

What is a complex coordinated attack (CCA)?

By Christopher P. Ryan

Introduction

Homeland security analysts in government, the private sector, and academia are increasingly focusing on complex coordinated attack (CCA, also known as complex coordinated terrorist attacks) preparedness by developing plans, completing trainings and exercises, studying previous attacks, and identifying lessons learned and best practices.¹ A critical early step in CCA preparedness is defining “CCA” to ensure that all partners understand what they are preparing for. To prepare as effectively as possible, the definition must reflect an industry-wide consensus, helping ensure that that different CCA preparedness efforts are consistent and complementary. The definition must also be robust enough to withstand analytical scrutiny by reflecting sound reasoning and relying on clear and specific language.

Yet a review of available definitions of CCA reveals that a robust, consensus definition does not exist. Several definitions include key limitations – such as requiring multiple attackers -- that are not consistent with an identifiable “conventional wisdom” among homeland security and emergency management (HS/EM) authorities and subject-matter experts (SMEs), and thus do not reflect a consensus. Several other definitions are not sufficiently robust -- they rely on language that is confusing and/or non-specific, omit key temporal and geographic considerations, and fail to sufficiently recognize the importance of non-assault attack phases in generating the unusually complex circumstances that characterize CCAs.

Homeland security and emergency management professionals can prepare for CCAs more effectively by adopting a single, robust, consensus definition that withstands basic scrutiny and is consistent with the shared views of industry authorities and SMEs (“conventional wisdom”). As a starting point, homeland security and emergency management professionals should adopt the following definition:

A complex coordinated attack (or complex coordinated terrorist attack) is a violent assault or series of assaults that employs one or more types of weapons, intends to injure or kill large numbers of people, and meets the following two criteria:

Criterion 1: The attack is multi-phased or takes place at multiple sites, or both.

(Phases can include assault phases, such as shootings, bombings, and arsons; and/or non-assault phases such as hostages, car chases, sieges, barricades, kidnappings, and manhunts, etc.)

¹ CCTA stands for Complex Coordinated Terrorist Attack. For the purposes of this article, “CCA” and “CCTA” are considered identical and are therefore used interchangeably. This article uses the term “preparedness” to refer to the FEMA-defined Preparedness Cycle, which includes the following steps: Plan; Organize/Equip; Train; Exercise; Evaluate/Improve. For more information on the Preparedness Cycle, see <https://www.fema.gov/media-library/assets/images/114295>.

Criterion 2: The attack must take place within geographic and temporal circumstances that result in unusual strain on command, information sharing/situational awareness, and/or resource allocation.

The Need to Examine CCA Taxonomy

As CCAs first emerged and public safety personnel identified the new threat profile, HS/EM authorities and SMEs reasonably focused on tangible, practical methods of strengthening resiliency. CCA taxonomy was understandably a lower priority. More recently, however, the continued proliferation of CCAs in Paris, Brussels, and elsewhere demonstrates that CCAs will remain a major concern for the foreseeable future. The Federal Emergency Management Agency's (FEMA) new complex coordinated terrorist attack (CCTA) grant program will provide dedicated resources to enhance CCA preparedness around the country. The additional focus on CCA preparedness justifies a careful review of CCA taxonomy.

A robust, consensus CCA definition is an essential foundation for CCA preparedness. Even the most talented planners cannot develop a CCA plan if there is uncertainty about what they are planning for. Similarly, homeland security and emergency management (HS/EM) professionals cannot develop trainings and exercises if there is uncertainty about what participants would be training or exercising to do. Moreover, analysts cannot identify best practices and lessons learned from previous CCAs without agreeing which incidents to classify as CCAs. The fields of homeland security and emergency management therefore cannot integrate CCAs into the preparedness cycle without a robust, consensus definition.

Background and "Conventional Wisdom"

From September 1 – 3, 2004, 32 militants held more than 1,000 hostages in a school in Beslan, Russia, eventually killing approximately 330.² On July 7, 2005, suicide bombers in London attacked three different subway trains and one bus, killing 52 and injuring more than 700.³ From November 26 – 29, 2008, 10 terrorists attacked 8 different locations in Mumbai, India with firearms and grenades, killing 164.⁴

The Beslan, London, and Mumbai attacks demonstrated a new approach to terrorism that did not fit within existing terrorism paradigms, such as "active shooter" or "suicide bomber." Rather than defining the new type of attack, homeland security and emergency management professionals often referred simply to "Mumbai-style" attacks. The clear implication was that, though lacking a specific way of identifying and classifying the innovative attacks, the fields of homeland security and emergency management recognized them when they saw them.

² "Beslan School Siege Fast Facts," *CNN*, August 20, 2017, accessed December 6, 2017, <http://www.cnn.com/2013/09/09/world/europe/beslan-school-siege-fast-facts/index.html>.

³ "July 7 2005 London Bombings Fast Facts," *CNN*, June 29, 2017, accessed December 6, 2017, <http://www.cnn.com/2013/11/06/world/europe/july-7-2005-london-bombings-fast-facts/index.html>.

⁴ "Mumbai Terror Attacks Fast Facts," *CNN*, November 24, 2016, accessed December 11, 2017, <http://www.cnn.com/2013/09/18/world/asia/mumbai-terror-attacks/index.html>.

Though the phrase “complex coordinated attack” emerged as one of the most common ways of identifying the new kind of attack, definitions that emerged with the phrase varied substantially. Without a consensus definition, many HS/EM authorities and SMEs, including various levels of government, continued to identify examples of CCAs without defining CCA. Attacks in Boston (2013), Kenya (2013), Paris (2015), San Bernardino (2015), Brussels (2016) and elsewhere became part of an emerging CCA conventional wisdom that essentially substituted for a definition. But not everyone referred to the same attacks. Today, CCA conventional wisdom includes attacks that have major differences, including disparities in numbers of attackers, numbers of assault locations, types and numbers of assault and non-assault phases, and differences in time and distance between attack phases.⁵

CCA conventional wisdom is inconsistent and problematic, but cannot be divorced from an examination of how best to define CCA. Since usage of CCA predates a definition of CCA, a useable consensus definition must align with existing conventional wisdom. But conventional wisdom is difficult to identify.

A review of the incidents that HS/EM authorities and SMEs refer to as CCAs yields identifiable trends that constitute CCA conventional wisdom. Researchers conducted internet searches to identify the attacks HS/EM authorities and SMEs have specifically identified as CCAs. The table below shows the findings.

The table can be regarded as a reasonable summary of CCA conventional wisdom because of the highly discriminating methodology and carefully vetted sources used to develop it. Research included only sources that were available through unclassified internet searches, and included only the opinions of parties that possess some degree of public safety authority and/or subject-matter expertise, such as government agencies and public safety professionals. It is also critical to note that the final sources were not comprehensive lists of CCAs – rather, each source referred to CCAs in some other context and were citing examples. It is thus possible – perhaps even likely – that each source excludes one or more attacks that creators of those sources would themselves regard as CCAs, if their purpose has been to construct a comprehensive list of CCAs.

Though a small sample size, the eleven sources still provide enough information to identify a clear CCA conventional wisdom.⁶ With such specific limitations on useable research sources, researchers set a

⁵ One purpose of this article is to identify an improved overall definition of CCA based on characteristics of those events. In discussing specific CCAs, however, this article is careful to distinguish between “attacks” and “assaults.” The word “attack” is used to refer to an overall CCA scenario, which includes assault phases such as shootings and bombings and in many cases non-assault phases such as manhunts, hostages, or sieges. The word “assault” is used to refer to terrorist-initiated actions that aim to kill or injure, such as shootings, bombings, explosions, etc.

⁶ The eleven sources are: “Presentation Re: FEMA Training for Terrorists Attack,” Will County, Illinois, May 4, 2017, accessed December 12, 2017, [http://willcountyil.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=3114&MediaPosition=&ID=4708&CssClass=](http://willcountyil.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=3114&MediaPosition=&ID=4708&CssClass=;); “FEMA Announces Funding Awards to Prepare Communities for Complex Coordinated Terrorist Attacks,” Federal Emergency Management Agency, July 13, 2017, accessed December 12, 2017, <https://www.fema.gov/news-release/2017/07/13/fema-announces-funding-awards-prepare-communities-complex-coordinated>; “National Exercise Program: Introduction to the 2017-2018 Cycle,” Federal Emergency Management Agency, accessed December 11, 2017, https://www.fema.gov/media-library-data/1485459490214-e00e157a58a126346d864dacbc860c48/NEP_Cycle_17_18.pdf, 20-1.; “Arlington County Police Preparedness Efforts Post September 11, 2001,” Arlington County, accessed December 12, 2017,

relatively low standard for any attack to be regarded as part of CCA conventional wisdom. For an attack to qualify and be included below, at least two of the sources from HS/EM authorities and SMEs must have specifically cited the attack as an example of a CCA.

<https://commissions.arlingtonva.us/wp-content/uploads/sites/5/2016/08/ACPD-Presentation.pdf>., David Schuld, "The Complex Coordinated Terrorist Attack Grant: The Complex Challenge America Must Prepare For," *Hagerty Consulting*, December 16, 2016, accessed December 12, 2017, <http://hagertyconsulting.com/about-us/blog/fema-ccta-grant/>.; Sean J. Britton, "EMS Preparation and Response to Complex Coordinated Attacks," *Journal of Emergency Medical Services*, September 1, 2017, accessed December 12, 2017, <http://www.jems.com/articles/print/volume-42/issue-9/features/ems-preparation-and-response-to-complex-coordinated-attacks.html>.; "Joint Counterterrorism Awareness Workshop Series – SCOTSEM Annual Meeting," NCTC/DHS/FEMA/FBI, August 24, 2016, slides 3 – 9.; J. Howard Murphy, "Complex Coordinated Attacks," in *Soft Targets and Crisis Management: What Emergency Planners and Security Professionals Need to Know*, ed. Dr. Michael J. Fagel and Dr. Jennifer Hesterman (United States: CRC Press, 2016), <https://books.google.com/books?id=b6GKDQAAQBAJ&lpg=PT585&ots=lgQt-W8IZv&dq=complex%20coordinated%20attacks&pg=PT587#v=onepage&q=complex%20coordinated%20attacks&f=false>.; "Today's Threat of Complex, Coordinated Attacks – Education & Training for Public Safety Webcast," International Public Safety Association, February 1, 2016, accessed December 12, 2017, <https://www.joinipsa.org/event-2106239>; "Updated Active Shooter and Complex Coordinated Attack Resources," National Association of Emergency Medical Technicians, March 22, 2016, accessed December 12, 2017, <http://www.naemt.org/WhatsNewALLNEWS/2016/03/22/updated-active-shooter-and-complex-coordinated-attack-resources>.; "Preparing for a Paris-Style Attack: Responders need integrated training to save lives in the face of complex threats," University at Albany National Center for Security & Preparedness, December 21, 2015, accessed December 12, 2017, <http://www.albany.edu/ncsp/news/2015/paris-article.shtml>.

CCA - Conventional Wisdom								
Incident	Location of Attack	Date(s) of Assault(s)	No. of Sources Identifying as a CCA (Max. of 11)	Multiple Attackers	Multiple Assault Sites	Multiple Assault Modes	Non-Assault Phases	Targeting Confined Areas
Paris	Paris, France	11/13/2015	11	✓	✓	✓	manhunt, siege, hostage	Partially
Mumbai attacks	Mumbai, India	11/26/2008 - 11/29/2008	9	✓	✓	✓	hostage, kidnapping, siege	Partially
San Bernardino	San Bernardino, CA	12/2/2015	7	✓	✓	✓	car chase	Yes
Brussels	Brussels, Belgium	3/22/2016	6	✓	✓		manhunt	Yes
Westgate Mall	Nairobi, Kenya	9/21/2013 - 9/24/2013	5	✓		✓	hostage, siege	Yes
Boston Marathon	Boston, MA	4/15/2013	5	✓	✓	✓	manhunt	No
Beslan	Beslan, Russia	9/1/2004 - 9/3/2004	3	✓		✓	hostage, siege	Yes
London Bombings	London, UK	7/7/2005	2	✓	✓		None	Yes
Virginia Tech Massacre	Blacksburg, VA	4/16/2007	2		✓		None	Yes
9/11	New York, NY Arlington, VA Stonycreek Township, PA	9/11/2001	2	✓	✓		None	Yes

CCA conventional wisdom thus includes attacks that have major differences, including disparities in numbers of attackers, numbers of assault locations, number of assault modes, whether assaults took place in confined spaces, and differences in time and distance between attack phases.⁷ A consensus

⁷ “Paris Attacks – visual guide to a week that shook the French capital,” *The Guardian*, November 23, 2015, accessed December 12, 2017, <https://www.theguardian.com/world/ng-interactive/2015/nov/20/paris-attacks-visual-guide-to-seven-days-that-shook-the-french-capital>.; “Mumbai Terror Attacks Fast Facts,” *CNN*.; Saeed Ahmed and Ralph Ellis, “Mass shooting at Inland Regional Center: What we know,” *CNN*, December 5, 2015, accessed December 12, 2017, <http://www.cnn.com/2015/12/03/us/what-we-know-san-bernardino-mass-shooting/index.html>.; Tim Hume, Tiffany Ap, and Ray Sanchez, “Here’s what we know about the Brussels terror attacks,” *CNN*, March 25, 2016, accessed December 6, 2017, <http://www.cnn.com/2016/03/23/europe/brussels-belgium-attacks-what-we-know/index.html>.; Tristan McConnell, “Close Your Eyes and Pretend to be Dead,” *Foreign Policy*, September 21, 2015, accessed December 6, 2017, <http://foreignpolicy.com/2015/09/20/nairobi-kenya-westgate-mall-attack-al-shabab/>; “Analysis of Al-Shabaab’s Attack at the Westgate Mall in Nairobi, Kenya,” New York City Police Department, November 1, 2013, accessed December 12, 2017, <http://allafrica.com/download/resource/main/main/idatcs/00071990:38c422c2c9053c64f0874e4f6d2c55c1.pdf>, 4.; Bev Ford, Greg B. Smith, and Larry McShane, “Police narrow in on two suspects in Boston Marathon bombings,” *New York Daily News*, April 18, 2013, accessed December 12, 2017, <http://www.nydailynews.com/news/national/injury-toll-rises-marathon-massacre-article-1.1319080>.; “Beslan School Siege Fast Facts,” *CNN*.; “July 7 2005 London Bombings Fast Facts,” *CNN*.; “Virginia Tech Shootings Fast Facts,” *CNN*, April 3, 2017, accessed December 6, 2017, <http://www.cnn.com/2013/10/31/us/virginia-tech>

CCA definition must therefore be broad enough to reflect all of the key differences between attacks that together constitute CCA conventional wisdom.

Analysis of Existing Definitions

Within the last two years, some key stakeholders, such as the Federal Emergency Management Agency (FEMA), have proposed definitions for CCA, but careful analysis of the ten different available definitions reveals that none can be used as a robust, consensus definition.

Failure to Reflect Consensus

A consensus CCA definition must be fully consistent with the conventional wisdom as identified in the chart above. Several available definitions are problematic, however, because they severely limit the scope of attacks that could be included as CCAs and do not align with conventional wisdom. Key problems include definitions that require all attacks to have multiple assault locations, multiple attackers, multiple modes of assault, simultaneous assault phases, and assaults in confined areas.

Multiple locations and multiple attackers

Two reasons that several available CCA definitions do not align with conventional wisdom are that they require CCAs to include multiple attackers and multiple assault locations. The following examples from FEMA and National Tactical Officers Association (NTOA) demonstrate both problems.

- FEMA defined CCA in its 2016 CCTA grant announcement, stating that “complex coordinated terrorist attacks are acts of terrorism that: involve synchronized and independent **team(s)** at **multiple locations** sequentially or in close succession, initiated with little or no warning, and employing one or more weapon systems: firearms, explosives, fire as a weapon, and other non-traditional [assault] methodologies which are intended to result in large numbers of casualties.”⁸ [emphasis added]
- Similarly, the NTOA defines CCAs as “a synchronized attack, executed by two or more semi-independent **teams** that are working in coordination with each other. In these attacks, **multiple locations** are hit in close succession, without warning, by multiple, well-trained attackers who typically focus on soft targets.”⁹ [emphasis added]

By requiring that CCA assaults must take place at multiple locations, the FEMA and NTOA definitions would exclude any attacks in which assaults took place at a single location, including at least one attack that falls squarely within CCA conventional wisdom: four armed militants killed at least 67 people at

shootings-fast-facts/index.html.; “September 11th Terror Attacks Fast Facts,” CNN, August 24, 2017, accessed December 12, 2017, <http://www.cnn.com/2013/07/27/us/september-11-anniversary-fast-facts/index.html>.

⁸ “Notice of Funding Opportunity: Fiscal Year 2016 Program to Prepare Communities for Complex Coordinated Terrorist Attacks,” Department of Homeland Security, December 7, 2016, accessed December 12, 2017, https://www.ok.gov/homeland/documents/Fiscal_Year_2016_Program_to_Prepare_Communities_for_Complex_Coordinated_Terrorist_Attacks_NOFO_FINAL_20161207.pdf.

⁹ Mike Wood, “Police response to complex, coordinated attacks: 7 areas of focus for prep,” *PoliceOne.com*, January 20, 2017, accessed December 12, 2017, <https://www.policeone.com/special-coverage-shot-show-2017/articles/281917006-Police-response-to-complex-coordinated-attacks-7-areas-of-focus-for-prep/>.

Westgate Mall in Nairobi, Kenya on September 21, 2013.¹⁰ By being included in the overview of conventional wisdom above, the Westgate Mall attack demonstrates that a consensus CCA definition cannot require assaults at multiple locations.

Moreover, by requiring all CCAs to have multiple attackers, the FEMA and NTOA definitions would exclude any attacks that involved only one attacker, including the Virginia Tech attack, which is part of CCA conventional wisdom.¹¹ Requiring multiple attackers would also exclude other single-person attacks that, while not clearly part of CCA conventional wisdom, are similar to the Virginia Tech attack. In 2013, a single attacker in Santa Monica, California committed several shootings at several locations, including a community college and from a moving vehicle, and set fire to a house, resulting in 6 deaths and 4 injuries.¹² In 2011, a single attacker in Norway killed 8 in a bombing and then traveled to a nearby island and used a firearm to kill 69.¹³ The Virginia Tech attack's inclusion in CCA conventional wisdom thus demonstrates that a consensus CCA definition cannot require multiple attackers.

Multiple assault modes

Two additional CCA definitions do not align with conventional wisdom because they require that all CCAs include multiple modes of assault.

- In addition to providing a third example of the multiple location and multiple attacker problems, the following definition from a recent article published by the International Association of Fire Chiefs (IAFC) demonstrates the multiple assault mode problem. The article states that “As the name implies, a complex coordinated attack requires that the attack be complex, meaning that it occurs in **multiple locations** with **multiple [assault] modes**, and that those attacks are coordinated by the **attackers** to provide maximum effect.”¹⁴ [emphasis added]
- In addition to providing a fourth example of the multiple attacker problem, Anderson University Professor J. Howard Murphy also proposed a CCA definition that demonstrates the multiple assault mode problem, explaining CCAs as “high-risk, coordinated assaults frequently directed against multiple targets or infrastructure complexes (e.g. government or commercial buildings), **using mobile groups** to circumvent security measures, in which attackers employ **at least 2 distinct classes of weapons** systems (i.e. Improved [sic] Explosive Devices [IEDs], indirect fire, direct fire, firearms, etc.).”¹⁵ [emphasis added]

¹⁰ Tristan McConnell, “Close Your Eyes and Pretend to be Dead.”

¹¹ At Virginia Tech, a single shooter killed 32 in shootings at two different locations. “Virginia Tech Shootings Fast Facts,” *CNN*.

¹² City of Santa Monica Office of Emergency Management, *City of Santa Monica June 7th, 2013 Shooting Incident*, March 2014, accessed December 6, 2017, https://www.smgov.net/uploadedFiles/Departments/OEM/Video_Archive/Santa%20Monica%20Shooting%20Experience%20overFeb%202014.pdf, 3.

¹³ “Norway Terror Attacks Fast Facts,” *CNN*, July 20, 2017, accessed December 6, 2017, <http://www.cnn.com/2013/09/26/world/europe/norway-terror-attacks/index.html>.

¹⁴ Chief David Hall, “Terrorism & Homeland Security: Complex Coordinated Attacks – More than Active Shooter Events,” International Association of Fire Chiefs, August 2, 2017, accessed December 12, 2017, <https://www.iafc.org/on-scene/on-scene-article/terrorism-and-homeland-security-complex-coordinated-attacks-more-than-active-shooter-events>.

¹⁵ J. Howard Murphy, “Complex Coordinated Attacks.”

Requiring that all CCAs include multiple assault modes would exclude any attacks involving a single mode of assault, including the San Bernardino and Virginia Tech attacks, which both involved only firearms, and the London attack, which involved only explosives. Requiring multiple assault modes also excludes other single-mode attacks that, while not clearly part of CCA conventional wisdom, are similar to the San Bernardino, Virginia Tech, and London attacks. In October 2002, two shooters used firearms to kill 10 and wound 3 over fourteen different shootings in and around Washington, DC.¹⁶ From January 7 – 9, 2015, 3 attackers used firearms to kill a total of 17 at 4 different locations around Paris, including the offices of Charlie Hebdo magazine.¹⁷ On March 11, 2004, terrorists killed 191 and injured more than 1,800 in Madrid using explosives, detonating 10 bombs on four different trains.¹⁸ The San Bernardino, Virginia Tech, and London attacks' inclusion in CCA conventional wisdom thus demonstrates that a consensus CCA definition cannot require multiple assault modes.

Simultaneous assaults and confined areas

In addition to providing the fourth and fifth examples of the multiple location problem, two other definitions fail to align with conventional wisdom because they require that different assault phases of CCAs take place simultaneously.

- In content relating to the 2017-2018 National Exercise Program, FEMA provides a second CCA definition that differs from the one in their CCTA grant announcement, stating, “Complex coordinated attacks are **simultaneous**, synchronized [assaults] against **multiple targets** involving active shooters or technical hazards such as explosive devices.”¹⁹ [emphasis added]
- A well-known consulting firm defines a CCA as “the **simultaneous** and synchronized acts of mass murder at **multiple locations** targeting populated and **confined** areas.”²⁰ [emphasis added]

According to credible reports from all 10 conventional wisdom CCAs listed above, none included multiple assault phases at precisely the same moment.²¹ A consensus CCA definition thus cannot require assault phases to take place simultaneously.

The latter definition includes an additional problem, failing to align with conventional wisdom because it stipulates that CCAs must target confined areas. Although the word “confined” may be included in this definition so that it is similar to DHS’s definition of “active shooter,” assault portions of at least two CCAs that are part of CCA conventional wisdom took place in unconfined areas.²² In Paris, a suicide

¹⁶ “DC Area Sniper Fast Facts,” CNN, September 22, 2017, accessed December 6, 2017, <http://www.cnn.com/2013/11/04/us/dc-area-sniper-fast-facts/index.html>.

¹⁷ “2015 Charlie Hebdo Attacks Fast Facts,” CNN, December 22, 2016, accessed December 6, 2017, <http://www.cnn.com/2015/01/21/europe/2015-paris-terror-attacks-fast-facts/index.html>.

¹⁸ “Spain Train Bombings Fast Facts,” CNN, March 5, 2017, accessed December 6, 2017, <http://www.cnn.com/2013/11/04/world/europe/spain-train-bombings-fast-facts/index.html>.

¹⁹ “National Exercise Program: Introduction to the 2017-2018 Cycle,” Federal Emergency Management Agency, slide 20.

²⁰ “Preparing for a Complex Coordinated Attack,” Hagerty Consulting, 2017, accessed December 12, 2017, <http://hagertyconsulting.com/wp-content/uploads/2017/04/Complex-Coordinated-Attack.pdf>.

²¹ Hume, Ap, and Sanchez, “Here’s what we know about the Brussels terror attacks,” CNN.

²² DHS’s definition of active shooter is: “an individual actively engaged in killing or attempting to kill people in a confined and populated area; in most cases, active shooters use firearms(s) and there is no

bomber detonated his device in an open, unsecure plaza just outside the Stade de France. In Boston, both bombs detonated in unconfined outdoor areas. Requiring CCAs to take place in confined spaces would also exclude other attacks that, while not clearly part of CCA conventional wisdom, took place in similarly unconfined areas, including the Santa Monica, Norway, and DC Sniper attacks. The Boston and Paris attacks' inclusion in CCA conventional wisdom thus demonstrates that a consensus CCA definition cannot require assault phases to target confined areas.

All six definitions examined above are thus insufficient for use as a consensus CCA definition. All six demonstrate at least one of three common flaws in CCA definitions: requiring multiple assault locations, multiple attackers, and/or multiple assault modes. None are fully consistent with conventional wisdom, as identified in the table above.

Failure to Withstand Scrutiny

Any useable consensus CCA definition must withstand at least a modicum of scrutiny, but careful examination of four additional definitions demonstrates that none are robust enough to be useable. Two definitions include language that is confusing and/or nonspecific. The final two come closest to a usable robust, consensus definition, but fail to include critical geographic and temporal limitations.

Confusing and/or non-specific language

Two definitions are invalid because they use language that is confusing and/or nonspecific.

- Louisiana State University's National Center for Biomedical Research and Training (NCBRT) provides another example of problematic language in materials that summarize a "Critical Decision Making for Complex Coordinated Attacks" course that they offer, stating, "This course addresses the vulnerability of any community to a public safety situation, such as an active shooter at a shopping mall; a train derailment with hazardous chemicals; a bombing incident at a commercial district; a plane crash; or chemical, biological, radiological, nuclear, or explosive attack. These attacks, known as complex coordinated attacks, involve multiple threats that often exceed conventional response tactics. These attacks require a joint response involving members from varying disciplines and jurisdictions."²³

NCBRT's definition is far too broad and non-specific to be useful. It fails to require that any of the public safety threats it mentions even be the result of intentionally violent action, and does not distinguish CCAs from several existing public safety paradigms.

- Another homeland security consultancy has defined CCA as "killing or **threatening to kill** multiple **unrelated** individuals where there are [a] three or more attackers, or [b] simultaneous

pattern or method to their selection of victims." U.S. Department of Homeland Security. *Active Shooter How to Response*. October 2008, accessed December 6, 2017, https://www.dhs.gov/xlibrary/assets/active_shooter_booklet.pdf, 2

²³ "Critical Decision Making for Complex Coordinated Attacks," Louisiana State University National Center for Biomedical Research and Training," accessed December 12, 2017, <https://www.ncbrt.lsu.edu/Course/PER-335>.

[assault] of two or more sites, or [c] an act of terrorism which overwhelms the local jurisdiction and initiates a regional/statewide response."²⁴ [emphasis added]

It is unclear why the definition includes mere threats as a characteristic of a CCA. Though deadly threats should always be taken seriously, threats are distinct from actions both practically and legally. The consultancy may have included threats in their definition to align with definitions of "terrorism" that also include threats.²⁵ It is also possible that the consultancy meant to include attempts instead of threats, but their intent is ultimately unclear. Moreover, from a public safety perspective, there is no reason to state that CCA victims must be unrelated, either by blood or in some other sense. The definition is thus not robust enough to be usable.

Time, space, and non-assault phases

Of the 10 available definitions, the following two come closest to a usable industry-wide definition.

- The National Counterterrorism Center, Department of Homeland Security, and Federal Bureau of Investigation's Joint Counterterrorism Awareness Workshop Series (JCTAWS) states that a CCA is "a coordinated assault on one or more locations in close succession, initiated after little or no warning, employing one or more of the following: firearms, explosives, and arson."²⁶
- A recent article by Sean J. Britton in the Journal of Emergency Medical Services states that, though "'complex coordinated attack' hasn't been explicitly defined... it can be described as several terrorist actions occurring in close succession. Actions may include the use of firearms, explosive devices or other methods to inflict injury and death upon a population."²⁷

Both definitions are consistent with conventional wisdom because neither require CCAs to include multiple attackers, multiple assault locations, or multiple assault modes; have different assault phases take place simultaneously; or occur in confined spaces. They do, however, fail to fully withstand additional scrutiny because they lack 3 key characteristics: geographic limitations, temporal limitations, and the specific inclusion of non-assault phases of conventional wisdom CCAs that played key roles in those attacks.

²⁴ "Complex Coordinated Attack," C3 Pathways, December 6, 2015, accessed December 12, 2017, <http://www.c3pathways.com/support/index.php?action=artikel&cat=17&id=32&artlang=en>.

²⁵ Ongoing debate about the proper definition of "terrorism" is beyond the scope of this article. "Various Definitions of Terrorism," Arizona Department of Emergency and Military Affairs, accessed December 14, 2017, <https://dema.az.gov/sites/default/files/Publications/AR-Terrorism%20Definitions-BORUNDA.pdf>.

²⁶ Trent Elliott, "Complex Coordinated Terrorist Attack: Considerations for Practical Emergency Preparedness and Resiliency Exercises" (MPH diss., Wright State University, 2017), 6, <https://corescholar.libraries.wright.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1200&context=mph>.

²⁷ Sean J. Britton, "EMS Preparation and Response to Complex Coordinated Attacks."

Inclusion of non-assault phases

Non-assault phases of attacks should be specifically included in a robust, consensus CCA definition because they can be just as important as assault phases in establishing the unusual complexity that characterizes CCAs. Moreover, non-assault phases should be specifically included to better reflect several attacks that are part of CCA conventional wisdom. The manhunt that following the bombings was a key public safety challenge during the Boston Marathon attack, hostage situations were important parts of the attacks in Paris and at Westgate Mall, and a car chase was a key component of the San Bernardino attack. A robust, consensus CCA definition must therefore specifically include key non-assault phases.

Time and Geography

A robust CCA definition must also include limitations on the length of time and geographic distance between different portions of an attack. CCAs, such as the attacks in Paris, Mumbai, and Westgate Mall, can consist of multiple phases that are separated by minutes, hours, or even days while specific threats are active. However, common sense dictates that phases that are separated by multiple months or years have too much time between them constitute a single CCA. Though several existing definitions generally reference the timing of different phases of a CCA, none provide enough guidance to determine if phases that are separated by a month could constitute a single CCA. A robust, consensus CCA definition must therefore establish a temporal limitation to help distinguish between CCAs and non-CCAs.

Similarly, CCAs, such as the Westgate Mall attack, can consist of multiple phases that take place in a single location, or are separated by several miles, like the approximately five mile distance between assault sites in Paris.²⁸ However, common sense dictates that multiple, concurrent active shooters in New York, Los Angeles, and London would be too far apart to constitute a single CCA. It is less clear if assaults separated by 50 or 100 miles would qualify. A robust, consensus CCA definition must therefore also establish a geographic limitation to help distinguish between CCAs and non-CCAs.

One approach to solving the problems of where to draw the lines of time and geography is to consider the issue in reference to the specific aspects of CCAs that distinguish them from active shooters and other violent attacks, and make CCAs worth examining as a distinct phenomenon.²⁹ Specific CCA challenges can be summarized as unusual strain on 3 distinct aspects of managing a terrorist attack: command, information sharing, and resource allocation. It follows, then, that a robust CCA definition's limitations on time and/or geography must reflect geographic and temporal circumstances that are sufficient to place unusual strain on resource management, information sharing, and/or command capabilities.

Recommending A Robust, Consensus Definition

The previous paragraphs explain key characteristics that a CCA definition must possess to serve as a robust consensus. The definition must be consistent with conventional wisdom, withstand scrutiny, and

²⁸ "Paris Attacks – visual guide to a week that shook the French capital," *The Guardian*.

²⁹ David Schuld's work has been particularly useful in identifying key aspects of CCAs. David Schuld, "The Complex Coordinated Terrorist Attack Grant: The Complex Challenge America Must Prepare For."; "National Exercise Program: Introduction to the 2017-2018 Cycle," Federal Emergency Management Agency, 22.

emphasize the elements of CCAs that distinguish them as a specific public safety phenomenon. The definition must not exclude attacks that have a single attacker, single location, or single mode of assault. It must use clear and specific language, identify geographic and temporal limitations, and specifically include non-assault phases. HS/EM professionals should thus adopt the following CCA definition:

A complex coordinated attack (or complex coordinated terrorist attack) is a violent assault or series of assaults that employs one or more types of weapons, intends to injure or kill large numbers of people, and meets the following two criteria:

Criterion 1: The attack is multi-phased or takes place at multiple sites, or both.
(Phases can include assault phases, such as shootings, bombings, and arsons; and/or non-assault phases such as hostages, car chases, sieges, barricades, kidnappings, and manhunts, etc.)

Criterion 2: The attack must take place within geographic and temporal circumstances that result in unusual strain on command, information sharing/situational awareness, and/or resource allocation.

Criticism and Limitations

The definition that this article proposes is a major improvement, but it is not perfect. Analysis of the recommended definition reveals three key problems: it does not explain what would constitute “geographic and temporal circumstances that would result in unusual strain,” may not require CCAs to be both complex and coordinated, and does not define “multi-phase” or “multi-site.”

Does not describe “geographic and temporal circumstances that result in unusual strain”

One reasonable criticism of the recommended definition is that it is not specific about the geographic and temporal limitations needed to distinguish between CCAs and non-CCAs.

In particular, it does not specify quantifiable ranges of time or distance that would or would not constitute a CCA, and does not explain how to identify “unusual strain.”

Though significant deficiencies, the approach’s failure to draw a firm, clear line between what characterizes a CCA and what does not is essential because it allows the CCA definition to be flexible enough to be used by all public safety partners regardless of differences in public safety capabilities. Indeed, multiple related shooting incidents separated by several hours and/or 25 miles might not strain a large, resource-rich urban area, but might strain capabilities beyond the breaking point in a more remote area. Such flexibility is vital if the definition is to reflect a true consensus while robustly acknowledging that multiple portions of a CCA cannot be separated by unlimited amounts of time and space.

Does Not Require Attacks to be Both Complex and Coordinated

Another legitimate criticism of the recommended definition is that it interprets the words “complex” and “coordinated” too broadly, and as a result identifies as CCAs some attacks that may not be both complex and coordinated. For example, it would be reasonable to believe that a multi-phased single-

perpetrator attack is complex but not coordinated, as some may hold that coordination requires multiple attackers. It would be similarly reasonable to believe that two simultaneous active shooter events on the same street are coordinated but not complex, as some may hold that complexity requires additional complications beyond a relatively straightforward active shooter incident. Both scenarios would be considered CCAs under the recommended definition, demonstrating that the definition would not be fully congruent with the actual phrase “complex coordinated attack.” Though a legitimate criticism, the disparity between the meaning of the phrase “complex coordinated attack” and the definition is necessary to ensure consistency with conventional wisdom.

Does Not Define “Multi-phase,” or “Multi-site.”

Uncertainty remains about what types of actions would satisfy the “multi-phase” portion of the first criterion. The definition includes several examples of actions that would qualify as one of multiple phases, but the list is not all-inclusive. Indeed, the San Bernardino attack featured an assault with firearms as well as an attempted bombing. Reasonable people could disagree about whether a failed attempt is sufficient to constitute an additional phase.

Uncertainty also remains about what constitutes a “multi-site” attack. For example, reasonable people could disagree over whether the Boston Marathon bombings, which were separated by about 100 yards, took place at one location or two.³⁰

These criticisms are legitimate and compelling, and suggest that HS/EM professionals should continue working to identify an even more specific definition. But the vagueness in the recommended definition is no worse than that which is already present in the 10 existing definitions examined above. Some degree of vagueness is unavoidable for there to be a true consensus, and the consensus is critical to strengthening CCA preparedness by ensuring that various efforts are complementary and consistent. Overall, the recommended definition’s benefits far exceed its drawbacks.

Conclusion

A critical early step in CCA preparedness is defining CCA to ensure that all partners understand what they are preparing for. Existing CCA definitions are not suitable to serve as an industry-wide consensus because none both withstands basic scrutiny and is consistent with the shared views of industry authorities and subject-matter experts. Homeland security and emergency management professionals can ensure that that variegated CCA preparedness efforts are consistent and complementary by adopting the robust, consensus definition identified above.

³⁰ Ford, Smith, and McShane, “Police narrow in on two suspects in Boston Marathon bombings.”



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