

## Armed Assault

A hostile, non-state actor(s) uses assault tactics to conduct strikes on vulnerable target(s) within the U.S., resulting in at least one fatality or injury.

### Data Summary

In the following table, note that the low and high likelihoods do not correspond to the low and high impacts. In addition, low and high impacts are not necessarily correlated with each other between different impact categories.

Category	Description	Metric	Low	Best	High
Health and Safety	Fatalities	Number of Fatalities	0	2 <sup>1</sup>	334
	Injuries and Illnesses	Number of Injuries or Illnesses	0	6	810
Economic	Direct Economic Loss	U.S. Dollars (2011)	\$61,000	\$510,000	\$78 million
Social	Social Displacement	People Displaced from Home ≥ 2 Days	0	0	0
Psychological	Psychological Distress	Qualitative Bins	See text		
Environmental	Environmental Impact <sup>2</sup>	Qualitative Bins	<i>De minimus</i> <sup>3</sup>		
LIKELIHOOD	Frequency of Events <sup>4</sup>	Number of Events per Year	0.11	0.48	3

### Overview

Frequency, fatality, and injury estimates for the 2015 SNRA Armed Assault event were derived from unclassified statistical and historical data published by the Federal Bureau of Investigation (FBI).<sup>5</sup> These primary FBI sources were supplemented with data and research from multiple secondary public sources, in particular the START Global Terrorism Database (GTD)<sup>6</sup> (the primary source for impact data for the 2011 SNRA event), peer-reviewed literature, and U.S. and foreign press sources.

<sup>1</sup> Best estimate fatalities, 1.94 (weighted average fatalities given attack).

<sup>2</sup> In 2011, the U.S. Environmental Protection Agency (EPA) convened an ad hoc group of environmental experts representing the fields of environmental science, ecological risk, toxicology, and disaster field operations management to estimate environmental impacts for this event in the 2011 SNRA. The comments and rankings presented in this Risk Summary Sheet have not undergone review by the EPA and only represent the opinions of the group. Estimates pertain to the potential for adverse effects on living organisms associated with pollution of the environment; they are grouped into high, moderate, low, and de minimus (none) categories.

<sup>3</sup> Experts provided both first and second choice categories, allowing the experts to express uncertainty in their judgments as well as reflect the range of potential effects that might result depending on the specifics of the event. The first choice represents the 'Best' estimate.

<sup>4</sup> Low estimate, inverse of maximum inter-arrival time between U.S. historical incidents, Table 1 (9 years, 1985 to 1994); best estimate, average frequency 1980–2012, Table 1; high estimate, most incidents in one year (3 in 2009), Table 1.

<sup>5</sup> FBI (1982), FBI (1983), FBI (1984), FBI (1986), FBI (2000), FBI (2006), FBI (2011); additional FBI sources as cited.

<sup>6</sup> The GTD is an open-source database including information on terrorism events around the world (including domestic, transnational, and international incidents) from 1970 to 2010. For each GTD incident, information is available on the date and location of the incident, the weapons used and nature of the target, the number of casualties, and—when identifiable—the group or individual responsible.

START, the National Consortium for the Study of Terrorism and Responses to Terrorism, is a DHS Center of Excellence and network of scholars coordinated from the University of Maryland. Since 2011 when the first SNRA was executed the START GTD has become the most commonly cited source for global terrorism statistical data, and is now used as the primary data source (with similar parameters as the 2011 SNRA) for the U.S. Government's annual Statistical Annex on Terrorism published for the U.S. State Department's Country Reports on Terrorism. START GTD (2013).

## Assumptions

Historical incident statistics published by the FBI were used as the primary data source for this event. These were supplemented with additional data from the START Global Terrorism Database,<sup>7</sup> scholarly reviews, and press sources as needed.

Historical incidents of indiscriminate violence resulting in one or more fatality or injury other than the attacker(s), identified as acts of terrorism by U.S. Government sources, occurring in the U.S. homeland between 1980 and 2012 were included (Table 1). All of the following criteria were required to be met:

- U.S. Government (FBI) characterization of the incident as a terrorist attack;
- Occurring within the U.S. homeland;<sup>8</sup>
- Resulting in at least one fatality or injury, other than the attacker(s);
- Indiscriminate (assassinations are excluded from scope); and
- Meeting the definition of the Armed Assault event given above.

Targeted attacks where the victim was known and selected by the attacker were considered assassinations, as opposed to armed assault/active shooter incidents (regardless of whether they met other criteria for terrorism). However, attacks targeting particular people that resulted in harm to others were included in the scope of this event.

The beginning observation period date of 1/1/1980 was determined by the primary FBI source data set which included U.S. incidents from 1980 to 2005.<sup>9</sup> The end observation date of 12/31/2012 was selected, because in many cases a definite determination by the U.S. Government that an act is terrorist in nature requires some degree of distance.<sup>10</sup>

- In an absence of a single authoritative FBI list of designated terrorist incidents post-2005, meeting this requirement necessitated searching through public statements and speeches by political leadership, review articles, newspaper interviews, Federal indictments, and other sources to effect a positive determination for each incident that the U.S. Government (in all cases, the FBI) considered a terrorist assault as opposed to a hate crime, active shooter, or some other violent act.

This determination is not often clear or fixed in the immediate aftermath of an attack. For example, the March 2013 Boston Marathon bombing was deliberately not classified as a terrorist attack by the U.S. Treasury for insurance purposes.<sup>11</sup> The U.S. Government designation as terrorist or non-terrorist of the November 2013 assault on a Transportation Safety Administration checkpoint, which killed one of the Department's own, also remains ambiguous at the time of writing.<sup>12</sup>

## Frequency

Incidents between 1980–2005 causing fatalities or injuries were those identified by the last FBI statistical review of terrorism in the U.S.<sup>13</sup> Incidents occurring from 2006–2012 were those specifically identified as terrorist acts in subsequent FBI reviews and official statements.

<sup>7</sup> START GTD (2013).

<sup>8</sup> Including territories and possessions identified in the Stafford Act and the Homeland Security Act of 2002, as amended.

<sup>9</sup> FBI (2006).

<sup>10</sup> FBI (2006) 32 (2002 LAX shooter discussion).

<sup>11</sup> Insurance Journal (2014, September 19), (2013, November 27).

<sup>12</sup> February 2015.

<sup>13</sup> FBI (2006).

Incidents that targeted and resulted in harm to specific individuals were classified as assassinations outside the scope of the other events.<sup>14</sup> Literature sources, in particular but not limited to the other FBI statistical annual reports<sup>15</sup> (1981–2005) and the START Global Terrorism Database,<sup>16</sup> were consulted to determine the discriminate or indiscriminate nature of the attack. Incidents involving the use of explosives as the primary instrument of violence,<sup>17</sup> aircraft as a weapon, or unconventional (chemical, biological, radiological, nuclear (CBRN)) materials were excluded from the scope of the Armed Assault event. One incident involved an attack with a vehicle, driven into a crowd as opposed to a vehicle bomb;<sup>18</sup> the remainder involved firearms.

To identify the national risk baseline for this kind of attack, the resulting list of 16 incidents were analyzed as a recurring historical event similar to the SNRA's analysis of natural and technological hazards.

- In part, this reflects agnosticism in the absence of other public information of predictive value. Terrorism is driven by multiple deterministic drivers, as well as stochastic (chance) factors. However, without knowledge of those factors that would both remain valid and have predictive value for each successful attack in the U.S. for the next 3–5 years (the time frame of the 2015 SNRA), representation as a random event without additional qualifications accurately represents our actual state of knowledge.<sup>19</sup>
- Additionally, given current disagreements about the nature and future path of terrorism, this choice is also motivated by the utility of a description of the historical baseline which can be objectively agreed upon, by decision makers with differing beliefs about the future threat environment, as a common point of departure.
- However, it is also chosen for consistence with the findings of past U.S. Government reviews that periods of political violence of even greater intensity—and public awareness of that intensity—than that of today are in fact the historical norm for our country, rather than the exception.<sup>20</sup>

The average frequency of attacks in the 33-year observation period was used as the basis of the best estimate. Similar to natural hazards, the low estimate of frequency is the inverse of the longest time gap between events (the longest inter-arrival time), and the high estimate the largest number of events in one year.

### *Health and Safety*

Perpetrator fatalities and injuries were not counted. For events occurring 1980–2005, the numbers given by the FBI were used. For events occurring 2006–2012, the numbers given by the

<sup>14</sup> Assassinations are not currently considered in the SNRA, but are part of one of the Department's highest profile missions (protection of dignitaries).

<sup>15</sup> FBI (1992), FBI (1993), FBI (1994), FBI (1995), FBI (1996), FBI (1997), FBI (1998), FBI (1999), FBI (2000), FBI (2001), FBI (2006).

<sup>16</sup> START GTD (2013).

<sup>17</sup> This division is intended to clarify the scope of the SNRA 2015 explosives and armed assault events. Although SNRA 2011 national-level events were intended to be mutually exclusive in scope, the focus of the Armed Assault attack on coordinated team attacks using hand-carried explosives resulted in a substantial overlap of the historical data sets used for the primary impact estimates of each event. While this is not a methodological issue when the data are intentionally used as proxy estimates for future attacks in the U.S. as they were in the 2011 SNRA (both events used worldwide 1970–2010 incident data from the START GTD), it becomes a prohibitive issue when the same historical data are used as the basis for each event's frequency estimates, as they are in SNRA 2015.

<sup>18</sup> The 3/3/2006 Chapel Hill assault (Table 1).

<sup>19</sup> Mohtadi et al (2005, 2009a).

<sup>20</sup> Staff and Commission reports and data set produced for/by the 1968–69 National Commission on the Causes and Prevention of Violence (Graham et al (1969), Kirkham et al (1969), Levy (1969a, b, c), National Commission on the Causes and Prevention of Violence (1969)). See also [non-USG] Gage (2004), Gage (2011), START GTD (2013), Turchin et al (2014).

primary FBI sources were supplemented with data from the GTD and other sources. The average number of fatalities and injuries were taken as the best estimates.

- The low estimate for both fatalities and injuries is zero, since events with one fatality and zero injuries (and the converse) define the lower threshold of the set.
- Rather than the highest of this set, the high estimates for fatalities and injuries are taken from the September 2004 school siege and massacre in the Russian town of Beslan to represent the range of catastrophic human consequences evidenced by history to be possible outcomes of terrorist armed assault attacks.<sup>21</sup>

### *Direct Economic Loss*

The SNRA direct economic metric includes

- **Decontamination, Disposal, and Physical Destruction (DDP):** The value or replacement cost of physical buildings, infrastructure, building contents, vehicles, and other physical property directly destroyed by the attack. This includes decontamination, if any, and debris removal costs.
- **Business Interruption:** Business interruption costs caused directly by the incident or the immediate investigation, as opposed to shock, substitution, or second-order effects on the economy.
- **Medical Costs:** Cost of medical care to injured, including those who become fatalities.
- **Lost Demand from Fatalities:** No economic value was assigned to a human life (or injury) in itself as a Value of Statistical Life, because this is a value judgment which differs from person to person, and because it would represent double counting with these impacts counted separately. The lost contribution to the national economy as spending was captured, but capped at one year for consistency with benchmark risk assessments. This value was taken at \$42,500, the midpoint of the median \$35,000–\$50,000 household earning value used as the average one year spending per person by past assessments.

Direct economic costs were calculated by the SNRA project team using the following assumptions:

- **DDP Costs:** The SNRA project team made the assumption that the property damage costs were dominated by the other costs counted under the direct economic damage metric, and could be neglected in comparison for the order of magnitude precision of the SNRA.<sup>22</sup> Except for the most complex armed assault events such as Beslan or the 2008 Mumbai attacks—conducted by coordinated assault teams using hand-carried explosives or incendiaries in addition to guns—the direct property damages of active-shooter attacks (terrorist or otherwise) are much smaller than for explosives or other terrorist attack types.
- **Business Interruption:** Business interruption costs were estimated from the \$10 million lost business costs to the approximately 500 businesses in the 12-block immediate impact area of

<sup>21</sup> Official figures, Russian Government. 334 fatalities and 810 non-fatal injuries include victims and response personnel (civil and military), but does not include the hostage-takers. RT (2014).

<sup>22</sup> The scope of the Armed Assault event contains spectacular exceptions, some of which—such as the 2008 coordinated team attacks in Mumbai, India—comprise the original exemplar of the Armed Assault event in the 2011 SNRA. However, the SNRA 2011 data which define the scope of the event in fact are dominated by small-scale shooting incidents which would be categorized as active shooter or spree killer incidents were they not politically motivated.

the 2013 Boston Marathon bombing that was restricted for approximately one week of investigation.<sup>23</sup>

- The size and duration of the restricted immediate impact area was considered to be a reasonable estimate for the post-attack investigation of any terrorist attack of comparable magnitude in this country.
- For the purposes of estimating business interruption costs for armed assault attacks, the resulting proportional multiplier of \$37,000 per casualty (fatality + injury) of the Boston bombings was used to estimate business interruption costs for the historical armed assault attacks in this data set.<sup>24</sup>
- **Medical Costs:** An average medical cost of \$5,200 per fatality and \$24,000 per non-lethal injury<sup>25</sup> was applied. These estimates, based upon the average medical costs for gunshot injuries due to deliberate assault or homicide in the U.S., were judged to be most representative of injuries due to other extreme violence and were used for each of the conventional terrorism events of the 2015 SNRA.
- **Lost Demand from Fatalities:** To estimate the costs of lost demand from deaths, the SNRA project team multiplied the number of deaths listed in Table 1 by \$42,500, the same figure used across the SNRA 2011 events.<sup>26,27</sup>

As with the fatality and injury numbers, the lowest and average estimates of the historical data set were used as the low and best estimates of direct economic loss. The high estimate is that of the representative worst case scenario based on the Beslan attack, with the same multipliers applied to fatalities and injuries to estimate the direct economic costs of a similar scale scenario in this country.

Indirect, induced, or total economic loss estimates were not calculated for the 2015 revision of the SNRA.

### *Social Displacement*

For the purposes of the SNRA, social displacement was defined as the number of people forced to leave home for a period of two days or longer. Note that there are limitations to this measure of social displacement, as the significant differences between temporary evacuations and permanent displacement due to property destruction are not captured.

<sup>23</sup> Exclusion zone 12 blocks, with 500 businesses, Luna (2013); cost to businesses in exclusion zone for one week restrictions \$10 million, Dedman et al (2013). Costs of the citywide lockdown and law enforcement deployment were excluded from the estimate here, because they are not characteristic of the aftermath of most terrorist attacks in this country. Direct property damage costs were also excluded, since these were specific to the bomb attack. Note that estimates of \$250–\$300 million often reported (Green et al (2013), Dedman et al (2013), Luna (2013)) in the media refer to costs of the lockdown. They are a reasonable estimate of this (being calculated as a 1/2–1/3 of one day's economic activity of Boston), but such broad lockdowns accompany few, if any, of the other bombing and shooting attacks included here. Most conventional-weapon terrorist attacks (bombs, flame, guns) are very localized in their direct effects to property and business interruption.

<sup>24</sup> This counts interruptions to public sector activity, such as the Fort Hood or Little Rock shootings at U.S. Government facilities, on the same basis as private sector economic activity. This equivalence is applied only in this estimator (e.g., lost taxes or parking fines and public sector response costs not counted in the medical costs are not included in the total direct economic loss estimates).

<sup>25</sup> Medical cost per fatal and non-fatal injury for gunshot injuries in the United States from Corso et al (2007), adjusted from 2000 to 2011 dollars using the general CPI-U inflator (1.306). Estimated costs from lost labor productivity are not included.

<sup>26</sup> This number originates from the 2008 Bioterrorism Risk Assessment (BTRA 2008) (the BTRA as a whole is classified Secret, but its economic methodology appendix is U//FOUO), and represents the midpoint (the expected value of a linear uniform distribution over the interval) of the \$35,000–\$50,000 median household income band in 2011. DHS (2008) pp. E2.7–34. (Appendix reference is UNCLASSIFIED//FOR OFFICIAL USE ONLY; Extracted information is UNCLASSIFIED.)

<sup>27</sup> Some calculations in prior estimates subtract, from the base \$42,500 per fatality, \$6,000 for increased economic activity from funerary expenses. As this difference was inconsistently applied in the 2011 SNRA and was considered insignificant within the targeted order of magnitude precision of the SNRA, this adjustment was discontinued for new estimates generated for the 2015 revision.

Since attacks targeted at specific persons were excluded from the scope of the armed assault event, all attacks in this set occurred in public places rather than private homes or residential neighborhoods. For this reason, the project team assumed that the number of persons displaced from their homes would be zero for all three of the low, best, and high estimates.

### ***Psychological Distress***

Psychological impacts for the SNRA focus on significant distress and *prolonged distress*, which can encompass a variety of outcomes serious enough to impair daily role functioning and quality of life. An index for significant distress was created that reflected empirical findings that the scope and severity of an event is more important than the type of event.<sup>28</sup> The equation for this index uses the fatalities, injuries, and displacement associated with an event as primary inputs. A multiplicative factor elicited (in 2011) from subject matter experts for weights the index for differing psychological impact based on the type of event, but as a secondary input.

- The Significant Distress Index is calculated from these inputs using a formula proposed by experts consulted for the SNRA project:  $N_{SD} = C_{EF} \times (5 Fat + Inj + \frac{1}{2} D)$ , where  $N_{SD}$  represents the number of persons significantly distressed,  $C_{EF}$  is the expert assessed Event Familiarity Factor,  $Fat$  is the number of fatalities,  $Inj$  is the number of injuries and/or illnesses, and  $D$  is the number of persons displaced (Social Displacement).
- In words, this formula suggests that there are 5 significantly distressed persons for each life lost; 1 for each person injured; and 1 for each 2 people displaced. This formula was constructed to reflect the empirical finding that the most severe stressor of a disaster is losing a loved one, followed by injury, followed by displacement.
- The Event Familiarity Factor is intended to capture the extent to which the event entails an ongoing threat with uncertainty regarding long term effects, is unfamiliar, or that people dread, exacerbating psychological impacts. This factor, ranging from 1.0 for familiar events to 1.3 for unfamiliar events, was provided by the experts for each national-level event included in the SNRA: Armed Assault was given a  $C_{EF}$  of 1.1.
- Uncertainty was captured by applying the index formula to the low, best, and high estimates of these three human impact metrics.

The numerical outputs of this index formula were used to assign events to bins of a risk matrix for a semi-quantitative analysis of psychological risk in the SNRA.

### ***Environmental Impact***

In 2011, the U.S. Environmental Protection Agency (EPA) convened an ad hoc group of environmental experts representing the fields of environmental science, ecological risk, toxicology, and disaster field operations management to estimate environmental impacts for this event in the 2011 SNRA. Estimates are based on the following assumptions:

- Experts were elicited to provide estimates in the environmental impact category based on assumptions. Actual environmental/ecological harm that occurs as a result of the events described in a given scenario may vary considerably, and will depend on numerous variables (e.g., chemical or biological agent, contamination extent, persistence, toxicity—both chronic and acute toxicity—and infectivity).

<sup>28</sup> See Appendix G for references and additional discussion of the SNRA Psychological Distress metric.



- EPA defined environmental consequence (impact)<sup>29</sup> as the potential for adverse effects on living organisms associated with pollution of the environment by effluents, emissions, wastes, or accidental chemical releases; energy use; or the depletion of natural resources.
- The environmental assessment included effects resulting from terrorism threats, but did not include human health effects or effects in urban areas because these effects are already reflected in other impact measures.
- Experts identified the best estimate for environmental impacts as “*de minimus*.” Environmental impacts would be minimal.

### ***Trend Adjustment (Optional)***

Although it is not applied in this summary sheet, an alternative analysis could incorporate trend information from allied nations with similar security conditions (Western Europe and Canada) by multiplying the best and high estimate frequencies by a factor proportional to the frequency of current attacks relative to 4–5 years ago. This adjustment should be considered only if the trend is unambiguous.

### **References/Bibliography**

Braun, Andrew and John Mueller (2014, February 21), and Andrew Braun. Case 17: University of North Carolina. In Mueller (2014); and at <http://politicalscience.osu.edu/faculty/jmueller/17UNC7.pdf> (retrieved May 2014).

Bureau of Economic Analysis (2014b) (2014, November 26). Personal Income and Its Disposition, Monthly. Table 2.6, National Income and Product Accounts Tables. At <http://www.bea.gov/national/txt/dpga.txt> (retrieved 28 September 2014). At <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&904=2011&903=76&906=q&905=2011&910=x&911=0> (retrieved 14 December 2014).

Bureau of Labor Statistics (2013, August 15). Consumer Price Index (CPI-U); at <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt> (retrieved 15 September 2013).

Coleman, Michael and John Mueller (2011, June 4). Case 26: Little Rock. In Mueller (2014); and at <http://politicalscience.osu.edu/faculty/jmueller/26LTRK7.pdf> (retrieved May 2014).

Corso et al (2007, June). Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *American Journal of Preventative Medicine* 32(6) 474–482.

Dedman et al (2013, April 30). Adding up the financial costs of the Boston bombings. NBC News. At <http://usnews.nbcnews.com/news/2013/04/29/17975443-adding-up-the-financial-costs-of-the-boston-bombings?lite> (retrieved 2 March 2014).

Federal Bureau of Investigation (1982). FBI analysis of claimed terrorist incidents in the U.S. 1981. Terrorist Research and Analytical Center, FBI: at Federal Bureau of Investigation (1983). FBI analysis of terrorist incidents in the United States 1982. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI. *Terrorism: An International Journal* 7(1) 87–117: at <https://www.ncjrs.gov/pdffiles1/Digitization/94047NCJRS.pdf> (retrieved 25 August 2014).

Federal Bureau of Investigation (1984). FBI analysis of terrorist incidents in the United States 1983. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <https://www.ncjrs.gov/pdffiles1/Digitization/100343NCJRS.pdf> (retrieved 25 August 2014).

Federal Bureau of Investigation (1985). FBI analysis of terrorist incidents and terrorist related activities in the United States 1984. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <https://www.ncjrs.gov/pdffiles1/Digitization/120257NCJRS.pdf> (retrieved 25 August 2014).

<sup>29</sup> The 2011 SNRA referred to impacts as ‘consequences’ because of prior usage in quantitative risk assessment (Kaplan and Garrick [1981, March], On the quantitative definition of risk: *Risk Analysis* 1(1) 11–32). Except where it will cause confusion, ‘impact’ is used synonymously in this document because of pre-existing connotations of the word ‘consequence’ within FEMA.

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Federal Bureau of Investigation (1986). FBI analysis of terrorist incidents and terrorist related activities in the United States 1985. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <http://www.higginsctc.org/terrorism/FBI%201985.pdf> (retrieved 31 August 2014).

Federal Bureau of Investigation (1987). FBI analysis of terrorist incidents in the United States 1986. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <http://www.higginsctc.org/terrorism/FBI%201986.pdf>, <http://catalog.hathitrust.org/Record/011327940> (retrieved 31 August 2014).

Federal Bureau of Investigation (1988). Terrorism in the United States 1987. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <https://www.ncjrs.gov/pdffiles1/Digitization/138653NCJRS.pdf> (retrieved 25 August 2014).

Federal Bureau of Investigation (1989). Terrorism in the United States 1988. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <https://www.ncjrs.gov/pdffiles1/Digitization/138780NCJRS.pdf> (retrieved 25 August 2014).

Federal Bureau of Investigation (1990). Terrorism in the United States 1989. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <https://www.ncjrs.gov/pdffiles1/Digitization/138715NCJRS.pdf> (retrieved 25 August 2014).

Federal Bureau of Investigation (1991). Terrorism in the United States 1990. Terrorist Research and Analytical Center, Criminal Investigative Division, FBI: at <http://hdl.handle.net/2027/mdp.39015031762175> (retrieved 31 August 2014).

Federal Bureau of Investigation (1992). Terrorism in the United States 1991. Terrorist Research and Analytical Center, Intelligence Division, FBI: at <http://hdl.handle.net/2027/mdp.39015029923375> (retrieved 31 August 2014).

Federal Bureau of Investigation (1993). Terrorism in the United States 1982–1992. Terrorist Research and Analytical Center, Intelligence Division, FBI: at <https://web.archive.org/web/20070926230032/http://www.terrorisminfo.mipt.org/pdf/TerrorismInUS1992.pdf> (retrieved 6 September 2014).

Federal Bureau of Investigation (1994a). Terrorism in the United States 1993. Terrorist Research and Analytical Center, National Security Division, FBI: at (retrieved 31 August 2014).

Federal Bureau of Investigation (1995). Terrorism in the United States 1994. Terrorist Research and Analytical Center, National Security Division, FBI: at <http://hdl.handle.net/2027/mdp.39015043285934> (retrieved 31 August 2014).

Federal Bureau of Investigation (1996). Terrorism in the United States 1995. Terrorist Research and Analytical Center, National Security Division, FBI: at <http://hdl.handle.net/2027/mdp.39015043289571> (retrieved 31 August 2014).

Federal Bureau of Investigation (1997). Terrorism in the United States 1996. Counterterrorism Threat Assessment and Warning Unit, National Security Division, FBI: at [http://www.fbi.gov/stats-services/publications/terror\\_96.pdf](http://www.fbi.gov/stats-services/publications/terror_96.pdf) (retrieved 10 October 2013).

Federal Bureau of Investigation (1998a). Terrorism in the United States 1997. [http://www.fbi.gov/stats-services/publications/terror\\_97.pdf](http://www.fbi.gov/stats-services/publications/terror_97.pdf) Counterterrorism Threat Assessment and Warning Unit, National Security Division, FBI: at [http://www.fbi.gov/stats-services/publications/terror\\_98.pdf](http://www.fbi.gov/stats-services/publications/terror_98.pdf) (retrieved 10 October 2013).

Federal Bureau of Investigation (1999a). Terrorism in the United States 1998. Counterterrorism Threat Assessment and Warning Unit, National Security Division, FBI: at (retrieved 24 August 2014).

Federal Bureau of Investigation (1999b). 1998 Bombing Incidents. FBI Bomb Data Center, General Information Bulletin 98-1: at <https://web.archive.org/web/20120608024053/http://library.sau.edu/bestinfo/Majors/Criminal/Bomb.pdf> (retrieved 12 July 2014).

Federal Bureau of Investigation (1999c). Project Megiddo. At <http://permanent.access.gpo.gov/lps3578/www.fbi.gov/library/megiddo/megiddo.pdf> (retrieved April 2013).

Federal Bureau of Investigation (2000). Terrorism in the United States 1999. Counterterrorism Threat Assessment and Warning Unit, Counterterrorism Division, FBI: at [http://www.fbi.gov/stats-services/publications/terror\\_99.pdf](http://www.fbi.gov/stats-services/publications/terror_99.pdf) (retrieved 10 October 2013).

Federal Bureau of Investigation (2002). Terrorism 2000/2001. Counterterrorism Division, FBI: at <http://www.fbi.gov/stats-services/publications/terror/terrorism-2000-2001> (retrieved 10 October 2013).

Federal Bureau of Investigation (2004, April 15). The terrorist threat to the US homeland: an FBI assessment. Declassified redaction released under FOIA. George Washington University National Security Archive 386, Document



- 19, at <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB386/>, at <https://s3.amazonaws.com/s3.documentcloud.org/documents/402515/doc-19-terrorist-threat-to-homeland.pdf> (retrieved 23 May 2014).
- Federal Bureau of Investigation (2006). Terrorism 2002–2005. Counterterrorism Division, FBI: at <http://www.fbi.gov/stats-services/publications/terrorism-2002-2005> (retrieved 10 October 2013).
- Federal Bureau of Investigation (2011, September). Terrorism (special issue). FBI Law Enforcement Bulletin 80(9). At <http://www.fbi.gov/stats-services/publications/law-enforcement-bulletin/september-2011/September-2011-leb.pdf> (retrieved May 2014).
- Gage, Beverly (2004). The Wall Street Explosion: Capitalism, Terrorism, and the 1920 Bombing of New York. Dissertation, Columbia University.
- Gage, Beverly (2011, June). Terrorism and the American experience: a state of the field. *Journal of American History* 98(1) 73–94.
- Graham et al (1969, June). Violence in America: Historical and Comparative Perspectives. Volumes 1 and 2, staff report to the National Commission on the Causes and Prevention of Violence. U.S. Government Printing Office, Washington DC. Reproduced, with some missing pages, at <https://www.ncjrs.gov/pdffiles1/Digitization/763NCJRS.pdf> (retrieved 25 August 2014).
- Green et al (2013, April 19). It costs \$333 million to shut down Boston for a day. *Businessweek*: at <http://www.businessweek.com/articles/2013-04-19/it-costs-333-million-to-shut-down-boston-for-a-day> (retrieved 7 September 2014).
- Insurance Journal (2013b) (2013, November 27). Mass. Regulator offers update on industry developments, Boston Bombing claims. At <http://www.insurancejournal.com/news/east/2013/11/27/312578.htm> (retrieved 17 November 2014).
- Insurance Journal (2014, September 19). Treasury hasn't determined Boston Bombing was 'act of terrorism' under TRIA. At <http://www.insurancejournal.com/news/east/2014/09/19/340994.htm> (retrieved 16 February 2015).
- Levy, Sheldon G. (1969a) (1969). Political Violence in the United States 1819–1968 data set. Data, ICPSR00080-v1. Inter-university Consortium for Political and Social Research [distributor], Ann Arbor, 1991. At <http://doi.org/10.3886/ICPSR00080.v1> (retrieved 16 November 2013).
- Levy, Sheldon G. (1969b) (1969, June). A 150-year study of political violence in the United States. Part I Appendix A, pp 65–78, vol. I: in Graham et al (1969, June). Violence in America: Historical and Comparative Perspectives. Volumes 1 and 2, staff report to the National Commission on the Causes and Prevention of Violence. U.S. Government Printing Office, Washington DC. Reproduced, with some missing pages, at <https://www.ncjrs.gov/pdffiles1/Digitization/763NCJRS.pdf> (retrieved 25 August 2014).
- Levy, Sheldon G. (1969c) (1969, October). Political violence in the United States. Chapter 4 (pp 171–241), in Kirkham et al (1969, October). Assassination and Political Violence. Vol. 8, Staff report to the National Commission on the Causes and Prevention of Violence. U.S. Government Printing Office, Washington DC.
- Luna, Taryn (2013, April 27). Back Bay businesses affected by bombings are eligible for federal loans. *Boston Globe* [Boston.com]: at <http://www.boston.com/business/news/2013/04/26/back-bay-businesses-affected-bombings-are-eligible-for-federal-loans/BRSPuC0GboxQWAACCycGgI/story.html> (retrieved 7 September 2014).
- Mueller, John (ed.) (2014, March). Terrorism since 9/11: the American cases. At <http://politicalscience.osu.edu/faculty/jmueller/since.html>, <http://politicalscience.osu.edu/faculty/jmueller/SINCE.pdf> (retrieved May 2014).
- Mohtadi et al (2005, August 16). Assessing the risk of terrorism using extreme value statistics. Presentation. At <http://create.usc.edu/assets/pdf/51827.pdf> (retrieved 15 July 2011).
- Mohtadi et al (2009a) (2009, March 16). Risk of catastrophic terrorism: an extreme value approach. *Journal of Applied Econometrics* 24, 537–559; at <http://create.usc.edu/assets/pdf/51827.pdf> (retrieved 21 March 2013).
- National Commission on the Causes and Prevention of Violence (1969, December 10). Final Report [To Establish Justice, to Insure Domestic Tranquility]. U.S. Government Printing Office, Washington DC. At <https://www.ncjrs.gov/pdffiles1/Digitization/275NCJRS.pdf> (retrieved 26 September 2014).
- National Consortium for the Study of Terrorism and Responses to Terrorism (START). (2011, June). START Global Terrorism Database Codebook (GTD Variables & Inclusion Criteria).

National Consortium for the Study of Terrorism and Responses to Terrorism (START) (2013, December 13). Global Terrorism Database (GTD). Primary database 'gtd\_201312dist.zip'; 1993 file 'gtd1993\_1213dist.xlsx'; correction file (7 April 2014) 'nhostkid supplement.xlsx' [Data files]. From <http://www.start.umd.edu/gtd> (retrieved 26 December 2013).

Obama, Barack H. (2013, May 23). Remarks by the President at National Defense University. White House. At <http://www.whitehouse.gov/the-press-office/2013/05/23/remarks-president-national-defense-university> (retrieved May 2014).

RT (2014, September 1). 3 days in hell: Russia mourns Beslan school siege victims 10 years on. *Russia Today* [electronic resource]: at <http://rt.com/news/183964-beslan-school-hostage-crisis/> (retrieved 7 September 2014).

START: See National Consortium for the Study of Terrorism and Responses to Terrorism (START).

Turchin et al (2014). United States Political Violence 1780–2010 data set [dynamic resource]. At <http://dacura.cs.tcd.ie/pv/browse-uspv.html> (accessed 17 August 2014).

U.S. Attorney's Office, District of Columbia (2013b) (2013, September 19). Virginia Man Sentenced to 25 Years in Prison in Shooting of Security Guard at Family Research Council: Defendant Targeted Organization in Planned Attack. At <http://www.fbi.gov/washingtondc/press-releases/2013/virginia-man-sentenced-to-25-years-in-prison-in-shooting-of-security-guard-at-family-research-council> (retrieved May 2014).

U.S. Department of Homeland Security (2008). Bioterrorism Risk Assessment 2008, Appendix E2.7: Economic Consequences, pp. E2.7–34. (Appendix reference is UNCLASSIFIED//FOR OFFICIAL USE ONLY; Extracted information is UNCLASSIFIED.)

## References Not Cited

Agency for Healthcare Research and Quality [AHRQ] (2010a) (2010, September). Hospital Surge Model Version 1.3 [documentation]. Rich et al; AHRQ publication no. 10-M057-2-EF. At <http://archive.ahrq.gov/prep/hospurgemodel/description/> (retrieved 14 August 2014).

Agency for Healthcare Research and Quality [AHRQ] (2011). Healthcare Cost and Utilization Project [HCUP] Nationwide Inpatient Sample. U.S. Department of Health and Human Services. At <http://hcupnet.ahrq.gov> (retrieved 9 February 2015).

American Society of Mechanical Engineers (ASME) (2009, November). All-Hazards Risk and Resilience: Prioritizing Critical Infrastructures Using the RAMCAP Plus Approach. ASME Innovative Technologies Institute: at <http://ebooks.asmedigitalcollection.asme.org/book.aspx?bookid=294> (retrieved 24 July 2014).

American Society of Mechanical Engineers (ASME) (2011, December 20). A regional resilience/security analysis process for the Nation's critical infrastructure systems. ASME Innovative Technologies Institute: at [http://www.wbdg.org/pdfs/asme\\_resilience\\_infrastructure\\_dec2011.pdf](http://www.wbdg.org/pdfs/asme_resilience_infrastructure_dec2011.pdf) (checked 6 February 2015).

Beutel, Alejandro J. (2011, April). Data on post-9/11 terrorism in the United States. Policy Report, Muslim Public Affairs Council. At <http://www.civilfreedoms.com/wp-content/uploads/2011/05/Post-911-Terrorism-Data.pdf> (retrieved 25 June 2013).

Blackman et al (2014, January 5). The shooting cycle. *Connecticut Law Review* 46. At [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2375010##](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2375010##) (retrieved March 2014).

Carafano, James Jay (2008, December 10). Lessons from Mumbai: assessing armed assault threats to the United States. Backgrounder no. 2219, Heritage Foundation; at <http://www.heritage.org/Research/HomelandSecurity/bg2219.cfm> (accessed July 2011).

Commonwealth of Massachusetts (2014, March). Study of certain insurance claim costs resulting from the events occurring between April 15–19, 2013 associated with the bombings at the 2013 Boston Marathon. Joseph G. Murphy, Commissioner of Insurance. Massachusetts Division of Insurance: at <http://www.mass.gov/ocabr/docs/doi/exam-of-response-to-boston-marathon-bombings.pdf> (retrieved 17 November 2014).

Commonwealth of Virginia Supreme Court (2005, April 22, revised 26 July 2005). *John Allen Muhammad v. Commonwealth*. At <http://www.courts.state.va.us/opinions/opnscvwp/1041050.pdf> (retrieved May 2014).

Congressional Research Service (2013a) (2013, January 17). The domestic terrorist threat: background and issues for Congress. Jerome P. Bjelopera, author. CRS report R42536; at <https://www.fas.org/sgp/crs/terror/R42536.pdf> (retrieved 23 May 2014).

- Congressional Research Service (2011, October 21). Presidential Policy Directive 8 and the National Preparedness System: Background and Issues for Congress. Jared T. Brown, CRS. At <http://www.fas.org/sgp/crs/homesecc/R42073.pdf> (retrieved 17 February 2013).
- Cook et al (1999). The medical costs of gunshot injuries in the United States. *Journal of the American Medical Association* 281(5) 447–454.
- Corso et al (2006, August). Incidence and lifetime costs of injuries in the United States. *Injury Prevention* 12(4) 212–218. At <http://injuryprevention.bmj.com/content/12/4/212.full.pdf+html> (retrieved February 2012).
- Cratty, Carol (2013, September 19). 25-year sentence in Family Research Council shooting. Cable News Network (CNN). At <http://www.cnn.com/2013/09/19/justice/dc-family-research-council-shooting> (retrieved May 2014).
- Cukier et al (2002, December). Small arms, explosives, and incendiaries. Chapter 9, Levy et al (Eds.) *Terrorism and Public Health: A Balanced Approach to Strengthening Systems and Protecting People* (Oxford University Press).
- Davidson, Joseph (2013, September 16). Navy Yard shooting is another in a long list of federal workplace violence. *Washington Post*, 16 September 2013: at [http://www.washingtonpost.com/politics/federal\\_government/navy-yard-shooting-is-another-in-a-long-list-of-federal-workplace-violence/2013/09/16/9413e0a4-1f01-11e3-8459-657e0c72fec8\\_story.html](http://www.washingtonpost.com/politics/federal_government/navy-yard-shooting-is-another-in-a-long-list-of-federal-workplace-violence/2013/09/16/9413e0a4-1f01-11e3-8459-657e0c72fec8_story.html) (retrieved 18 September 2013).
- Defense Threat Reduction Agency (2008, June). Why have we not been attacked again? Competing and complementary hypotheses for homeland attack frequency. ASCO Report 2008 007. Science Applications International Corporation (SAIC), DTRA Advanced Systems and Concepts Office; at <https://web.archive.org/web/20081029030005/http://www.heritage.org/Research/Features/NationalSecurity/upload/WeHaveNotBeenAttackedAgain.pdf> (retrieved February 2013).
- Enders et al (2010). Measuring the economic costs of terrorism. At <http://www.socsci.uci.edu/~mrgarfin/OUP/papers/Enders.pdf> (retrieved May 2014).
- Ezell et al (2010). Probabilistic risk analysis and terrorism risk. *Risk Analysis* 30(4): at <http://www.dhs.gov/xlibrary/assets/rma-risk-assessment-technical-publication.pdf>.
- Falkenrath, Richard A. (2006, September 12). Written testimony, Senate Committee on Homeland Security and Governmental Affairs; at <http://www.hsgac.senate.gov/download/091206falkenrath> (retrieved December 2013).
- Federal Bureau of Investigation (2007c) (2007, September 18). A threat assessment for domestic terrorism 2005–2006. Unclassified redaction of U//FOUO//Law Enforcement Sensitive document, released under FOIA. George Washington University National Security Archive 386, Document 30, at <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB386/>, <https://s3.amazonaws.com/s3.documentcloud.org/documents/402525/doc-30-threat-assessment-domestic-terrorism.pdf> (retrieved 23 May 2014).
- Federal Bureau of Investigation (2007d) (2007, October 22–24). The Beltway Snipers. At [http://www.fbi.gov/news/stories/2007/october/snipers\\_102207](http://www.fbi.gov/news/stories/2007/october/snipers_102207), [http://www.fbi.gov/news/stories/2007/october/snipers\\_102407](http://www.fbi.gov/news/stories/2007/october/snipers_102407) (retrieved May 2014).
- Federal Bureau of Investigation (2014b) (2014, September 14). A study of active shooter incidents in the United States between 2000 and 2013. J. Pete Blair, Katherine W. Schweit, Texas State University, and U.S. Department of Justice/FBI. At <http://www.fbi.gov/news/stories/2014/september/fbi-releases-study-on-active-shooter-incidents/pdfs/a-study-of-active-shooter-incidents-in-the-u.s.-between-2000-and-2013> (retrieved 20 October 2014).
- Federal Emergency Management Agency (1992, April). Principal threats facing communities and local emergency management coordinators. Report to the Senate Appropriations Committee, FEMA Office of Emergency Management. At <http://catalog.hathitrust.org/Record/002893345> (retrieved 1 February 2014).
- Government of India (2010, January 6). Insurance Regulatory and Development Authority Annual Report 2008–2009; at <http://www.irda.gov.in> (accessed July 2011).
- Government of India (2010, December 13). Insurance Regulatory and Development Authority Annual Report 2009–2010; at <http://www.irda.gov.in> (accessed July 2011).
- Jenkins, Brian M. (2013, June 12). The threat of a Mumbai-style terrorist attack in the United States. Testimony, House Homeland Security Committee, Subcommittee on Counterterrorism and Intelligence; RAND document CT-391; at <http://www.rand.org/pubs/testimonies/CT391.html> (retrieved November 2013).

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**Armed Assault**

- Kirkham et al (1969, October). Assassination and Political Violence. Vol. 8, Staff report to the National Commission on the Causes and Prevention of Violence. U.S. Government Printing Office, Washington DC.
- Kurzman et al (2011). Muslim American terrorism since 9/11: Why so rare? *The Muslim World* 101, 464–483. At [http://teths.sanford.duke.edu/documents/Kurzman\\_Schanzer\\_Moosa\\_Muslim\\_American\\_Terrorism.pdf](http://teths.sanford.duke.edu/documents/Kurzman_Schanzer_Moosa_Muslim_American_Terrorism.pdf) (static version) (retrieved June 2013).
- LaTourrette et al (2006). Reducing terrorism risk at shopping centers: An analysis of potential security options. RAND technical report TR401: at [http://www.rand.org/content/dam/rand/pubs/technical\\_reports/2006/RAND\\_TR401.pdf](http://www.rand.org/content/dam/rand/pubs/technical_reports/2006/RAND_TR401.pdf) (retrieved 3 November 2014).
- Liptak, Adam (2005, April 23). Virginia Justices Set Death Sentence in Washington Sniper Case. *New York Times*. At <http://www.nytimes.com/2005/04/23/national/23sniper.html> (retrieved May 2014).
- Marimow, Ann E. (2013, September 19). Family Research Council shooter sentenced to 25 years. *Washington Post*. At [http://www.washingtonpost.com/local/family-research-council-shooter-sentenced-to-25-years/2013/09/19/d0df61f2-2131-11e3-b73c-aab60bf735d0\\_story.html](http://www.washingtonpost.com/local/family-research-council-shooter-sentenced-to-25-years/2013/09/19/d0df61f2-2131-11e3-b73c-aab60bf735d0_story.html) (retrieved May 2014).
- Mason, Carol (2004, April). Who's afraid of Virginia Dare? Confronting anti-abortion terrorism after 9/11. *Journal of Constitutional Law* 6(4) 796–817. At [https://www.law.upenn.edu/journals/conlaw/articles/volume6/issue4/Mason6U.Pa.J.Const.L.796\(2004\).pdf](https://www.law.upenn.edu/journals/conlaw/articles/volume6/issue4/Mason6U.Pa.J.Const.L.796(2004).pdf) (retrieved May 2014).
- McFadden, Robert D. (1997, February 24). Shots send Empire State crowd fleeing. *New York Times*; at <http://www.nytimes.com/1997/02/24/nyregion/shots-send-empire-state-crowd-fleeing.html> (retrieved November 2013).
- Miller, Ted R., and Mark A. Cohen (1997). Costs of gunshot and cut/stab wounds in the United States, with some Canadian comparisons. *Accident Analysis and Prevention* 29(3) 239–341.
- Mueller, John (2012b) (2012, October 8). Confusion: What if we can't catch terrorists in America because there aren't any? *Foreign Policy*. At <http://www.foreignpolicy.com/articles/2012/10/08/confusion> (retrieved April 2013).
- National Abortion Federation (2012b) (2012). History of [abortion related] violence: Extreme violence. At [http://www.prochoice.org/about\\_abortion/violence/history\\_extreme.html](http://www.prochoice.org/about_abortion/violence/history_extreme.html) (retrieved 26 April 2014).
- National Safety Council (2014). Estimating the costs of unintentional injuries, fatal and nonfatal injuries [dynamic resource]. Cost estimates for 2012. At [http://www.nsc.org/news\\_resources/injury\\_and\\_death\\_statistics/Pages/EstimatingtheCostsofUnintentionalInjuries.aspx](http://www.nsc.org/news_resources/injury_and_death_statistics/Pages/EstimatingtheCostsofUnintentionalInjuries.aspx) (retrieved 16 March 2014).
- New York City Police Department (NYPD) Counterterrorism Bureau (2012). Active Shooter: Recommendations and Analysis for Risk Mitigation. 2012 edition: at [http://www.nyc.gov/html/nypd/html/counterterrorism/active\\_shooter.shtml](http://www.nyc.gov/html/nypd/html/counterterrorism/active_shooter.shtml) (retrieved 10 April 2013).
- Panagariya, Arvind (2008, November 29). The economic cost of the Mumbai tragedy. Commentary, *Forbes*. At [http://www.forbes.com/2008/11/29/mumbai-economic-cost-oped-cx\\_ap\\_1129panagariya.html](http://www.forbes.com/2008/11/29/mumbai-economic-cost-oped-cx_ap_1129panagariya.html) (accessed July 2011).
- Peleg et al (2004, March). Gunshot and explosion injuries: characteristics, outcomes, and implications for care of terror-related injuries in Israel. *Annals of Surgery* 239(3) 311–318. At <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1356227/> (retrieved June 2014).
- Perliger, Arle (2012, November). Challengers from the sidelines: understanding America's violent Far-Right. Combating Terrorism Center, West Point, at <https://www.ctc.usma.edu/wp-content/uploads/2013/01/ChallengersFromtheSidelines.pdf> (retrieved 23 May 2014).
- Rabasa et al (2009, January). The lessons of Mumbai. Occasional Paper OP-249-RC, RAND Corporation. At [http://www.rand.org/pubs/occasional\\_papers/OP249.html](http://www.rand.org/pubs/occasional_papers/OP249.html) (checked April 2013).
- Rao G. V. (2010, February). Terrorism Insurance – A Global Perspective. *Insurance Chronicle*, ICFAI University Press, Hyderabad, India.
- Rinaldi, Jessica (2013, April 30). Adding up the financial costs of the Boston bombings. Reuters: at [http://usnews.nbcnews.com/\\_news/2013/04/29/17975443-adding-up-the-financial-costs-of-the-boston-bombings?lite](http://usnews.nbcnews.com/_news/2013/04/29/17975443-adding-up-the-financial-costs-of-the-boston-bombings?lite) (retrieved 2 March 2014).
- Schneier, Bruce (2010, May). Why aren't there more terrorist attacks? [weblog]. At [https://www.schneier.com/blog/archives/2010/05/why\\_arent\\_there.html](https://www.schneier.com/blog/archives/2010/05/why_arent_there.html) (retrieved May 2014).

Southern Poverty Law Center (2012, 2014). Terror from the Right: Plots, conspiracies, and racist rampages since Oklahoma City. At <http://www.splcenter.org/get-informed/publications/terror-from-the-right> (continuously updated) (retrieved May 2014).

START: See National Consortium for the Study of Terrorism and Responses to Terrorism (START).

State of Michigan (2012, July). Michigan Hazard Analysis. At [http://www.michigan.gov/documents/msp/Doc1\\_394216\\_7.pdf](http://www.michigan.gov/documents/msp/Doc1_394216_7.pdf) (retrieved December 2013).

Strom et al (2010, October). Building on clues: examining successes and failures in detecting terrorist plots, 1999–2009. At [http://sites.duke.edu/ihss/files/2011/12/Building\\_on\\_Clues\\_Strom.pdf](http://sites.duke.edu/ihss/files/2011/12/Building_on_Clues_Strom.pdf) (retrieved May 2013).

Subramanian et al (2008, December 11). The cost of terror. *Business Today*; at <http://businesstoday.intoday.in/storyprint/3521> (accessed July 2011).

U.S. Attorney's Office, District of Columbia (2009, July 29). James Von Brunn Indicted for Murder of Special Police Officer Stephen Johns and Hate Crimes Charges for Attack on the United States Holocaust Memorial Museum. At <http://www.fbi.gov/washingtondc/press-releases/2009/wfo072909.htm> (retrieved May 2014).

U.S. Attorney's Office, District of Columbia (2013a) (2013, February 6). Virginia Man Pleads Guilty to Charges in Shooting of Security Guard at Family Research Council. At <http://www.fbi.gov/washingtondc/press-releases/2013/virginia-man-pleads-guilty-to-charges-in-shooting-of-security-guard-at-family-research-council> (retrieved May 2014).

U.S. Department of Homeland Security (2011, December 9). The Strategic National Risk Assessment in support of PPD 8: A comprehensive risk-based approach toward a secure and resilient Nation (public summary). At <http://www.dhs.gov/xlibrary/assets/rma-strategic-national-risk-assessment-ppd8.pdf> (retrieved 24 June 2013).



## Additional Relevant Information

Table 1: U.S. Historical Incidents 1980–2012

Date	City	State	Fatal	Injured	Displ. <sup>1</sup>	DE (2011) <sup>2,3</sup>	Perpetrator	Target	Source <sup>4</sup>
4/19/80	Chattanooga	TN	0	4	0*	\$240,000	Ku Klux Klan	Crowd	FBI <sup>5</sup>
11/27/81	Fort Buchanan	PR	0	1	0*	\$61,000	PR nationalists	Military base	FBI <sup>6</sup>
5/16/82	San Juan	PR	1	3	0*	\$270,000	PR nationalists	U.S. Navy sailors	FBI <sup>7</sup>
5/19/82	Villa Sin Miedo	PR	1	12	0*	\$820,000	PR nationalists	Police	FBI <sup>8</sup>
2/13/83	Medina	ND	2	4	0*	\$410,000	Sheriff's Posse Comitatus	Police, U.S. Marshals	FBI <sup>9</sup>
11/06/85	Bayamon	PR	0	1	0*	\$61,000	PR nationalists	U.S. Army soldier	FBI <sup>10</sup>
3/1/94	New York	NY	1	3	0*	\$270,000	Individual	Jewish students in van	GTD, FBI <sup>11</sup>
7/02-04/99	Multiple <sup>12</sup>	IL, IN	2	8	0*	\$660,000	Individual	Multiple minorities	GTD, FBI <sup>13</sup>
8/10/99	Granada Hills	CA	1	5	0*	\$390,000	Individual	Jews, Asians	FBI <sup>14</sup>
7/4/02	Los Angeles	CA	2	4	0*	\$410,000	Individual	EI Al terminal LAX	GTD, FBI <sup>15</sup>
3/3/06	Chapel Hill	NC	0	9 <sup>16</sup>	0*	\$550,000	Individual	Car driven into crowd	GTD, FBI <sup>17</sup>
6/1/09	Little Rock	AR	1	1	0*	\$150,000	Individual	Recruiting center	GTD, FBI <sup>18</sup>
6/10/09	Washington	DC	1	0	0*	\$85,000	Individual	U.S. Holocaust Museum	FBI, P <sup>19</sup>
11/5/09	Fort Hood	TX	13	32	0*	\$3,000,000	Individual	Fellow soldiers	GTD, FBI, P <sup>20</sup>
8/05/12	Oak Creek	WI	6	4	0*	\$750,000	Individual	Sikh worshippers	GTD, FBI, P <sup>21</sup>
8/15/12	Washington	DC	0	1	0*	\$61,000	Individual	Family Research Council	GTD, FBI <sup>22</sup>

[Supplemental] Table 2: Terrorist Armed Assault Incidents 1980-2005 Without Injuries/Fatalities<sup>23</sup>

Date	City	State	Fatal	Injured	Displ.	DE (2011)	Perpetrator	Target	Source
4/29/82	San Juan	PR	0	0	0*	\$230,000	PR nationalists	PR government building	FBI <sup>24</sup>

<sup>1</sup> Persons displaced from home for 2 or more days assumed to be zero for all events except where indicated otherwise by the source(s). Assumed zeroes are marked with an asterisk; other zeroes from sources.

<sup>2</sup> DE = Direct economic loss, 2011 dollars. All numbers are estimates based upon extrapolations from a subset of incidents. For the definition of direct economic loss used in the SNRA see the text of this risk summary sheet above.

<sup>3</sup> For the armed assault events, decontamination/disposal/physical destruction (DDP) was assumed to be zero (insignificant in proportion to other components); business interruption, \$37,000 per fatality and injury as multiplier based upon the \$10 million direct lost income (Dedman et al (2013)) of the 500 businesses in the 12-block restriction zone during the one week of investigation following the 2013 Boston Marathon bombing, Luna (2013); medical costs, \$5,200 per fatality and \$24,000 per non-fatal injury, average medical costs for gunshot injuries in the U.S. from Corso et al (2007) excluding costs from lost labor productivity; and \$42,500 one year lost spending per fatality. All costs adjusted to 2011 dollars.

<sup>4</sup> Where FBI and other sources differ on details (date, location, fatalities, injuries), the FBI figures are given.

<sup>5</sup> FBI (2006).

<sup>6</sup> FBI (1982, 2006).

<sup>7</sup> FBI (1983, 2006).

<sup>8</sup> FBI (1983, 2006).

<sup>9</sup> FBI (1984, 2006).

<sup>10</sup> FBI (1986, 2006).

<sup>11</sup> GTD 199403010007, FBI (2006).

<sup>12</sup> Chicago, Skokie, and Northbrook IL, and Bloomington IN.

<sup>13</sup> FBI (2000) pp 4-5 and FBI (2006), list. GTD 199907020004, 199907020005, 199907020006, 199907030007, 199907030008, 199907040005, but coded as doubtful for terrorism (doubtterr=1).

<sup>14</sup> FBI (2000) p 5 and FBI (2006), list. Also GTD 199908100001, but coded as doubtful for terrorism (doubtterr=1).

<sup>15</sup> GTD 200202040010, FBI (2006).

<sup>16</sup> While all injuries were comparatively minor, they included several broken bones; six people assaulted were taken to hospital, treated, and released. Braun et al (2014).

<sup>17</sup> GTD 200603030013, FBI (2011).

<sup>18</sup> FBI (2011). GTD event 200906010028, but not coded as meeting terrorism criterion 3. For detail see Coleman et al (2011).

<sup>19</sup> FBI (2011), Obama (2013). Also GTD 200906100003, but not coded as meeting terrorism criterion 2.

<sup>20</sup> GTD 200911060002, FBI (2011), Obama (2013). GTD lists date as 11/06/2009 and 31 injuries; FBI lists 32 injuries. NCTC 2014 Counterterrorism Calendar (not cited) lists 29 wounded.

<sup>21</sup> GTD 201208050006, FBI (2011), Obama (2013).

<sup>22</sup> GTD 201208150059. FBI: FBI statement in U.S. Attorney DC (2013, September 19); also confession and conviction to terrorism charge (District of Columbia Code).

<sup>23</sup> FBI (1983, 2006). Not used to calculate frequency or impact estimates in May 2015 SNRA because outside event threshold. Added to this documentation subsequent to SNRA 2015 project (June 2015) to permit calculation using alternative threshold ([FBI designated] terrorist attack regardless of impact, same as Explosives Terrorism Attack and CBRN events: Appendix K table K.4). Note that incident point frequency will differ from Table 1 events due to differing observation periods (1/33 years, Table 1, 1/26 years, Table 2). As with Table 1, assassination attempts (targeted as opposed to indiscriminate) are excluded; also excluded are two unarmed assaults intended as protests or harassment ("burning ribbon" thrown at speaker, 2/9/1981; unarmed menacing of diplomats by protest group, 9/9/1981) not resulting in injury.

<sup>24</sup> FBI (1983). Shooting assault on Puerto Rico Justice Building, guard escaped injury: \$100,000 (1982) property damage.