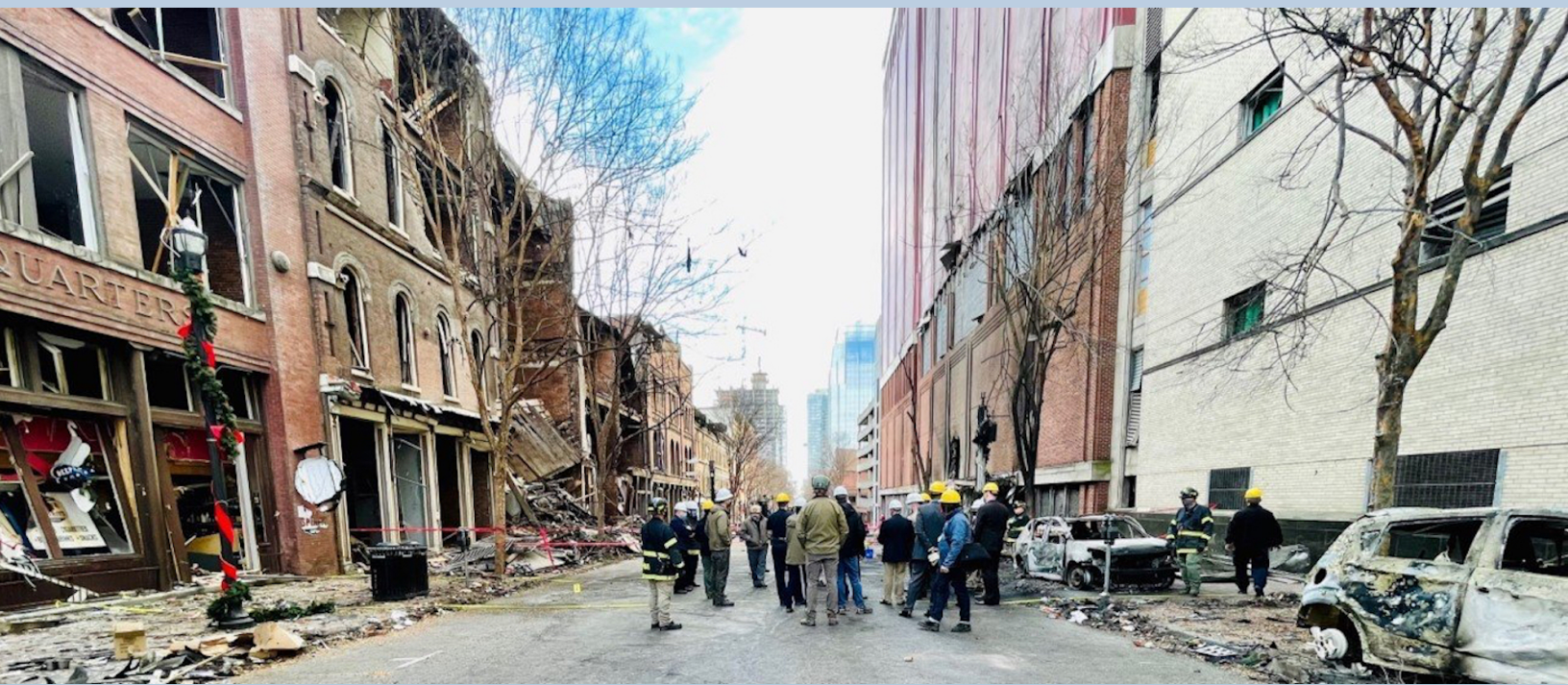




Nashville, Tennessee Christmas 2020 Bombing



A Security Risk Analysis

Blue Glacier Security & Intelligence LLC

February 3, 2021

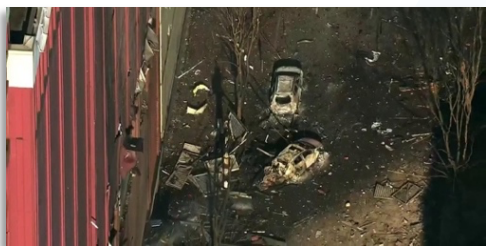
Table of Contents

Key Judgements	1
Overview	1
Suspect	2
Motive	2
Warning Behaviors	3
Modus Operandi	4
Explosives Effects	5
Critical Infrastructure Impacts and Implications	6
Physical Vulnerabilities	8
Bombing Threats Across the Ideological Spectrum	9
Outlook	10
Source Summary and Confidence Statements	12
Annex: Red Teaming an Alternate Bombing Scenario	13
Overview of Scenario	13
Universal Adversary	13
Intelligence Disclaimer	13
Red Team Scenario: Enhanced Nashville Attack	14
Planning Considerations	15
Implications	17
Sources Cited/Endnotes	18

Key Judgements

(Medium Confidence) Anthony Quinn Warner's December 25, 2020 bomb attack in Nashville, Tennessee, likely does not qualify as terrorism, as there is currently no publicly known evidence of Warner's desire to intimidate or coerce a civilian population or government.

(Low Confidence) Starting at least 16 months prior to the attack, Warner likely displayed at least four warning behaviors related to violence risk.



(High Confidence) Most of the buildings affected by the explosion, including those deemed unsafe for use and occupancy or unsafe due to glass damage, are within 400 feet of the explosion. Several critical infrastructure facilities—including City Hall, the State Capitol, and courts—are within the shelter-in-place zone for a vehicle laden with explosives. The most distant

buildings to suffer damage from the explosion appear to be two high-rises about 1,700 feet, or 0.3 miles, from the detonation.

(Medium Confidence) Warner likely intended to minimize civilian casualties, consistent with some past U.S. domestic terrorist groups and some foreign terrorist groups within their native countries. However, it cannot be ruled out that he tried to lure law enforcement personnel to the RV in order to target them with the explosion, rather than to assist in the evacuation.

(High Confidence) The RV detonated adjacent to an AT&T network hub. The disruptive attack immediately revealed vulnerable dependencies among communications service providers, in addition to vulnerable dependencies other critical infrastructure sectors have on the communications sector. Most disrupted appear to be the emergency services, health and healthcare, and transportation sectors. The attack affected various critical infrastructure sectors in five states.

(High Confidence) Warner's attack highlights the physical vulnerabilities of some critical infrastructure, especially the communications sector. In the near to mid-future, domestic violent extremists, violent militia extremists, and white racially and ethnically-motivated violent extremists most likely pose the highest threat to critical infrastructure, including the communications sector.

Overview

(Medium Confidence) On Christmas morning at approximately 6:30 a.m. Central Time¹, a recreational vehicle (RV) loaded with explosives detonated in historic downtown Nashville, Tennessee. Law enforcement officials claim the RV arrived in the area at approximately 1:22 a.m. One witnesses reported the sound of gunfire at 4:30 a.m. and again at 5:32 a.m. Starting at approximately 5:38 a.m., the RV played recorded warnings directing people to evacuate. At 6:00 a.m., a recorded 15-minute countdown began with "This vehicle will explode in 15 minutes," and ended with "If you can hear this, evacuate now," according to witnesses and video posted to social media.² In between warnings, speakers on the RV played Petula Clark's 1964 song "Downtown." In addition to injuring at least three people, the attack affected at least 1,200 employees, 45 businesses, and 400 residents, according to local officials.³ Officials have said the blast was caused by a "deliberate bomb."



Suspect



(High Confidence) Two days after the explosion, human remains recovered from the blast site were consistent with that of 63-year-old Anthony Quinn Warner, based on forensic tests by the Tennessee Bureau of Investigation and FBI. Tennessee Highway Patrol recovered the RV's vehicle identification number, which along with tips from the public, led law enforcement to Warner's home in Antioch, Tennessee.⁴ Google Street View imagery of his address is consistent with statements by Warner's neighbors about an RV similar to the one in the FBI's "Seeking Information" poster.

(High Confidence) Contrary to initial statements by the Tennessee Bureau of Investigation that prior to the bombing that Warner "was not on our radar," law enforcement became aware of Warner on August 21, 2019.⁵ That day, the attorney for both Warner and Warner's ex-girlfriend, Raymond Throckmorton, called police. According to police, Throckmorton requested police respond to the house of the ex-girlfriend, Pamela Perry, due to her suicidal threats and because she was sitting on her front porch with firearms (the reason that the attorney called the police is in a post-explosion statement released by the police on December 29, but is not in the August 2019 police report). When police arrived at Perry's house, she told police that Warner was "building bombs in the RV trailer at his residence." And Throckmorton told police that Warner "frequently talks about the military and bomb making" and that he believes Warner "knows what he is doing and capable of making a bomb." Police then responded to Warner's house but there was no answer when they knocked on the door.⁶ There was no follow-up with Warner after August 21, 2019.⁷

Motive

(Low Confidence) As of late-January, law enforcement officials have not released an assessment or conclusion on Warner's motive for the bombing. However, the FBI is reportedly investigating if conspiracy theories about 5G technology and or a grievance against AT&T because of his father's death motivated Warner to attack the AT&T network hub (his father worked for BellSouth, a telecommunications company that merged into AT&T in 2006).⁸ The FBI has also reportedly ruled out terrorism as Warner's motive for the bombing.⁹ The agency's definition of terrorism supports the claims in this press reporting. The FBI uses the domestic terrorism definition in U.S. Code at 18 U.S.C. 2331(5):

- Involving acts dangerous to human life that are a violation of the criminal laws of the United States or of any State;
- Appearing to be intended to:
 - Intimidate or coerce a civilian population;
 - *Influence the policy of government by intimidation or coercion* [emphasis added]; or
 - Affect the conduct of a government by mass destruction, assassination or kidnapping; and
- Occurring primarily within the territorial jurisdiction of the United States.¹⁰

(Low Confidence) Because Warner does not appear to have left behind any signal of a terrorist motive—no manifesto or other writing which indicates an intent to influence the policy of government by intimidation or coercion, or an intent to intimidate or coerce the civilian population—there is currently no publicly known indicator of terrorism.

Warning behaviors

(Low Confidence) In addition to possibly holding a grievance against AT&T and or 5G technology because of his father’s death or other reasons, Warner possibly displayed at least four warning behaviors, or indicators, of violence risk: pathway, identification, leakage, and energy burst.

(High Confidence) *Pathway* warning behavior—the path to intended violence—consists of several steps: grievance, ideation, research and planning, preparation, breach, and attack (see Figure 1).¹¹ There is no confirmed evidence of Warner’s grievance (beyond unconfirmed reports that he holds conspiratorial beliefs on 5G technology) or ideation. Attack preparation includes obtaining the weapon(s) of choice, or in the case of a bomb, acquiring the components and assembling the weapon. Researching, planning, and preparation are the most overt steps in the path to intended violence, and Warner’s ex-girlfriend Pamela Perry claims to have observed that he was “building bombs in the RV trailer at his residence.”

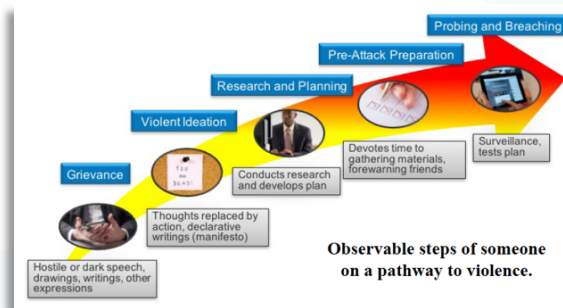


Figure 1. Pathway to Violence

(Low Confidence) Warner possibly displayed *identification* warning behavior, which includes a desire to be a “pseudo commando” or warrior, or to closely associate with weapons or other military or law enforcement paraphernalia.¹² The statement by Throckmorton, the attorney, to police that Warner “frequently talks about the military” might indicate identification warning behavior, especially if Warner had no previous military experience. Throckmorton has also said Warner previously mentioned to him that he was in the Navy. However, the FBI and Department of Defense reportedly have no military records for Warner.¹³

(Medium Confidence) *Leakage* warning behavior is “communication to a third party of an intent to do harm to a target through an attack.”¹⁴ If Throckmorton’s claim to police is true that Warner “frequently talks about...bomb making”, then Warner exhibited leakage. According to the attorney, Warner never spoke to him about building bombs, but claims that Warner mentioned it to his ex-girlfriend on “numerous occasions.” Warner arguably also “leaked” when he told a neighbor four days before the explosion that “Nashville and the world is never going to forget me.”¹⁵

(Medium Confidence) *Energy burst* warning behavior refers to an increase in the frequency or variety of any noted activities related to the target, even if the activities themselves are relatively innocuous, usually in the days or weeks before the attack.¹⁶ Warner exhibited four known activities that could be considered energy burst warning behaviors, although there might be additional activities that are not yet known to the public.

1. Exactly one month prior to the Warner's Christmas attack, he deeded his house at 115 Bakertown Road to Michelle L. Swing, the director of Artist Development and Global Touring at AEG Presents (In 2019, Warner had transferred his mother's stake in a family home to himself and later transferred the home to Swing, who lives in Los Angeles. Warner reportedly once had a relationship with Swing's mother).¹⁷
2. On December 5 Warner reportedly sent an e-mail to his business client, Fridrich & Clark Realty, stating that he is retiring from computer consulting.¹⁸
3. Warner also gave his ex-girlfriend his car when he told her he had cancer (the dates of this conversation and his gifting the car to her are not publicly known).¹⁹
4. On December 23, two days before the bombing, Warner sent packages containing writings and videos promoting conspiracy theories to multiple people.²⁰

Modus Operandi

(High Confidence) Anthony Warner likely meant to minimize civilian casualties, judging from the day and time of the attack—many businesses (including telecommunication network hubs) are closed on Christmas Day or at least during the early morning of the holiday. The recorded evacuation warning was also likely an attempt to minimize civilian casualties. Some terrorist groups provide warnings of their bombings and take other steps to minimize casualties.

- The May 19th Communist Organization (its noms de guerre included the Armed Resistance Unit, Revolutionary Fighting Group, and Red Guerrilla Resistance), America's first and only female terrorist group, engaged in a bombing campaign from January 1983 to February 1985. Its eight bombings occurred in New York and Washington, D.C. and included bombing the U.S. Capitol in November 1983. All the attacks were preceded by phone calls and or occurred very late at night/very early in the morning. There were no known injuries in the bombings.
- Between 1976 and 1984 the United Freedom Front (UFF), an American leftist terrorist group, committed approximately 20 bombings in Massachusetts and New York. Warning calls preceded most of its bombings, and some of the attacks occurred late at night. Only one attack resulted in injuries.
- Militant groups in Bahrain prior to 2011 (the year of the "Arab Spring" protests, after which Iran increased its support to the Bahraini militant groups) often employed small pipe bombs placed to avoid civilian casualties.

(Low Confidence) Warner's use of pre-recorded sounds of gunfire could have been intended to draw law enforcement to the area in order to facilitate an evacuation. However, it possibly could have been an attempt to lure law enforcement personnel to the RV in order to target them. Targeting of security forces, including luring them to attack sites, matches the modus operandi of some terrorist groups.

- After 2012, terrorists in Bahrain often instigated local disturbances and riots to draw police into an area for ambush. On March 3, 2014, the country suffered its worst terrorist attack when police were lured to the site of a local protest. The "daisy-chain" of three anti-personnel explosives killed three policemen and seriously injured seven others.

Explosives Effects

(High Confidence) The RV detonated adjacent to a non-descript, 15-floor AT&T network hub, located at 185 2nd Avenue North. The blast damage reportedly caused “serious structural damage” to the facility. The combination of the explosion and resulting fire and water damage—reportedly standing water on every floor and three feet of water that had to be pumped out of the basement—destroyed backup generators in the building. Up to 54 hours after the explosion, AT&T was still connecting generators to the building.²¹

(High Confidence) Assuming an RV laden with the equivalent of 1,000 pounds of TNT explosives (based on the maximum volume or weight of explosives [TNT equivalent] that could reasonably fit in an SUV or a van), the *mandatory evacuation distance* is 400 feet (see Figure 2). People within this distance—sometimes referred to as the *building evacuation distance*—must evacuate, whether they are inside or outside of buildings (it is based on the ability of typical US commercial construction to resist severe damage or collapse following a blast).²² An AT&T skyscraper, which serves as AT&T’s Nashville headquarters and is one of the tallest buildings in Nashville, is just outside of this 400-foot mandatory evacuation distance. Most of the 45 buildings affected by the explosion on Christmas morning, including those the Metropolitan Nashville Department of Codes and Building Safety has deemed unsafe for use and occupancy or unsafe due to glass, are within or just outside this 400-foot mandatory evacuation distance.²³



Figure 2. Mandatory Evacuation Distance (400 feet)

(High Confidence) Between the 400-foot mandatory evacuation distance and 2,400 feet is the *shelter-in-place zone* for the equivalent of 1,000 pounds of TNT explosives (see Figure 3). Within this area, people should seek shelter immediately inside a building, away from windows and exterior walls.

Public safety officials should avoid having anyone outside—including those evacuating—in this area.²⁴ Within this distance from the Christmas morning explosion lies AT&T's Nashville headquarters, City Hall, the State Capitol, the Davidson County General Session and District courts, Bridgestone Arena, Nashville Municipal Auditorium, the SoBro 33-floor residential building, the 25-floor Gresham Smith office tower, and part of the Music City Hall (convention center). The explosion damaged at least two windows in skyscrapers situated roughly 1,700 feet, or 0.3 miles, away: A window on the ninth floor of the SoBro building was penetrated by a projectile. And what appears to be a sixth or seventh floor window in the Gresham Smith office tower, adjacent to the SoBro building, was cracked.²⁵

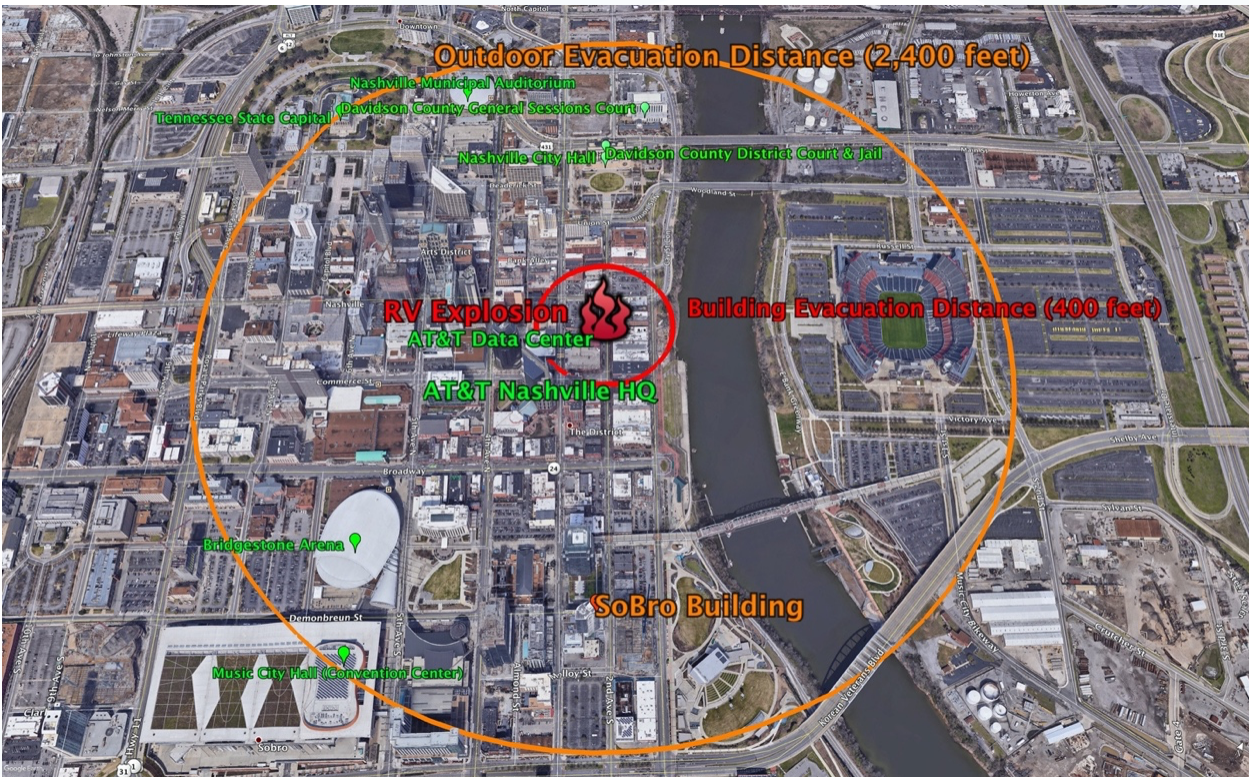


Figure 3. Shelter-in-Place Zone

(High Confidence) For a 1,000-pound explosive device, it is *preferred* that people in buildings evacuate beyond 2,400 feet. It is considered *mandatory* for people outdoors to evacuate beyond this distance. However, time limitations and other factors could reasonably be expected to prevent the evacuation beyond this *preferred/outdoor evacuation distance*. The cluster of critical infrastructure and population density within 2,400 feet from the explosion on Christmas morning highlights vulnerabilities and potential disruptions that operational or even inert/hoax explosive devices can create in any major city.

Critical Infrastructure Impacts and Implications

(High Confidence) According to AT&T, its windowless network hub “facility includes connection points for regional internet services as well as local wireless, internet and video.”²⁶ AT&T claimed service disruptions across parts of Tennessee, Kentucky and Alabama. Two days after the explosion, 25% of the AT&T's mobile sites and 60% of its business service were not restored.²⁷

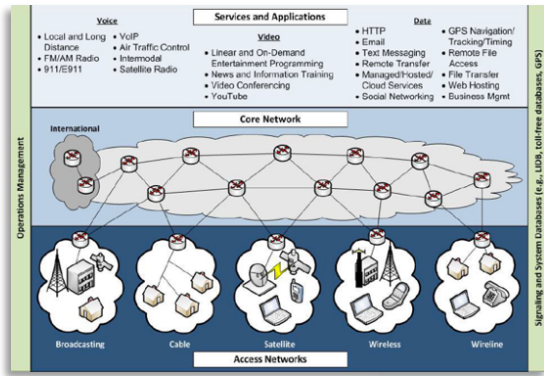


Figure 4. Communications Sector Architecture

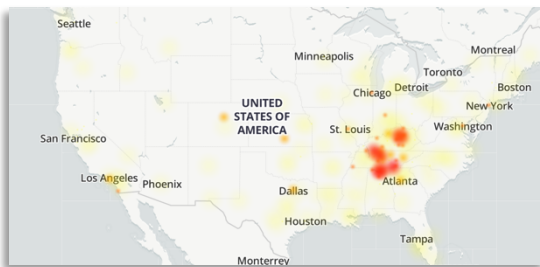
(Medium Confidence) The attack affected at least three of the five components (broadcasting, cable, satellite, wireless, and wireline) that comprise the communications sector; wireless, wireline, and cable services were degraded for at least two days after the explosion. The bombing also revealed vulnerable “intradependencies” among communication service providers. As an example of these dependencies within the sector, network operators sometimes sell or exchange, or “peer”, bandwidth to other operators that are experiencing bandwidth overload in an area of

country.²⁸ The connectivity and dependencies that facilitate this peering might explain the disruptions to AT&T’s peers in the aftermath of the bombing.

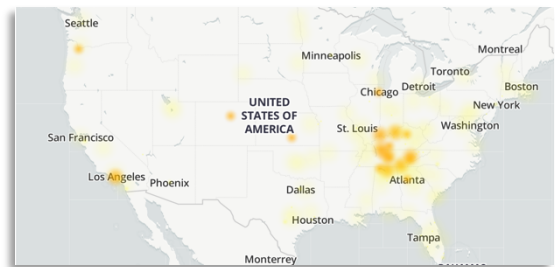
- Verizon customers throughout the state experienced outages, according to social media posts.
- T-Mobile suffered outages across Louisville, Kentucky; Nashville and Knoxville, Tennessee; Birmingham, Alabama; and Atlanta, Georgia, according to a tweet by technology chief Neville Ray.²⁹ Atlanta is over 200 miles away from the severely damaged AT&T network hub.



AT&T outage map 24 hours after explosion



T-Mobile outage map 24 hours after explosion



downdetector.com

(High Confidence) The event also exposed vulnerable *interdependencies* with other critical infrastructure sectors, especially emergency services, health and healthcare, and transportation (all three are U.S. Department of Homeland Security-defined critical infrastructure sectors). Communications for police and other emergency services, hospitals, and aviation across the region were disrupted.

- The damage temporarily disrupted commercial flights at Nashville International Airport and elsewhere. The airport tweeted that the FAA halted flights out of the Nashville and the FAA website stated that the halt was issued due to an outage at an FAA air traffic control facility in Memphis. A day after the explosion, the airport advised that while most flights had resumed, there might be some delays.



- Most of the Metropolitan Nashville Police Department use AT&T, and their phones went down Friday, according to a police spokesperson. The department also uses FirstNet, AT&T's proprietary network for public safety agencies and first responders. In fact, all 50 states, five U.S. territories and Washington, D.C., “opted in” to FirstNet in 2017.³⁰ The explosion impacted FirstNet in and around Nashville (according to the FirstNet Authority, an independent authority within the U.S. Department of Commerce, FirstNet was impacted only after local water mains that were destroyed in the blast flooded backup power generators with three feet of water).³¹ According to a police spokesperson, Nashville police had to use its backup provider, CenturyLink, for its landlines and internet at headquarters.³² The Davidson County Sheriff's Office, which is responsible for the care and custody of inmates in four correctional facilities, experienced disruption of “all communication,” including “inmate phones and visitation.”³³
- Public safety agencies from parts of Kentucky to northern Alabama reported disruptions of 911 operations, with outages mostly concentrated in Middle Tennessee.³⁴ Roughly one hundred 911 centers in Tennessee experienced service problems.³⁵ And the non-emergency number for Nashville's Emergency Communications Center, “the heart of the public safety system for Nashville and Davidson County”, was disrupted until late night on December 29.³⁶
- Nashville's Vanderbilt University Medical Center (VUMC) experienced phone service disruption at various locations at least three days after the attack, according to its websites.³⁷ VUMC is one of Tennessee's only four American College of Surgeons-verified Level I trauma centers, required to have immediately available all resources to stabilize and definitively treat even the most complex traumatic injuries. The closest ACS-verified Level I trauma center to VUMC is Erlanger Baroness Hospital, located over two hours away. Sumner Regional Medical Center, located 25 miles northeast of the attack, reported it was “operating without access to some of our systems including our electronic medical record.”³⁸ In West Virginia, the Thomas Health hospital system, which operates two hospitals in the state, experienced “network connectivity issues” until 12 a.m. on December 27. Both hospitals are over 300 miles northeast of Nashville, but Thomas Health's primary servers are located in Tennessee (with back up servers in Texas).³⁹

Physical Vulnerabilities

(Medium Confidence) Anthony Warner's attack highlights the physical vulnerability of many critical infrastructure facilities, especially the communications sector's soft targets such as the AT&T building. The impact of the attack was predictably significant, yet the network hub's



physical security appears to have been inadequate for its risk profile. Parking was allowed directly in front of the building (where Warner apparently parked his RV), suggesting either a security oversight, security risk acceptance, or tension between maintaining the low-profile nature of the building and decreasing the building's vulnerability.



(Medium Confidence) Regardless, AT&T and possibly government security officials appear to have been sensitive to the importance of the building; it was non-descript except for a small AT&T sign above the entrance. And presumably the company and or government officials requested Google blur the Google Street View image of the entrance. However, even that effort seems curiously inadequate or not thorough, as the entrance, address, and AT&T sign are still visible from certain angles in Street View. It should be noted that many buildings, especially buildings that house sensitive government functions in urban areas, use a combination of low-profile posture with obvious security measures. Regardless of the reason, there was a lack of stand-off distance/set-back (the distance between the asset and the threat, typically regarding an explosive threat) to mitigate the bombing on Christmas morning. Overpressures of 10 pounds per square inch, which are sufficient to cause structural destruction, can be expected if a vehicle with 1,000 pounds of TNT equivalent is within approximately 75 feet of buildings.

(Low Confidence) The proximity of AT&T's Nashville's headquarters to the AT&T network hub possibly highlights potential problems with business continuity and the company's incident response. A larger explosion or an attack on both buildings likely would have complicated the company's remediation and recovery efforts after the explosion. Of note, the AT&T Nashville headquarters building also houses the Nashville branch of the Federal Reserve Bank of Atlanta, one of 12 regional reserve banks in the U.S.⁴⁰

(High Confidence) Open-source reporting on significant communications sector facilities could further complicate physical security efforts in the sector. *The Intercept's* 2018 expose on AT&T's eight internet peering facilities, which the company calls "service node routing complexes", is one such example.⁴¹ In their latest annual reports, the major U.S. telecommunication conglomerates have acknowledged the risks posed by natural disasters and physical attacks. AT&T recognizes that "Cyberattacks, equipment failures, natural disasters and terrorist acts may materially adversely affect our operations." Verizon states that "Natural disasters, terrorist acts or acts of war could cause damage to our infrastructure and result in significant disruptions to our operations." And T-Mobile assesses its risks include "physical damage, power surges or outages, or equipment failure, including those as a result of severe weather, natural disasters, terrorist attacks, political instability and volatility..."⁴²

Bombing Threats Across the Ideological Spectrum

(High Confidence) Individuals and groups of various ideologies, including the leftist groups previously mentioned, have attacked or expressed interest in attacking various critical infrastructure sectors, especially with explosives.

- Between 1995 and 2010, environmental and animal rights extremists in the United States, specifically individuals affiliated with the Earth Liberation Front (ELF) and Animal Liberation Front (ALF), committed 148 bombings. Most of their targets for the 239 bombings and arsons were private homes (22%), meat/food processing plants (15%), and automobile/truck dealerships (14.2%). Government facilities and power plants comprised 6% and 1.7% of their targets, respectively.⁴³
- In June 2014 law enforcement officials recovered a small improvised explosive next to a 50,000-gallon diesel tank at a Nogales, Arizona power station. The device did not detonate. But it did ignite, which damaged one of the plant's two 50,000-gallon tanks. A catastrophic explosion could have caused up to 30,000 customers to lose power, according to police. The suspects of the failed attack have never been identified.⁴⁴



- Since at least 2017, leaders and members of Atomwaffen Division (AWD) and The Base, two of America's most dangerous white supremacist groups, or white racially and ethnically-motivated violent extremists (WRMVE), have discussed targeting critical infrastructure—especially the energy (including substations and nuclear reactors) and water and wastewater systems sectors.⁴⁵ In 2018, AWD co-founder and Florida National Guard member Brandon Russell pled guilty to possession of an unregistered destructive device and improper storage of explosive materials. According to prosecutors, his roommate claimed Russell had materials in the house "to kill civilians and target locations like power lines, nuclear reactors, and synagogues." Russell was sentenced to 5 years in prison.⁴⁶
- In July 2019, anti-fascist and self-described anarchist Willem Van Spronsen unsuccessfully tried to ignite a propane tank at a U.S. Immigration and Customs Enforcement detention center in Tacoma, Washington. He also attempted to start fires with incendiary devices during the attack. He was killed by police.
- On social media, WRMVEs have used Anthony Warner's Nashville bombing as an example when they discuss potential attacks on critical infrastructure—especially tech companies.⁴⁷ They also frequently share *White Resistance Manual* and also *Harassment Architecture*. Both books discuss targeting the energy sector and have been cited by WRMVEs when advocating for violence.⁴⁸ *White Resistance Manual*, a white supremacist handbook similar to *The Anarchist Cookbook*, has a sabotage section that includes electrical power generation and distribution. *Harassment Architecture*, a self-published novel about accelerating the collapse of society, slyly provides counter-infrastructure instructions such as "I hear people are making homemade explosives and knocking down cell towers. I hear some people are making homemade explosives and disintegrating local power substations," and:

"Do not do any of these things. Especially do not cover your face and destroy the many, and largely unprotected power stations and cell towers. Electricity is a ghost, but one you can catch and kill. Do not do that. Do not become the sort of person who is really good at blowing up power plants without getting caught."⁴⁹
- In the 25 years between 1995 and 2020, violent militia extremist (VME) leaders and members have been responsible for almost 30 terrorist acts, and attempted acts, plots, and conspiracies involving explosives according to an analysis by Blue Glacier. Over ninety individuals were convicted by the courts. These militia activities included 20 bomb plots against critical infrastructure, specifically the commercial facilities, communications, dams, energy, government facilities, and transportation sectors. Five of these 20 plots targeted the Internal Revenue Service or the FBI. One-third of the 30 plots and conspiracies involved targeting federal judges, federal employees, local and federal law enforcement, and the U.S. president.⁵⁰

Outlook

(High Confidence) Suicide bombings and vehicular bombings are extremely rare in the U.S. (the last known vehicle bombing attempt was Faisal Shahzad's failed Times Square bombing in May 2010), and the U.S. has experienced a downward trend in bombing incidents since 2016. However, over 200 bombings occurred annually in 2018 and 2019, according to the Bureau of Alcohol, Tobacco, Firearms and Explosives.⁵¹ We assess that although suicide and vehicular bombings will continue to be a rare occurrence in the U.S., the communications sector and other critical infrastructure soft targets will remain vulnerable to bombings and other attacks.



The vulnerability of the communications sector is partly due to the location of many of the sector's facilities in urban settings, and also the absence of stand-off distance/set-backs afforded to these facilities to mitigate bomb blasts. Bomb hoaxes, which have been on a downward trend since 2015 with the exception of a slight increase in 2018, can also create hours-long disruptions within several hundred feet of the hoax device.

(Medium Confidence) Anthony Warner's apparent attack on the AT&T network hub highlights the threat of lone offenders. And we assess that in the near to mid-future, domestic violent extremists (DVE), VMEs, and WRMVEs most likely pose the highest threat to critical infrastructure, including the communications sector. Some of these groups and individuals have expressed the intent, have the organizational structure and or capability, and have engaged in pathway behavior and operational activities (e.g., the January 6 attack on the U.S. Capitol, and the associated placement of improvised explosive devices) to attack critical infrastructure. Our assessment is consistent with the latest National Terrorism Advisory System Bulletin by DHS: "Threats of violence against critical infrastructure, including the electric, telecommunications and healthcare sectors, increased in 2020 with violent extremists citing misinformation and conspiracy theories about COVID-19 for their actions."⁵²

(Low Confidence) While homegrown violent extremists who are inspired by foreign terrorist organizations (FTO) also pose a threat to U.S. critical infrastructure, we assess VMEs and WRMVEs currently pose a significantly higher threat. However, a conflict between Iran and the U.S., its allies, or partners would likely increase the FTO threat to critical infrastructure—especially from Lebanese Hezbollah. Coordination and mutual assistance between FTOs (including ISIS, al Qaida, and Hezbollah) and VMEs/WRMVEs to facilitate attacks against critical infrastructure is also a possibility. Examples exist of coordination and assistance between WRMVEs and FTOs.

Source Summary Statement

This analysis is based primarily on open-source information; media reporting; and local, state, and federal government information. Generally, we have low to medium confidence in the information obtained from open-source information and media reporting, as it is generally reliable, but may contain biases or unintentional inaccuracies. We have high confidence in the information obtained from government reporting, which is largely reliable and based on law enforcement investigations.

Confidence Statements

Low Confidence generally means the information's credibility or plausibility is questionable, the information is too fragmented or poorly corroborated to make solid analytic inferences, or Blue Glacier has significant concerns or problems with the sources.

Medium Confidence generally means the information is credibly sourced and plausible but can be interpreted in various ways, or is not of sufficient quality or corroborated sufficiently to warrant a higher level of confidence.

High Confidence generally indicates judgments are based on high-quality information from multiple sources or from a single highly reliable source, or the nature of the issue makes it possible to render a solid judgment.



Annex: Red Teaming an Alternate Bombing Scenario

While the Christmas morning attack exposed vulnerabilities in the communications sector, the impact could have been worse if several attackers executed a complex, coordinated attack (when terrorists commit these complex, coordinated attacks, the U.S. Department of Homeland Security refers to them as complex, coordinated terrorist attacks, or CCTA). Characteristics of complex, coordinated attacks include

- Small teams of well-armed, well-trained individuals employing military or law enforcement style tactics;
- Selection of soft targets or other vulnerable environments to maximize casualties;
- Strike on multiple targets simultaneously or in close succession.⁵³

Complex, coordinated attacks pose various challenges for public safety officials, including operational coordination, incident command(s)/area command, operational communication, multiple attack locations, mass casualties, and continuity of operations.

Red team alternative analysis can identify complex, coordinated attack scenarios that are realistic. Goals include the identification of possible physical security vulnerabilities, and potential shortfalls in private sector and public safety resources, training, and tactics, techniques, and procedures (TTP).

Overview of Scenario

For this red team alternative analysis, we assume a complex, coordinated attack involving multiple locations. The scenario in this annex is based on “Scenario 12: Explosives Attack—Bombing Using Improvised Explosive Devices” outlined in the 2006 *National Planning Scenarios*, which the Homeland Security Council developed in partnership with the U.S. DHS. The *National Planning Scenarios* depict a diverse set of credible, high-consequence threat scenarios of potential terrorist attacks and natural disasters.⁵⁴ In the red team scenario below, agents of the Universal Adversary (UA) use multiple devices--vehicle bombs, man-delivered improvised explosive devices (IEDs), and hoax devices to inflict significant destruction and chaos.

Red Teaming

“Red Teaming is a flexible cognitive approach to thinking and planning that is specifically tailored to each organization and each situation” (U.S. Army 2019). It is also “a structured process that seeks to better understand the interests, intentions, and capabilities of an institution—or a potential competitor” (Zenko 2015).

The three types of red teaming are simulations (e.g., tabletop exercises), vulnerability probes, and alternative analysis.

Universal Adversary

The UA is a fictionalized adversary created by compiling known terrorist motivations, doctrine, tactics, techniques, and procedures (TTPs) in live, virtual, and constructive simulations. The UA is based on realistic threats, but it is designed not to compromise actual intelligence. The UA reflects real-world uncertainties and unpredictability, and evolving terrorist TTP.

Intelligence Disclaimer

While the scenarios developed generally reflect possible terrorist capabilities and known tradecraft, Blue Glacier is not aware of any credible, specific intelligence that indicates that such an attack is being planned, or that the agents or devices in question are in possession of any known terrorist or militia group.



Red Team Scenario: Enhanced Nashville Attack

Infrastructure Damage	Structures in communications and transportation sectors affected by blast and fire.
Evacuations/Displaced Persons	Evacuation of immediate area around each explosion and hoax device results in a few to several thousand people seeking shelter in safe areas.
Contamination	None
Economic Impact	Millions of dollars
Potential for Multiple Events	Yes
Recovery Timeline	Weeks to months

General Description

In this scenario, agents of the Universal Adversary (UA) execute a multi-prong attack using multiple vehicle-borne IEDs (VB-IED) and a package/parcel IED, to inflict significant physical destruction and damage. UA's intent of this attack is similar to the apparent purpose of the Anthony Warner's real-world Christmas morning attack—to disrupt communications critical infrastructure in Nashville. In addition to the A&T network hub that Warner bombed on Christmas morning, UA attacks the AT&T Nashville headquarters (less than two blocks from the network hub), and a T-Mobile call center that is five miles south of the A&T network hub. UA also bombs a bridge and deploys decoy VB-IEDs on other bridges to disrupt ingress/egress routes and to stress public safety resources.

Detailed Attack Scenario

On a national holiday, UA near-simultaneously bombs four critical infrastructure assets in west Nashville: Three VB-IEDs and one parcel bomb target three significant communications sector buildings, and the transportation sector:

- A&T network hub on 2nd Avenue;
- AT&T Nashville headquarters;
- T-Mobile call center that is five miles south of historic downtown Nashville;
- One of eight Cumberland River bridges that connect west and east Nashville.

UA places decoy/hoax devices at the following locations:

- The remaining seven Cumberland River bridges that connect west and east Nashville;
- Adult emergency room entrance at Vanderbilt University Medical Center (VUMC);
- Metropolitan Nashville Police Department headquarters (Metropolitan Justice Center) at 600 Murfreesboro Pike.

Hoax devices allow UA to limit the amount of explosives and preparation required for the operation. First responders are initially not aware the hoax devices are not real bombs. The hoax devices placed on the bridges are intended to limit evacuation options, stress first responder resources, slow the arrival of any additional first responder resources from east Nashville, and disrupt the delivery of communications equipment required to mitigate communications outages caused by the actual attacks. Due to the limited number of untraceable vehicles available to UA, and also logistical challenges, most of the hoax devices are packages/parcels. UA intends for the



hoax device at VUMC to stress first responder resources and disrupt treatment of casualties. The hoax device at Metro Nashville Police headquarters is intended to stress first responder resources, disrupt operational coordination, and complicate incident command(s)/area command.

Despite minimal casualties, UA's bombings instill mass panic and chaotic evacuation of downtown. Occupants attempting to evacuate west Nashville are restricted from evacuating across the Cumberland River into east Nashville due to the explosion on one of the bridges and hoax devices on others. A portion of people will remain in the immediate area around the explosion sites, clogging ingress for emergency responders. Some will head toward public transportation, while others will head toward parking lots to retrieve their vehicles and depart the area.

The main thrust of the attack is the communications sector. At both AT&T locations, UA placed VB-IEDs disguised as fire department and emergency medical service (EMS) vehicles. UA has stolen and or bought these vehicles; both types of vehicle can be legally purchased for as little as \$5,000 in the used truck market. It is conceivable to disguise 10,000 pounds of explosives in these vehicles, but the actual amount could be scaled down and still achieve severe effects. The hoax devices at the VUMC and police headquarters are also EMS service vehicles.

(The simultaneous attack of four targets is a realistic, documented, and practiced terrorist tactic. And real-world incidents illustrate the confusion created by rapid, mass evacuation.)

Planning Considerations

Geographical Considerations/Description

The incident is primarily designed for an urban environment, but could be adapted for more rural areas. Casualties would be reduced as a function of a reduced target population and less population density at target points. The primary urban locations would be a downtown, such as Washington D.C.

Timeline/Event Dynamics

UA detonates its devices during the early morning hours of a national holiday in order to minimize casualties. All detonations occur after evacuation warnings—phone calls to authorities from “burner mobile phones” (unregistered, one-time use phones), and pre-recorded audio warnings from the vehicles. The early morning hours also allow UA to minimize the risk of detection while placing the real and hoax devices. The placement of the real and hoax VB-IED at the hospital and on the bridges are the most difficult for UA to time. The need for UA cell members to coordinate and communicate these placements provides leads to the law enforcement investigation after the operation. In any case, UA ensures it places the hospital hoax VB-IED before the arrival of casualties from the actual attacks. The timing of some of these events, with the exception of the placement of the hospital and hoax devices, is not critical. The more people who try to evacuate across the river, the more chaotic the situation.

Assumptions

The real VB-IEDs contain a large amount of a readily attainable commercial explosive material such as ammonium nitrate fuel oil (ANFO) or other explosive material. The estimated lethal air blast range for this vehicle (4,000 pounds of ANFO) is 300 feet. Fatalities from secondary and



tertiary blast injuries can be reasonably expected at 1.5 times that distance. Blast overpressures of approximately 8 psi can be predicted out to 190 feet. This force is sufficient to cause the failure of brick wall panels. Overpressures of 10 psi, which are sufficient to cause structural destruction, can be expected if the vehicle is within approximately 150 feet (48 meters) of buildings.⁵⁵

Mission Areas Activated

Prevention/Deterrence. The planning and execution of this event would require a significant level of relatively unsophisticated coordination. As such, the potential for detection in the pre-event planning stages exists. The completion of a targeting package would necessitate reviewing maps of the telecommunications facilities, hospital ER, police department headquarters, and bridges, and the environments around these sites. Surveillance of the target locations would be conducted, and photographs or video documentation would possibly be taken.

The VB-IEDs, disguised as fire department vehicles or ambulances, would necessitate obtaining vehicles at least reasonably similar to those used by the local fire/EMS department. Obtaining the precursor materials to make the explosive material could also create suspicion, providing opportunity for preventive law enforcement investigation.

Emergency Assessment/Diagnosis. Depending on the timing of the individual attacks, the initial bombings could inadvertently bring victims and first responders toward the subsequent bombs in the vicinity (such as the attacks on the two AT&T facilities that are in close proximity to each other).

Emergency Management/Response. This attack is a series of large events which would require fire, law enforcement, and EMS, and other responders, necessitating mutual aid. It could require the activation of urban search and rescue teams. The actions of the emergency operations center, a joint information center (for media/press briefings), and joint operations center or equivalent would be vital. Public safety officials would need to prioritize alerts, activation and notification, traffic and access control, resource support, requests for assistance, and public information.

Hazard Mitigation. Primary hazards include fire, toxic atmosphere/smoke, un-detonated explosives, unstable structures, electrical hazards, and low visibility (smoke/loss of electricity). In addition to standard police, fire, and EMS response, bomb squads (and possibly also military explosive ordnance disposal units) will be required to respond to the various explosive devices. Due to the use of vehicle bombs disguised as fire department vehicles or ambulances, additional law enforcement and bomb squad assets might be requested at each receiving hospital in the area. Hospital personnel will want to ensure that arriving vehicles are not delivery systems for additional weapons. This process may slow patient care/triage at receiving facilities.

Evacuation/Shelter. Protective measures would include the evacuation of residents and businesses in/around the affected areas; a threat assessment for other communications and transportation infrastructure, and either evacuating or sheltering-in-place for hospital patients.

Victim Care. Injuries range from “walking wounded” to multiple systems trauma, burns, and obvious fatalities. Triage will identify treatment priorities. The hoax device at the target hospital might disrupt patient care as hospital staff and patients might need to evacuate or shelter-in-place initially. This disruption might force other facilities to receive all trauma patients from the actual bombings. Level II trauma centers might have to accept patients who would normally be sent to a Level I facility.

Implications

Secondary Hazards/Events

Secondary hazards might include the disruption of electric power, natural gas lines, and water mains. There might be toxic smoke resulting from fires and explosions, and loss of traffic controls in the area. Media response to the area may affect responders. Since some of the bombs were disguised as emergency response vehicles, other legitimate vehicles may be impeded in their response to the scenes and hospitals. Rumors will be rampant until a common operating picture evolves.

Fatalities/Injuries

Casualties, although relatively few in number due to UA's warnings, will result at all four actual VB-IED sites. The bombings can be expected to result in fatalities and injuries, including cuts (especially from fragmented glass), burns, smoke inhalation, and respiratory burns.

The VB-IED detonations at the AT&T buildings can be expected to result in the largest number of fatalities and injuries due to the population density. Blast pressure, thermal effects, and fragmentation will be responsible for a majority of the injuries and the few fatalities. However, fatalities as a result of structural damage cannot be ruled out. Injuries, ranging from minor cuts and concussions to severe mechanical trauma and barotraumas, can be expected. (VB-IEDs in close proximity to each other can potentially result in fatalities of or injuries to fire, EMS, and law enforcement personnel due to initial confusion created by their proximity).

Property Damage

Property damage would include severe blast damage to the communications buildings, blast damage to buildings across from the communications buildings, moderate damage to the call center, severe damage to one of the bridges, and damage or destruction of some cars on the bridge.

Service Disruption

Service disruption would be severe in the city and would include traffic, public transportation (including commercial air transportation), emergency services, and hospitals. Regional telecommunications disruption would occur. The damaged bridge may have a long-term impact.

Economic Impact

The local and regional economic impact includes regional disruption of communications services for up to one week—internet, cable, landlines, ATMs, and retail locations. The blocks on which the VB-IED explosions occurred are disrupted for up to one month (for shoring of damaged buildings and evidence collection). The bridge that was bombed will close for several weeks while undergoing repairs. The hospital(s), city, and state government will expend resources attempting to mitigate against VB-IEDs disguised as EMS vehicles.

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