crowd from his high-rise location as well as down the hotel hallway, striking a security officer in the leg. In the end, fifty-nine people were killed—including Paddock, who committed suicide—and more than 850 people were injured, including over 400 people struck by gunfire.<sup>149</sup> This attack would be the single most deadly mass shooting in American history.

### A. BACKGROUND

Professional gambler Stephen Paddock planned his attack in advance. The post-attack investigation found that Paddock searched the internet with keywords such as Mandalay Bay Las Vegas, Route 91 Harvest festival attendance, SWAT weapons, and several other open-air concert locations in California and Chicago.<sup>150</sup> Ultimately, he decided to target the Route 91 festival, where 22,000 people were in attendance. Paddock purposely requested a suite that overlooked the concert when he made his hotel reservation on September 9, and his assigned room was about 1,000 feet away from the venue.<sup>151</sup> In

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<sup>148</sup> Las Vegas Metropolitan Police Department (LVMPD), “LVMPD Preliminary Investigative Report 1 October/Mass Casualty Shooting” (report, LVMPD, June 16, 2018), 12, [https://www.lvmpd.com/en-us/Documents/1\\_October\\_FIT\\_Report\\_01-18-2018\\_Footnoted.pdf](https://www.lvmpd.com/en-us/Documents/1_October_FIT_Report_01-18-2018_Footnoted.pdf).

<sup>149</sup> Clark County Fire Department (CCFD) and LVMPD, “1 October After-Action Report” (report, FEMA, August 24, 2018), 1, <https://www.hsd.org/?view&did=814668>.

<sup>150</sup> LVMPD, “LVMPD Criminal Investigative Report of the 1 October Mass Casualty Shooting” (report, LVMPD, August 3, 2018), 109, [https://www.lvmpd.com/en-us/Documents/1-October-FIT-Criminal-Investigative-Report-FINAL\\_080318.pdf](https://www.lvmpd.com/en-us/Documents/1-October-FIT-Criminal-Investigative-Report-FINAL_080318.pdf).

<sup>151</sup> LVMPD, “Preliminary Investigative Report,” 7; Geoffrey Mohan, “The Trigonometry of Terror: Why the Las Vegas Shooting Was So Deadly,” *Los Angeles Times*, October 4, 2017, [www.latimes.com/nation/la-las-vegas-shooting-live-updates-the-trigonometry-of-terror-why-the-las-1507085772-htmlstory.html](http://www.latimes.com/nation/la-las-vegas-shooting-live-updates-the-trigonometry-of-terror-why-the-las-1507085772-htmlstory.html).

the days leading up to the shooting, Paddock stocked his suite with fifty-five firearms—mostly rifles—that he had purchased between 2016 and 2017. In addition to the firearms, his luggage contained concealed firearm accessories, which included scopes, cases, 6,000 rounds of ammunition, and bump stocks—devices that allow semi-automatic rifles to shoot like automatic rifles.<sup>152</sup>

Sometime just before the shooting, Paddock screwed a metal L-bracket brace into the door to the service stairway adjacent to his room.<sup>153</sup> He also placed hidden cameras on a room service cart outside his door with wires that connected back to a computer in his room so he could see anyone approaching from the hallway.<sup>154</sup> At 10:05 p.m., he broke out two different windows from his thirty-second floor location. During the ensuing eleven-minute volley of gunfire, Paddock also targeted two large aviation fuel tanks sitting on McCarran International Airport property, adjacent to the concert venue. Gunfire struck the tanks eight times, but they did not explode; it is unknown if Paddock intended to use fire as a weapon, or as an agent to draw people away from the airport and closer to his gunfire.<sup>155</sup> Ultimately, as mentioned, Paddock injured over 850 people—more than 400 from gunfire—and killed fifty-eight during his mass shooting on the soft target. At 11:20 p.m., after about an hour of silence from Paddock’s hotel suite, officers from the Las Vegas Metropolitan Police Department (LVMPD) put an explosive charge on the hotel door and forcibly entered the room, finding Paddock dead from a self-inflicted gunshot wound.

## **B. TRAINING**

In 2009, the LVMPD along with other law enforcement agencies traveled to Mumbai, India, to learn firsthand the lessons of the 2008 terrorist attack. Through collaborative efforts with the other agencies, the result of the trip was the Multi-Assault Counter-Terrorism Action Capabilities (MACTAC) training program, which teaches law

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<sup>152</sup> LVMPD, “Preliminary Investigative Report,” 4.

<sup>153</sup> LVMPD, 6.

<sup>154</sup> LVMPD, 7.

<sup>155</sup> LVMPD, “Criminal Investigative Report,” 35.

enforcement patrol officers how to respond to a complex coordinated terrorist attack.<sup>156</sup> The LVMPD created a full-time training staff to teach the program, through which the LVMPD has trained all of its officers, neighboring police jurisdictions, and key private-sector partners.<sup>157</sup> The MACTAC response practices identify what to do at the scene of an active-shooter event, including which officers should respond from the police department and which should stay in their area of assignment—in-the-box squads versus stay-at-home squads. The police said that MACTAC training played a pivotal role in their response effectiveness during the Route 91 attack. According to the after-action report dated August 24, 2018, “Heavy local investment in Multi-Assault Counter-Terrorism Action Capabilities (MACTAC) and Hostile Mass Casualty Incident (MCI) training, as well as other formal training investments by Clark County Fire Department (CCFD), LVMPD, and surrounding jurisdictions, also proved especially valuable.”<sup>158</sup> MACTAC and MCI training is mandatory for all LVMPD officers and commonly instructed collaboratively by teachers from LVMPD and CCFD, whose trainees attend together.<sup>159</sup>

The LVMPD’s Emergency Management Section conducts routine tabletop training scenarios with the Clark County Office of Emergency Management before large-scale, mass crowd-gathering events to prepare response contingencies.<sup>160</sup> Although no tabletop exercise was conducted for the Route 91 event, officers credited prior training as playing a key role in their response effectiveness.<sup>161</sup> To help with preparedness, the LVMPD and Office of Emergency Management also invite appropriate private-sector partners, which contributes to operational coordination in large-scale incidents. These preparedness activities have been conducted over the last thirteen years, and include activities such as workshops, no-notice drills, and reality-based training.<sup>162</sup> The training and drills are

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<sup>156</sup> CCFD and LVMPD, “1 October After-Action Report,” 4.

<sup>157</sup> CCFD and LVMPD, 4.

<sup>158</sup> CCFD and LVMPD, 1.

<sup>159</sup> CCFD and LVMPD, 6.

<sup>160</sup> CCFD and LVMPD, 4.

<sup>161</sup> CCFD and LVMPD, 1.

<sup>162</sup> CCFD and LVMPD, 5–6.

mandatory for every rank of officer through lieutenant at the LVMPD. Specific lieutenant-only training focuses on command and control and role-playing scenarios. It also incorporates fire department personnel as role players and instructors. LVMPD officers also receive routine training to address active shooters. Large-scale exercises have taken place in a two-story mall and at closed high-rise hotels. Additionally, all LVMPD officers and dispatchers are trained in the Incident Command System, a standardized approach for command and control and coordination of multiple agencies during large emergency responses.<sup>163</sup>

Finally, as with most modern police departments in America, all LVMPD officers attend a police academy and subsequent field-training program, which each last for six months. Upon completion of both, officers are required to attend annual training to maintain and improve their skills. The twenty-four hours of training a year includes twelve hours of new training material and twelve hours of recertification. Each squad of officers receives an average of four to ten hours of in-house training every other week.

### **C. EQUIPMENT**

About fifty officers initially worked the Route 91 concert before the shooting began. They parked their vehicles a reasonable distance from the event, which restricted their access to extra equipment; because of all the people fleeing and the frequency of the gunfire, officers were unable to reach their vehicles, which commonly contain rifles, optional bulletproof vests with rifle plates, helmets, gas masks, shotguns, and extra ammunition.<sup>164</sup> All LVMPD officers are issued and wear bulletproof vests that can stop bullets from most handguns. Officers working the concert were issued reflective vests, which make them identifiable in a low-light setting. However, officers quickly removed the reflective attire once the shooting began to prevent them from being more visible to Paddock.<sup>165</sup> Lastly, during the response to the mass shooting, officer-issued tourniquets

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<sup>163</sup> CCFD and LVMPD, 15.

<sup>164</sup> CCFD and LVMPD, 23.

<sup>165</sup> CCFD and LVMPD, 24.

were expended quickly and improvised tourniquets were also utilized.<sup>166</sup> Although unavailable during the mass shooting, the LVMPD now employs tactical vehicles that contain nothing but equipment—rifle-rated ballistic shields, extra ammunition, medical kits, ladders, rams, breaching tools, and other items.<sup>167</sup>

Generally, most officers (who formed into strike teams during the response) had with them rifles, helmets, extra ammunition, and extra ballistic protection. One officer who was working the concert venue had binoculars, which enabled him to eventually locate Paddock from the ground; he provided this information to a dispatcher. Because the shooting lasted only eleven minutes, no LVMPD helicopter was able to respond quickly enough to aid response efforts.

The strike team closest to Paddock’s room was fortunate to have a SWAT officer as part of the four-officer cell. The SWAT officer carried a tool that was able to overcome the L-bracket Paddock had placed on the hallway door. He also carried explosive breach equipment, which enabled the team to place the charge surreptitiously on Paddock’s door and blow the door open, as opposed to using a police battering ram.<sup>168</sup> The explosive breach tactic was a safer option for confronting Paddock, who had already demonstrated his ability shoot through the locked door of his room into the hallway; an officer using a battering ram would have been caught in a fatal funnel of potential gunfire.

#### **D. POLICE RESPONSE**

Fifty officers were working the open-air concert, and two officers happened to be inside the Mandalay Bay hotel when Paddock began shooting.<sup>169</sup> Officers working the concert initially thought the active shooter was inside the concert venue.<sup>170</sup> As they attempted to locate him, they simultaneously directed scattering concertgoers to safety. As

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<sup>166</sup> CCFD and LVMPD, 12.

<sup>167</sup> CCFD and LVMPD, 24.

<sup>168</sup> LVMPD, “Preliminary Investigative Report,” 30.

<sup>169</sup> LVMPD, 7.

<sup>170</sup> LVMPD, 26.

several officers scanned the concert area for the shooter, the officer equipped with binoculars located the shooter in the hotel and updated a dispatcher.<sup>171</sup>

As officers broadcasted the events on their police radio, a multitude of officers responded from the LVMPD as well as nine police jurisdictions, four fire department jurisdictions, and three ambulance companies.<sup>172</sup> The responding officers cleared the immediate area and formed a safety perimeter. During the shooting, several off-duty first responders from various disciplines assisted officers and medical personnel to triage injured people and usher others to safety.<sup>173</sup>

During the response, officers had to navigate the high-rise threat safely; some officers were specifically shot at over forty times as they parked their marked police cars near the concert venue.<sup>174</sup> Paddock, who had the tactical advantage, wounded two of those specific officers and struck four of those specific police vehicles ten times. Officers utilized patrol vehicles and block walls for cover when they moved from position to position during the breaks in gunfire to enter into the front of Mandalay Bay hotel. The responding officers converged and began forming into teams of three to five officers, known as active-shooter strike teams.

Upon entering the hotel, the strike teams worked in conjunction with hotel security and coordinated with other strike teams already present.<sup>175</sup> One of the first strike teams consisted of a SWAT officer, a K-9 supervisor, and two other officers. This team entered the thirty-second floor via the stairwell after defeating the L-bracket.<sup>176</sup> The officers then saw a food service cart outside of Paddock's room, which had wires running from the cart to the interior of Paddock's room, underneath the door. Officers feared it was an IED.<sup>177</sup>

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<sup>171</sup> LVMPD, 27.

<sup>172</sup> CCFD and LVMPD, "1 October After-Action Report," 1.

<sup>173</sup> CCFD and LVMPD, 18.

<sup>174</sup> LVMPD, "Preliminary Investigative Report," 27.

<sup>175</sup> LVMPD, 28.

<sup>176</sup> LVMPD, 7.

<sup>177</sup> LVMPD, 7.

However, the wires ultimately led to a laptop computer that projected a camera view of the hallway for Paddock’s situational awareness. As previously detailed, the SWAT officer used an explosive breach method to gain entry into Paddock’s room.<sup>178</sup> Upon entering, the strike team discovered that Paddock had committed suicide. No shots were fired at Paddock by any officers from the ground or in Mandalay Bay hotel during the incident.

Another strike team—comprising security officers and two LVMPD officers—also responded to Paddock’s floor via the hotel elevator. Before taking the elevator, they noticed that a representative of the hotel was restricting access to the elevators and was using a key to prevent the elevator from stopping on the thirty-second floor, thus isolating access to the target floor.<sup>179</sup> The officers took the elevator to the thirty-first floor and then used the stairway to access the floor above.<sup>180</sup> Once on the thirty-second floor, the four-man team proceeded down the hotel hallway toward Paddock’s room. By the time they arrived, the shooting had stopped, and they held their position to prevent Paddock’s potential escape.

The first responding officers made it to the thirty-second floor within twelve minutes—around the same time the shooting stopped.<sup>181</sup> Forty minutes then passed between the time Paddock stopped shooting and the time the other strike team made entry to find him dead. During those forty minutes, officers inside the hotel were evacuating people from the thirty-second floor and officers at the concert venue were rendering first aid and directing concertgoers to safety.<sup>182</sup> Additionally, the LVMPD’s SWAT team began clearing floors within the hotel. Also during those forty minutes, and for hours afterward, rescue task force (RTF) teams composed of police and fire personal were formed and responded to the concert venue. The RTF personnel were among those to triage victims and provide watch for protection.<sup>183</sup> A total of nineteen RTFs deployed during the incident.

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<sup>178</sup> LVMPD, 7.

<sup>179</sup> LVMPD, 26.

<sup>180</sup> LVMPD, 7.

<sup>181</sup> CCFD and LVMPD, “1 October After-Action Report,” 9.

<sup>182</sup> CCFD and LVMPD, 26.

<sup>183</sup> CCFD and LVMPD, 27.

It is unknown why Paddock stopped firing and committed suicide when he did; he still had thousands of rounds of ammunition available to continue shooting into the dispersing crowd or to defend himself.

As the incident unfolded, officers established a unified incident command post with CCFD to organize a response.<sup>184</sup> An after-action report later determined that they should have established a unified command post at the concert venue before the shooting, as both agencies were working the event.<sup>185</sup> At 10:35 p.m., thirty minutes after the shooting began, Clark County opened up its Multi-Agency Coordination Center and LVMPD opened up its Department Operations Center to support the unified command post with logistics and personnel.<sup>186</sup>

In addition to the primary response effort, officers had to field over 1,500 misleading calls made to the dispatch center during the first two hours of the incident.<sup>187</sup> The thousands of people who fled the Route 91 venue—some of whom were injured and bloodied—entered other nearby hotels, which generated calls to police that indicated there were active shootings at those locations.<sup>188</sup> These distraction calls pulled police and other first-responder resources from Mandalay Bay. Ultimately, responding police and RTF teams determined there were no additional active shootings at other locations.<sup>189</sup>

## **E. ANALYSIS**

The 2017 mass shooting at the Route 91 festival in Las Vegas demonstrates how a properly trained police force can make a significant difference both in terms of response timeliness and tactics. LVMPD officers were able to identify the location of the shooter in a sixty-three-floor hotel, radio for more officers, navigate to the front entrance of the hotel while under gunfire, find the elevator bank, and get to the floor of the active shooter within

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<sup>184</sup> CCFD and LVMPD, 31.

<sup>185</sup> CCFD and LVMPD, 11.

<sup>186</sup> CCFD and LVMPD, 9.

<sup>187</sup> CCFD and LVMPD, 10.

<sup>188</sup> CCFD and LVMPD, B-4.

<sup>189</sup> CCFD and LVMPD, B-5.

eleven to twelve minutes. No one knows for sure why the shooting ceased, but the time of cessation coincided closely with officers reaching the target floor. Officers credited their training for the timely response, including the ability to quickly form strike teams, use cover appropriately while moving between gunfire, work alongside other police jurisdictions within strike teams, and form RTF teams. The initial strike teams comprised mostly street officers that arrived on the thirty-second floor and ultimately made entry into Paddock's room, which contradicts police assumptions that SWAT teams will be the ones to make such dangerous entries. In an after-action report, the LVMPD was credited for its "coordinated, cross-agency planning, collaboration, and training" that focused on large crowds and active-shooter scenarios, which played a crucial role in the outcome.<sup>190</sup>

The police were also assisted by numerous off-duty law enforcement officers and other first responders—as well as other citizens—who were attending the event; their willingness to help with response efforts saved lives. Citizen volunteers helped hundreds of victims and concert attendees by providing first aid, applying homemade tourniquets, and self-transporting victims to a hospital.<sup>191</sup> Some of the off-duty personnel requested firearms and were willing to go toward the gunfire as well.

Responding officers had the appropriate equipment during their response. Although some officers could not reach their equipment quickly, most had what they needed to respond. Fortunately, the lead strike team happened to have a SWAT officer who carries non-traditional patrol officer equipment. Equipment carried included a tool to break the L-bracket off the door as well as explosive breaching equipment. Officers might have been delayed in their response or have been in more vulnerable positions when making entry to Paddock's hotel room if these tools were not available. An equipment gap officers did have was tourniquets.<sup>192</sup> Most officers provided their sole tourniquets to save lives, but these were not enough because of the number of people shot.

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<sup>190</sup> CCFD and LVMPD, 1.

<sup>191</sup> LVMPD, "Criminal Investigative Report," 8.

<sup>192</sup> CCFD and LVMPD, "1 October After-Action Report," 12.

Paddock's tactics are worth noting. He had researched another open-air concert in Las Vegas that was held the week prior at a different location, and even had a room reserved that overlooked the festival.<sup>193</sup> He researched the Route 91 event and LVMPD's SWAT tactics, and purposely selected a room at the Mandalay Bay hotel that, purposefully or not, was easily defensible against responding law enforcement.<sup>194</sup> To slow police response, Paddock deliberately created obstacles such as screwing the L-bracket into the door and doorframe, shooting through his door at people approaching, and positioning surveillance cameras to alert him to responders nearing his room. Visible police presence and marked police assets caused Paddock to stop shooting at the concert and fire at the arriving officers and their vehicles instead. The responders' ability to gain the focus of Paddock's gunfire saved innocent people's lives.

Similar to the tactics of the terrorists in Mumbai, Paddock attempted to use fire to his advantage when he shot at the two large aviation fuel containers adjacent to the concert. Had his efforts been successful, the resulting explosion could have been devastating. It is difficult, however, to determine what his strategy was; the explosion could have injured concertgoers, caused people to run toward Paddock's position, drawn first responders in that direction, or created noise that may have masked Paddock's eventual gunfire. No matter the reasoning, the fact remains that Paddock intended to use fire to his advantage.

Paddock's high-rise positioning created confusion and challenges for the responding officers. During the first few moments of the shooting, officers reported that the shooter was on the grounds of the concert venue, which initially caused officers to search horizontally rather than vertically.<sup>195</sup> It is unclear whether this reaction was due to people running away and bodies falling on the ground, the inability to distinguish gunfire from other noises, or training assumptions that commonly had the active shooter on the same plane. Additional confusion was shown when arriving officers pulled in front of the concert venue not fully aware that the threat was from above. These officers and vehicles

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<sup>193</sup> LVMPD, "Preliminary Investigative Report," 53.

<sup>194</sup> LVMPD, 46.

<sup>195</sup> CCFD and LVMPD, "1 October After-Action Report," 25.

quickly became targets. Lastly, the majority of officers who could respond were in a challenging position—directly in Paddock’s tactical line of sight. In order to get into the hotel and to Paddock, the officers had to advance toward the hotel’s front entrance, which was under direct fire.

Inside the hotel, responding officers faced other challenges. They were fortunate that police officers and hotel security officers already knew the location of the active shooter. Security officers already started to lock out the elevators to help isolate Paddock’s floor. However, once on the thirty-second floor, officers had to safely navigate the hallway funnel to the targeted room. Paddock’s room advantageously overlooked the concert venue and was extremely defensible to responding officers. Other than going through a window or tunneling through walls, the only way to approach Paddock’s room was to enter from the hallway. During the first minutes of the shooting, Paddock was able to shoot down the long hallway and deter security officers from approaching. Because the room was at the end of the hallway, Paddock could focus his surveillance cameras in one direction to see anyone approaching entirely. The use of the L-bracket also forced responders to use the hallway. During a search of the room, police also found a scuba mask; it is unclear if this was in anticipation of tear gas or for other needs.<sup>196</sup> The countermeasures Paddock utilized demonstrate that he was prepared to sustain his efforts and not flee from the end of the hallway suite. Why he committed suicide remains a mystery.

## **F. KEY TAKEAWAYS**

- Effective training equates to effective response.
- Street officers are always the first to respond.
- Collaboration and cross-agency planning and training are beneficial.
- Citizen volunteers make a difference.
- Locating the high-rise shooter can be difficult.

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<sup>196</sup> LVMPD, “Criminal Investigative Report,” 103.

- Responding officers need the appropriate utilitarian equipment.
- Police need sufficient tourniquets.
- Obstacles may be placed in the path of responding officers.
- The shooter may target uniformed officers and marked police vehicles.
- Fire can be used to the shooter's advantage.
- The shooter may also use blockage tactics, such as Paddock's L-bracket; police can use counter-blockage tactics, such as locking out elevators to isolate the shooter.
- Police must heed proper command and control.
- Private security can assist responding officers.
- The shooter may be based in a highly defensible location.

## V. ANALYSIS

For this chapter, the three case studies—Texas, Mumbai, and Las Vegas—were collectively examined for patterns, nuances, practices, techniques, tactics, and procedures in order to provide law enforcement with considerations for responding to high-rise active shooters. The resulting analysis provides evidentiary support for the conclusions offered in the final chapter. Two of the three cases, Texas and Las Vegas, are similar because the victims were vulnerable and outdoors; this differs from most active shootings, for which the victims are typically inside the same structure. All three cases provide unique examples that demonstrate the consequences a high-rise active shooter can have on open areas and other mass-gathering venues. Understanding police training and equipment, and associated responses, in these events is critical for developing strategies and policies for future potential incidents.

### A. TIME

In all three cases, time played a significant role in the incident response—and affected aspects of training and equipment as well. If police are proficiently trained in tactics and the use of proper equipment, then their response capabilities are maximized. This efficiency in turn shortens the amount of time it takes for officers to reach their adversary. In short, timeliness in police response saves lives. The sooner police can respond and neutralize the high-rise active shooter, the quicker the shooting stops. The critical piece to consider in a high-rise active shooter situation is the distinction of physically getting to the active shooter versus simply containing the shooter. Like the lessons learned from the Columbine massacre, containing the suspect does not stop the active shooter from continuing to kill innocent people; instead, the time it takes to physically contact and incapacitate the shooter is crucial. Response delays, whether from poor police response practices, insufficient equipment, or training deficiencies, can cost innocent lives.

The terrorists in the Mumbai attack and Texas tower shooter Whitman highlight how entrenched or uninterrupted attackers continue killing or injuring people the longer time goes on. The attackers' intentions in these cases were not to flee or escape but to

continue their savage rampages. The Mumbai attacks lasted for days and the Texas attack lasted for over an hour. The Mumbai terrorists took people hostage in addition to shooting and killing, and Whitman continued to shoot until police or military physically neutralized the attackers. The Las Vegas shooting, however, lasted only eleven to twelve minutes. Paddock continued to shoot until police started arriving on his floor. What if Paddock had not committed suicide and had continued to shoot into the crowd of 22,000 for more than an hour? What would the death toll be? In these three examples, the amount of time it took to respond to an active shooter was proportionate to the amount of harm the shooter inflicted on an innocent public.

## **B. HIGH-RISE RESPONSE PRACTICES**

Evidence from the case studies suggests that a new response model is needed for high-rise active shooters. Current law enforcement training recommends that lone officers or strike teams enter a building and not stop until the suspect can be reached and neutralized.<sup>197</sup> In the three cases, however, the attackers were willing to shoot at responding officers. In Mumbai, the terrorist teams ended their assaults with a confrontation of gunfire with the military. Similar results occurred in Texas when Whitman exchanged gunfire with responding officers. In Las Vegas, a lone security officer who unknowingly approached the shooter's hotel room was shot. All of these examples demonstrate a high likelihood of police becoming injured or incapacitated.

In the Texas shooting, officers responded simultaneously from the ground with gunfire and entered into the tower with a strike team to reach Whitman. Theoretically, one of the shots fired from the ground could have feasibly struck Whitman and neutralized him. Although this did not occur, the ground-fired shots did distract and therefore hinder Whitman. Further, it was the responding strike team that shot and killed Whitman after reaching the observation deck. This response practice differs from the traditional method, which focuses officer response directly to the gunfire on the same plane. The response model used in Texas takes into consideration that high-rise active shooters fortify

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<sup>197</sup> PERF, Police Response to Active Shooter Incidents.

themselves in or on structures in fixed positions and purposely expose themselves to the ground level. This exposure unwittingly provides an opportunity for counter-snipers to stop the shooter.

Locating the source of gunfire in high-rise active-shooter incidents is challenging. It was apparent that the shooters in Texas and Las Vegas did not actively move, like traditional active shooters do; instead, they were stationary yet actively shooting and killing. The same can be said of the Mumbai attack team that entered the Taj Mahal Palace hotel. At times, the attackers also held their position and shot or threw grenades down from an isolated position. Traditionally in active-shooter scenarios, bystanders' screams coupled with the sound of gunfire direct officers to where they should respond. In Las Vegas, officers were initially confused and provided different suspect locations. This confusion caused response delays. In the Las Vegas case, officers could not run directly toward the sound of gunfire; instead, they had to wait until an officer located the shooter with binoculars. Trying to identify the location of a shooter in the middle of a high-rise building complicates the issue even further. Accurately counting the floor number from the outside through binoculars increases response delays. However, in the Texas shooting case it was easy to identify where the shooter was. Whitman was visible on an observation deck and was quickly located. Therefore, the active shooter's location on or within the high-rise structure creates difficulties for a swift response from police.

If active shooters create response delays by placing obstacles in responders' paths, which inevitably costs lives, responders may be able to use this tactic to their advantage as well: by distracting, impairing, or slowing the active shooter, responding police officers create obstacles for the shooter and may save lives. The Texas case supports this hypothesis. In Texas, officers and citizens used rifles to shoot back at Whitman. The shots originated from the ground as well as nearby rooftops. Even though there was no SWAT team when this occurred, several of the responding officers had military backgrounds. Their willingness to return fire slowed Whitman's shooting and accuracy. Thus, a counter-sniper tactic may slow the actions of, or even neutralize, the shooter. It is not always viable, however, to return fire toward a high-rise active shooter. Officers in Las Vegas never fired a shot at Paddock, as he was not on an open observation deck or balcony. He broke out

windows midway up the hotel and fired from inside the room. A police officer has to account for all rounds fired from his or her weapon, and returning fire from the ground level to an elevated position—coupled with significant distance—is challenging. Additionally, when taking shots into a high-rise building, any slight deviation with the shot could cause the bullet to go through an adjacent window and strike an innocent person.

For the protracted incidents in Texas and Mumbai, the responses incorporated the use of aircraft. In Texas, police officers used a small airplane with the intent to have a sharpshooter target Whitman. The plane approached the University of Texas tower, but the marksman could not get a stable position and was unable to shoot. Whitman saw the plane and fired shots at it. In Mumbai, NSG commandos needed a helicopter to safely approach the high-rise structure. These two examples provide different response options for police and demonstrate the benefit of incorporating aircraft into response options.

The plane in Texas further highlights the importance of a visible police response. In all three case studies, the adversaries took deadly aim off of innocent targets and focused their gunfire on identifiable first responders. Drawing the attention of the shooter through identifiable police uniforms or insignia saves innocent lives but increases the vulnerability of police. In Mumbai, bullets and grenades from the terrorists rained down on responders. In Texas, Whitman purposely shot at uniformed officers and the airplane. In Las Vegas, Paddock fired at a security officer, police officers, and police cars as they arrived to respond. Furthermore, first responders were in constant view of the assailant upon their initial arrival in all three case studies. The response positioning placed the responders in the line of fire, required them to take immediate defensible actions, and delayed their response to the target. The research did not identify any attempts by responding officers to use an alternative ground-level entry location that was not in view of the attackers. In these three cases, it was typical for responding officers to enter the structure via the front entrance. This finding shows that uniformed responders save lives by drawing the harmful actions of the active shooter to themselves, but also highlights the importance of having proper training, which emphasizes the use of proper cover and strategies for advancing during gunfire. It also validates the need for proper ballistic equipment to protect responding officers as they approach a high-rise structure.

Another notable similarity relates to the use of elevators by responding officers. In the Las Vegas and Texas cases, responding officers took elevators to nearby floors of the target and ascended the stairs to the target's floor. In both cases, officers did not want to have the elevator doors open on the floor the shooter occupied out of fear they would be subsequently shot. Also in both cases, private security had already begun to lock out the elevators from public use, effectively isolating the shooter's floor. In Mumbai, the responders had to contend with fire and tactically positioned terrorists, taking a top-down approach by landing on the roof and descending toward the attackers. Responding from the roof is obviously advantageous for responders because it reduces the amount of fatigue they would experience if they had to climb up the stairs.

In all three case studies, the nefarious actors did not want to escape, and they demonstrated forethought and planning to intentionally delay responders. In Las Vegas, Paddock purposely selected a hotel room that was highly defensible. Further, he positioned surveillance cameras to observe the narrow hallway of the hotel for potential responders. Lastly, he secured a nearby service hallway door with a metal L-bracket, screwing the door and doorframe closed. In Texas, Whitman tipped over desks and placed them in front of doors. He also wedged a dolly under the observation deck door. These actions prove intent to create as many delays as possible for the responding officers. They also support the need for police to respond with the proper equipment to overcome expected challenges.

During the attack in Las Vegas and Mumbai, the attackers used or attempted to use fire as a weapon to cause more damage, injure more people, and delay first responders. Paddock fired numerous times at two large aviation fuel storage containers that sat adjacent to the concert. The Mumbai terrorists set multiple fires throughout the large hotel. The use of fire as a weapon in Mumbai also created a second obstacle, smoke, for responders to negotiate.<sup>198</sup> Not only did the fire and smoke inhibit responders, but they allowed the terrorists to keep killing and taking people hostage on the upper floors. Fire afforded the terrorists a vertical tactical advantage and placed responders at a disadvantage.

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<sup>198</sup> "Fire as a Weapon in Terrorist Attacks," Combating Terrorism Center at West Point, July 23, 2013, <https://ctc.usma.edu/fire-as-a-weapon-in-terrorist-attacks/>.

Finally, It is imperative to clear crowds and form effective safety perimeters from high-rise active shooters who target mass gatherings. During the attacks in Las Vegas and Texas, the shooters shot from their tactical vantage points into open areas outside the structures they occupied. Therefore, the faster a safety perimeter is formed the fewer innocent people will be targeted. This can be difficult. In Texas, Whitman had a lethal targeting area that extended a quarter of a mile. This kind of shooting range is broad; effectively making this area safe takes time and a large number of personnel. This challenge is yet another obstacle exacerbated by high-rise, as opposed to traditional, active shooters.

### **C. TRAINING**

The training available to responding officers in these three events was remarkably different. To properly assess the training it must be acknowledged that the Texas tower shooting occurred over fifty years ago; the Mumbai attack happened in a foreign country; and the Las Vegas mass shooting was the most recent of the events, occurring in October 2017. However, even with these differences in mind, it is easy to assess that the officers responding to the Texas tower shooting and the Mumbai attack were ill-prepared.

The lack of preparation in Texas and Mumbai could be due in part to the novelty high-rise tactics exposed. Neither police departments had trained nor prepared for a high-rise attack scenario. They lacked proper cover and concealment instruction to avoid the gunfire. In Mumbai the police lacked firearm training whereas in Texas the police did not routinely train with the rifles they had access to. The departments did not have any pre-incident planning that would have assisted in the command-and-control issues that arose at each location. In Texas, command and control suffered because of poor communication abilities. In Mumbai, the police had no command and control, which meant they had to call in NSG commandos to assist. The Austin Police Department lacked organizational management based on technology limitations (no walkie-talkies), pre-determined response plans, and training for these types of situations.<sup>199</sup> The same could be concluded about

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<sup>199</sup> Mijares and McCarthy, Significant Tactical Police Cases, 24.

Mumbai police—they lacked proper training and equipment and had no pre-arranged response plans.

Compared to the Mumbai and Texas cases, the training and preparation that Las Vegas police relied on were stellar. There were countless examples of training, exercises, and reality-based scenarios that officers routinely participated in. The LVMPD had a dedicated MACTAC training section geared toward responding to mass shootings. This preparation allowed the quick formation of multiple strike teams composed of officers from within the department and from outside police jurisdictions. Part of that training included awareness that there could be more attacks to come and not to commit all responding resources. To prevent resource over-convergence, the LVMPD dedicated officers to stay-at-home squads to guard critical infrastructure to prevent other potential attacks. LVMPD officer training has taken place in single- and multiple-floor buildings. Las Vegas also had well-established partnerships with CCFD, which resulted in fast-acting rescue task force teams forming and treating victims. Finally, Las Vegas established a unified command post very quickly as well as associated logistical support mechanisms throughout the county to support the command post.

#### **D. EQUIPMENT**

The equipment used in the case studies can be broken down into three categories: weapons, self-protection, and utility. The general conclusion for weapons, as stated previously, is that the weapons need to be effective enough to overcome the weaponry commonly used by adversaries. Along the same thought, equipment for first responders should at a minimum equal that of the suspect. In the modern active-shooter era, a responding officer needs ballistic protection that can stop the bullets from the type of weapon they are countering. In addition to having bulletproof vests that can stop rifle ammunition, responding officers need access to armored vehicles to safely respond or render aid while under fire.

The last pieces of equipment that deserve attention are the items that have utility. The three cases highlight that high-rise shooters do not want to be stopped, and they will create obstacles to hinder officers' response efforts. Responding officers need gear to

respond in smoke- or fire-filled buildings as well as tools such as bolt cutters, rams, binoculars, or ladders that can overcome the common obstacles placed in responding officers' paths. Because responding to high-rise threats increases the likelihood that officers might be shot in the head, access to ballistic helmets is critical. A technological piece of equipment that could have been used in Mumbai is a cell-phone jamming device, which would have been beneficial if the responding police knew in real time that the terrorists were communicating with others. These simple yet uncommon tools used in conjunction with proper training can clear obstacles expeditiously.

It should be pointed out that the first responding officer in all of these case studies was the average street officer. It was not a SWAT or quick response team representative; those teams did not respond until some time had elapsed. The average SWAT response time is around thirty minutes, but it can vary.<sup>200</sup> SWAT teams are commonly equipped with the non-traditional utilitarian equipment needed during these responses. Based on this reality, it is necessary to equip street officers or provide them quick access to essential items, so their response and subsequent plans of action can be fulfilled in a timely fashion.

## **E. CONCLUSION**

The three cases all concluded with responding officers or the military arriving, ascending to the same floor as the shooter, and eventually physically confronting him. The case studies did distinguish several tactics for reducing, mitigating, or shortening the duration of shooting from an active shooter in a high-rise position. These mitigation tactics are crucial because, in all three cases, overcoming the obstacles, reducing the shooting duration, and getting to the shooter saved lives. The following chapter offers conclusions from—and provides recommendations based on—this analysis.

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<sup>200</sup> Larry Glick, "In Case It Does Happen Here...", *Sheriff* 53, no. 3 (June 2001): 20, 24, <http://search.proquest.com/docview/199489339/abstract/31EDBA0495F74FD7PQ/1>.

## VI. CONCLUSIONS AND RECOMMENDATIONS

A high-rise active shooter is one of many unforeseen types of attacks that law enforcement needs to be conscious of and prepare to respond to. Even though the first well-publicized example of a high-rise active shooter in America occurred in Texas in 1966, law enforcement has not emphasized pervasive or consistent preparedness in response tactics toward this threat. Case study analysis of the University of Texas tower shooting, the Mumbai terrorist attack, and the Las Vegas mass shooting offers several conclusions that, when synthesized, may lead to the creation of new strategies, policies, or regulations. These revelations and findings could effectively aid law enforcement and the government should a similar high-rise attack occur in the future.

Some examples of law enforcement response strategies have already come about because of the Texas and Mumbai incidents. Law enforcement created SWAT teams shortly after, and due in part to, the Texas shooting. The purpose of the SWAT team is to respond to unusual police occurrences and bring about a safe and swift resolution for all involved. SWAT officers receive advanced training in issued firearms and equipment. In the Texas tower aftermath, the University of Texas created its own campus police department.<sup>201</sup> As a result of the Mumbai attack, police created Multi-Assault Counter-Terrorism Action Capabilities (MACTAC) strategies to counter complex coordinated terrorist attacks. The MACTAC concept incorporates active-shooter strike team principles that came about after the 1999 Columbine High School shooting. Following the Mumbai attack, law enforcement began more proactively working with fire departments collaboratively. Law enforcement treated fire as a weapon and created the rescue task force response strategy for rescuing people in active-threat environments. Many of these overarching response protocols have been and continue to be adopted by police departments worldwide. In light of the 2017 Las Vegas mass shooting, however, police response strategies for high-rise active shooters need to continue to improve.

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<sup>201</sup> Justin Krueger, "Policing Before and After August 1, 1966," Behind the Tower, accessed June 5, 2018, <http://behindthetower.org/policing>.

## A. RECOMMENDATIONS

The following paragraphs delineate recommendations derived from the analysis chapter. The recommendations are in bold and are based upon the supporting conclusions that follow the heading. Further, “locating, isolating, and neutralizing the shooter,” as mentioned by 2002 American Sniper Association President Derrick Bartlett, is what all strategies and policies should entail.<sup>202</sup> Each recommendation enhances and contributes to this key point made by Bartlett. The recommendations also recognize that time is of the essence in law enforcement response. Any strategy implementation that hastens response times through tactics, training, and equipment will save lives.

### (1) **Delineate types of active shooters, including high-rise active shooters, to tailor law enforcements response.**

A high-rise active shooter is entirely different from a traditional active shooter; as such, response practices and associated training and issued equipment for officers need to reflect the situation. As shown in the research and analysis of this thesis, the term *active shooter* should be further classified. Traditional active shooters are usually on the ground level or same plane as the responding officers. They are open and accessible to law enforcement responders. Further, the shooters purposefully move toward innocent victims and remain mobile until cornered or incapacitated by responders. Common response tactics for law enforcement involve the police searching for the suspect on the move based on the sounds of screaming and gunfire. Law enforcement prepares for these scenarios with these assumptions in mind. Unlike traditional active shooters, high-rise active shooters are in fixed and fortified positions. They are actively shooting and killing but they are not on the move. With this distinction in mind, law enforcement should modify their current response strategies to adapt to the fortified high-rise active shooter paradigm.

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<sup>202</sup> Bartlett, “Criminal Snipers,” 72–74.

**(2) Update training strategies and develop simultaneous interior and exterior multi-team response practices.**

Segments of police actions in the 1966 Texas tower shooting can be synthesized to create a response model tailored to high-rise active shooters for the modern era. The response model is not for every type of high-rise active-shooting scenario, but it does provide points of consideration for inclusion in law enforcement strategies and response decision-making. As previously discussed, law enforcement experts and publications debate whether a lone officer is more effective than a strike-team response model in active-shooter scenarios. The nuances of a high-rise active shooter bring a different dynamic and include an attacker staying in a fortified position. However, at some point, the suspect makes himself vulnerable through exposure in order to continue to fire his weapon from a tactically advantaged position. Moving forward, this distinction lends a novel response option based on the premise that a lone responding counter-sniper officer could effectively incapacitate the attacker with one gunshot. Although this response tactic has numerous variables and challenges to consider, the fact that a high-rise shooter is not moving and periodically exposing himself should change the response calculus. Further, the Texas tower shooting analysis demonstrated that using a counter-sniper slowed the shooting.

The new tactic should be a collaborative or multi-team response. The simultaneous response would have one team respond directly to the high-rise structure, and the other team (or individual counter-sniper officer) take a position on the exterior in an attempt to fire upon the attacker if the ideal circumstance arises. This method acknowledges communication concerns and the possibility that friendly fire could occur. Therefore, it is recommended that law enforcement training strategies incorporate counter-sniper response tactics for first responders of such attacks. Then, if the ideal situation (from the point of view of the counter-sniper, i.e., a high-rise shooter standing on an observation platform) presents itself, the theoretical single shot by a single officer could bring the situation to an end. Based on the assertion that a high-rise active shooter is a separate category, the associated training to respond should be tailored around this new construct.

**(3) Pursue new technologies.**

As discussed in the analysis chapter, safely returning fire from the ground level into a high-rise is possible but unlikely. The situation did not present itself in the Las Vegas shooting. The trajectory of the shooting angle and the distance the bullet needs to travel raises the possibility that the responding counter-sniper's shot will not hit the target. Additionally, it could strike other people in the structure. On the horizon are two technologies that could bring added safety measures to an officer returning fire from the ground: precision-guided firearm technology and self-steering bullets.<sup>203</sup> It is recommended that law enforcement pursue such technologies and incorporate them into their protocols once they are proven reliable.

**(4) Mitigate the consequences of high-rise active shooters with the help of the private sector.**

The private sector can also contribute to the response of a high-rise active shooter and potentially stop or mitigate the attack. During the Las Vegas shooting, a lone security officer arrived at Paddock's room before any law enforcement. This caused Paddock to stop shooting into the crowd and down the hallway, potentially saving countless lives at the concert. Additionally, private security professionals accompanied law enforcement to the shooter's floor, which helped with the response time. In the aftermath of the Mumbai attack, the Taj Mahal Palace hotel hired former Israeli special forces agents to carry concealed weapons and add to surveillance security of the resort.<sup>204</sup> Similar to the Taj Mahal Palace, MGM hotels in Las Vegas hired private security officers to act as SWAT teams within their hotels.<sup>205</sup> Private-sector security can be a force multiplier for response resources during a high-rise active shooting. Strategies to incorporate private-sector assets in conjunction with law enforcement responses should be pursued.

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<sup>203</sup> "EXACTO Guided Bullet Demonstrates Repeatable Performance against Moving Targets," Defense Advanced Research Projects Agency, April 27, 2015, <https://www.darpa.mil/news-events/2015-04-27>; "Next Generation Precision Optics," Tracking Point, accessed July 23, 2018, <https://www.tracking-point.com/>.

<sup>204</sup> VQR Online, "Sixty Hours of Terror."

<sup>205</sup> Tom George, "MGM Creating Private SWAT Team in Wake of 1 October," KTNV, April 27, 2018, <https://www.ktnv.com/news/mgm-creating-private-swat-team-in-wake-of-1-october>.

**(5) Provide proper police training and issue equipment that aids in the safe evacuation of the public from high-rise shootings.**

Charles Whitman and Stephen Paddock purposely chose their vertically advantaged positions to target the vulnerable populous below them. Charles Whitman took advantage of an area of increased pedestrian movement, a college campus. Paddock selected a location that offered 22,000 potential victims at a mass gathering—an open-air concert. Having significant numbers of people to target complements the goals of high-rise shooters such as Whitman and Paddock. The converse of this reality highlights the necessity to remove people from the field of view of these types of shooters. In other words, the fewer people in the line of fire, the fewer number of casualties. Thus, this thesis recommends strategies to effectively set up a safety perimeter.

As previously discussed, creating a safety perimeter is difficult during high-rise active-shooting responses. The police have to remove people from the area while using effective cover to protect themselves from the gunfire. During the Texas shooting, police commandeered an armored bank car to safely enter the area that was exposed to gunfire, also known as a hot zone. During the Las Vegas shooting, police took cover behind block walls. It is therefore recommended that proper ballistic equipment be accessible to responding officers. This equipment should be versatile enough to aid in safely removing people, including the injured, from an area. Examples of the types of equipment include armored vehicles and ballistic shields. It is also recommended that officers be provided the proper training to move from cover to cover to advance toward the shooter or safely access the trapped citizens.

**(6) Update the “Run, Hide, Fight” public policy campaign.**

The federal government needs to revisit its existing public awareness campaign that teaches people what to do during an active-shooter incident. The present DHS policy for the public to follow in the event of an active shooter is known as “Run, Hide, Fight.”<sup>206</sup> It is designed for people who are inside a building when an active shooter enters. However,

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<sup>206</sup> DHS, “Active Shooter Preparedness.”

the policy does not address how an innocent person should respond if a shooter is in a perched position or has vertical tactical advantages.<sup>207</sup> Initially, during the Las Vegas shooting, the majority of the large audience crouched down, trying to make themselves a smaller target because of the assumption that the shooter was on the same level. Since the crowd was not fleeing, this gave Paddock countless targets.

DHS should consider educating the public on the different types of active shooters—traditional, on-the-move shooters in an enclosed building versus a fortified subject shooting from a high-rise building. The response needed from the public differs based on the type of shooter it encounters. The run aspect of “Run, Hide, Fight,” for example, is still relevant for outdoor crowds in some respects. Instructing the public just to run may not be the best advice, however, because they still may remain in the hot zone. Instead, considerations for instructing the public to run toward effective cover may provide safer options and reduce the time they are vulnerable to a perched shooter. Likewise, the hide component should be reassessed by highlighting the importance of hiding behind adequate cover. These claims lead to the recommendation that DHS should alter its existing public awareness campaign or design a new one that is geared toward an exposed public under gunfire from above.

**(7) Identify and pinpoint the exact location of a high-rise shooter quickly.**

A successful high-rise active shooter always has the element of surprise by firing the first shot. Locating the shooter is paramount for all involved. During the Las Vegas shooting, officers learned of Paddock’s location from hotel security and an officer equipped with binoculars. Successfully learning the exact location focuses all response efforts.

**(8) Invest in equipment or technology-based solutions to speed up identifying the shooter’s location.**

Both the private and public sectors should pursue investments in technologies and equipment that can quickly identify the source of an active assailant. Simple solutions, such

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<sup>207</sup> David Riedman, “Active Shooter: When You Can’t Run, Can’t Hide, and Can’t Fight,” *Medium* (blog), November 6, 2017, <https://medium.com/homeland-security/active-shooter-when-you-cant-run-can-t-hide-and-can-t-fight-938d5d106340>.

as placing officers in overwatch positions equipped with binoculars, may prove beneficial when monitoring large crowds. Further, there are acoustic gunfire detection technology systems that could be purchased to aid in the effort of locating a shooter. These detection systems are available to identify gunfire locations in an outside open area as well as within a building. Local building code regulations, similar to those for fire sprinklers and smoke alarms, should be enacted requiring glass-break sensors on high-rise windows. These sensors would provide early warnings of a potential shooting. It is acknowledged, however, that technology solutions are not effective for every situation. For example, Whitman never broke a window; he merely used an outdoor observation deck. Nevertheless, the technology solutions may prove viable in some instances.

**(9) Incorporate aerial platforms such as helicopters and small airplanes into response plans for high-rise active shooters.**

In two of the three case studies, the shooting lasted a significant amount of time, which afforded the responding entities the ability to use aircraft. The manner in which the aircraft was leveraged varied. In Mumbai, helicopters were used to safely land officers on the roof to respond to the building under attack. In Texas, a counter-sniper attempted to shoot at Whitman from an airplane. Both of these cases demonstrate the significance and value of air assets. In Las Vegas, an aircraft was not needed because the target was neutralized more quickly than an aircraft could be deployed. The Las Vegas response demonstrates that swift response practices negate the need for air assets; however, it is still recommended that response strategies incorporate the use of an aerial platform since they proved beneficial in other circumstances.

**(10) Distract high-rise active shooters with uniformed first responders and identifiable police vehicles, and incorporate unmanned aerial vehicles (drones) when responding to high-rise active shooters.**

Uniformed responders make a difference. In all three case studies, uniformed first responders diverted the shooter's attention away from the public and onto them. The attention was directed not only at them personally but also on the vehicles in which they arrived. In Las Vegas, Paddock fired on police cars. In Texas, Whitman fired at the airplane that was circling him. Based on these facts, shooters will opt to target police and their

vehicles over the originally intended target; this leads to the suggestion that unmanned aerial vehicles, also known as drones, should be part of a response consideration. Drones can be armed with low-lethal and lethal weapon options, and can provide surveillance and aid with pinpointing the location of a high-rise active shooter.<sup>208</sup> Further, drones would be identified distractions similar to the police cars and planes that may cause the shooter to change his line of fire; however, law enforcement has an obvious advantage if a drone—rather than the first responders—is the target of gunfire. Because of the myriad advantages they bring to an incident, drone use should be studied. Finally, this thesis recommends incorporating identifiable police equipment into the police response.

**(11) Police should be equipped with elevator keys in order to isolate the suspect.**

Building elevators play a crucial role when police respond to high-rise active shooters. Security professionals employed a similar tactic during the Texas and Las Vegas shootings. During those events, private security attempted to isolate the floor of the active shooter by prohibiting elevator use by anybody but the first responders. In the first-responder community, it is common knowledge that firefighters carry elevator keys to respond to high-rise building fires. Based on these claims it is recommended that police also carry elevator master keys. Having these keys would be especially helpful when private security is not present or when firefighting professionals have not arrived. This would allow the police to isolate the shooter's floor and prevent innocent people from gaining access. First responders also need access to the elevators to ascend the high-rise structure. Therefore, high-rise buildings should provide clear markings from every entrance to identify the locations of elevators. This includes markings from all access points of the building such as rear employee entrances. Mandalay Bay is a seventeen-acre property; security officers initially escorted police officers to the elevators, which sped up

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<sup>208</sup> Ryan Wallace and Jon Loffi, "How Law Enforcement Unmanned Aircraft Systems (UAS) Could Improve Tactical Response to Active Shooter Situations: The Case of the 2017 Las Vegas Shooting," *International Journal of Aviation, Aeronautics, and Aerospace* 4, no. 4 (2017), <https://doi.org/10.15394/ijaaa.2017.1198>.

law enforcement response time. It is therefore recommended that elevator signage in high-rise structures be incorporated into building codes.

**(12) Joint training between law enforcement and firefighters should continue.**

It is recommended that law enforcement continue to train with firefighter professionals to safely combat a simultaneous threat from fire and an attacker. In Mumbai, the terrorists set fires on lower floors of the Taj Mahal Palace hotel as they continued to gain a vertical tactical advantage on the first responders and innocent civilians. In Las Vegas, Paddock fired at large fuel storage tanks in an attempt to ignite them. The New York Fire Department has conducted extensive research on the consequences of using fire as a weapon, and has developed response practices that integrate police SWAT teams to protect the firefighters while they save lives.<sup>209</sup> Instances of fire used as a weapon might be common in high-rise structures, like in Mumbai, because of the number of floors the buildings offers. Whatever the scenario, police and firefighters need to evaluate tactics, policies, and strategies collaboratively to combat the scenario of fire used as a weapon.

**(13) Properly equip and train police for the unique threats and obstacles when responding to high-rise active shooters.**

Police officers were unprepared for the dynamic incidents that unfolded before them in Texas and Mumbai. The officers had no effective command and control over the incident. Further, the officers had poor firearm training practices and no pre-established plans to coordinate response efforts with other officers. The cases show what happens when police officers are improperly trained. It is acknowledged that two of the case studies occurred either decades ago or in a foreign country; however, given this acknowledgement, the Las Vegas response demonstrates the advantages of being properly trained and prepared. As stated in the FEMA after-action, “When agencies followed pre-established plans and procedures, they improved communication and strengthened response. Where

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<sup>209</sup> FDNY Center for Terrorism and Disaster Preparedness, “Interagency Tactical Response Model: Integrating Fire and EMS with Law Enforcement to Mitigate Mumbai-Style Terrorist Attacks” (report, FDNY, 2012), [www.acphd.org/media/372829/interagency%20tactical%20response%20nyfd%20\(2\).pdf](http://www.acphd.org/media/372829/interagency%20tactical%20response%20nyfd%20(2).pdf).

plans were not integrated or not widely known and understood by responders across all responding agencies, difficulties arose.”<sup>210</sup> Based on these assertions, it is recommended that law enforcement continue to emphasize policies that increase training exercises and preparations for potential future high-rise active-shooting incidents.

The recommendation for continued training includes effective equipment for overcoming obstacles when responding to high-rise active shooters. What if officers were not equipped with explosive breaching capabilities in Las Vegas? What would have happened in Texas if the officers did not open the door blocked with a dolly? What if officers in Mumbai were equipped with breathing apparatuses? The answer to these hypothetical questions lies in proper first-responder equipment issuance. All first-responding officers need to be properly equipped with utilitarian tools as well as with superior firepower.

**(14) Train, equip, and prepare street officers for high-rise active-shooting responses, creating swift, agile, properly trained teams that operate in equipped vehicles for a new high-rise active-shooter response model.**

In all three case studies, it was the line-level officer who was the first to respond and the first to confront the high-rise active shooter. Consequently, the training and equipment recommendations should be put in place with these officers in mind. Having SWAT team response helps, but the street officer is the one best positioned to make all the difference in an active-shooting response. Commonly, the first officers on the scene form strike teams to confront the threat. The initial decisions made by that first officer or strike team based on their training, appropriate equipment utilization, and the speed of the response can directly impact the outcome of the incident.

Modern policing strike teams could benefit from improvements to active-shooter response plans based on practices in other countries. For example, the United Kingdom and Australia always have on patrol the equivalent of American police strike teams. These teams are already established and not formed during a response to an active shooter. The UK and Australia teams were created with active shooters in mind, and this model could

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<sup>210</sup> CCFD and LVMPD, “1 October After-Action Report,” 1.

be incorporated into the high-rise active-shooter response model for American policing. Since 1991, the United Kingdom has operated armed response vehicles (ARVs) on the streets of London twenty-four hours a day.<sup>211</sup> The ARVs are stocked with extra weapons and equipment and are operated by a team of three officers, one of whom is a supervisor. These officers are trained on all lethal and low-lethal weapons and other equipment commonly carried by SWAT teams. Further, they are trained as snipers and in command-and-control principles. Similar to the United Kingdom, the Victoria Police Department in Australia employs Critical Incident Response Teams, which consist of “three officers and one sergeant patrolling in a van that provides tactical assistance, negotiation capabilities, and a greater compliment of low lethal weapon options than that of a regular officer.”<sup>212</sup>

The case studies demonstrate that an array of equipment options must be consistently available and accessible to street officers during a time-sensitive critical response. Creating properly equipped response vehicles and manning them with officers who are properly trained can become a force multiplier during the initial active-shooter response. These vehicles and complementary teams fill a response gap that sits between active-shooter strike teams and SWAT team responses, and they bring an array of skills and weaponry options not commonly seen in the patrol environment. In the modern era, swift, tactically trained, and properly equipped agile teams in equipment-laden response vehicles can be the way forward in responding to high-rise active shooters. It is recommended that response strategies incorporate such a construct.

## **B. IN CLOSING**

Response practices need to change to confront the threat of a potential future high-rise active shooter. With the growth of urbanization and increase in high-rise structures, these attacks could increasingly happen anywhere. Because we cannot entirely prevent atrocities, mitigation is imperative; the speed of the response is the most significant factor

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<sup>211</sup> “Police Firearms Unit - SCO19,” Elite UK Forces, accessed July 28, 2018, <http://www.eliteukforces.info/police/CO19/>.

<sup>212</sup> “Specialist Roles,” Victoria Police, accessed July 28, 2018, <http://www.policecareer.vic.gov.au/police/about-the-role/specialist-roles1>.

in mitigating and eventually stopping the attack. The recommendations in this thesis identify potential areas of change worthy of consideration as part of the ongoing evolution of law enforcement response practices. It is imperative to learn from previous incidents and apply that knowledge to respond effectively to similar attacks that may occur in the future. Focusing on training, equipment, and police response strategies—combined with effective public and private partnerships—will increase the speed of the response and, thus, save lives.

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