

“Smashing into Crowds” –An Analysis of Vehicle Ramming Attacks

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Ramming vehicles into innocent people in public gatherings, on streets, or outside train and bus stations is not new. Since 2010, however, jihadists have urged their followers to strike with vehicles, thus producing an atmosphere of exceptional fear. Is this a passing trend or a sign of things to come with greater regularity? We attempt to answer this and other fundamental questions, such as: *When* did these attacks start, how frequently, and in what patterns have they occurred, especially since 2014? *Who* are the attackers and what motivates them? *Where* are the attacks most frequent and lethal? *What* increases casualties? And finally, what can authorities can do to minimize casualties?

Study Methods

The authors expanded and updated their database from their May 2018 study.¹ The authors used

¹ Brian Michael Jenkins and Bruce R. Butterworth, An Analysis of Vehicle Ramming as a Terrorist Threat. San Jose, CA: Mineta Transportation Institute, 2018. <https://transweb.sjsu.edu/research/Analysis-Vehicle-Ramming-Terrorist-Threat>.

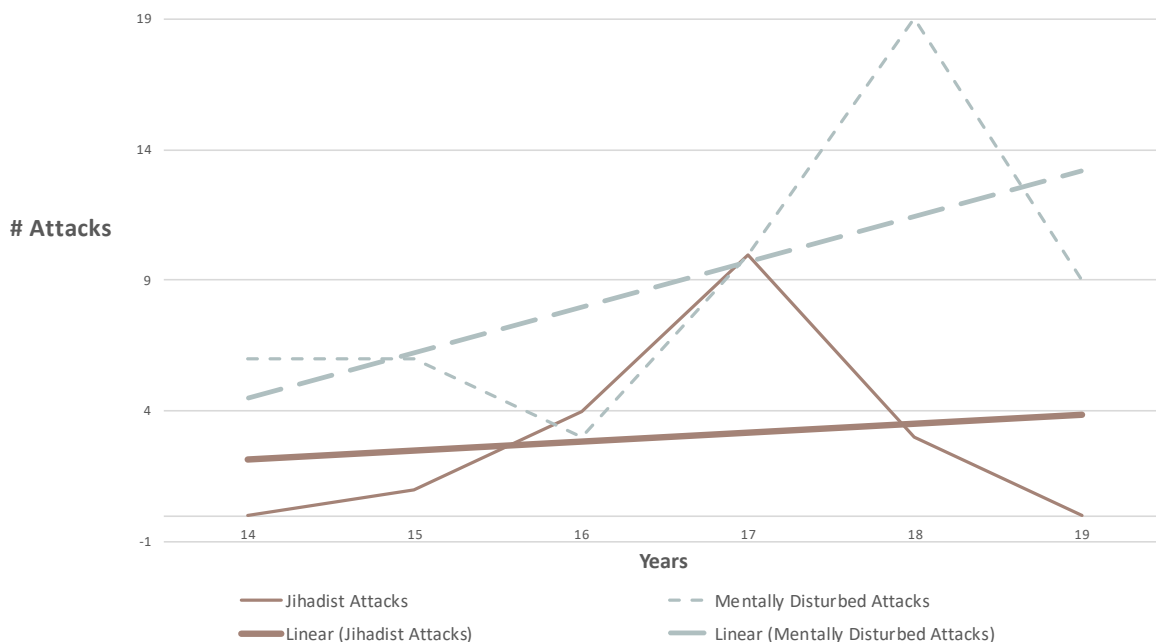
this empirical data and supplemented it with a review of literature on past cases and government countermeasures.

Findings

Vehicle ramming attacks aren’t new—the first of 184 was in 1963—but they’re more frequent and more lethal: 70% have happened since January 1, 2014, with attacks by jihadists and mentally unstable people increasing the most.

The attacks do seem to be dropping significantly in 2019, but we don’t know yet if this is because of counter-measures or because ramming is a passing trend.

Vehicle ramming seems unique. Unlike other attacks that happen mostly in conflict zones and developing countries, more than half, namely, 54%, occur in developed countries such as the US and in Europe.



2014 Through 2019: Jihadist versus Attacks by Mentally Disordered Persons

Rammings aren't the most lethal tactic—they kill an average of only 2.6 people—but for those who cannot get guns or bombs, they are readily available: vehicles are abundant, as are innocent people.

Jihadists commit only 19% of the attacks and are responsible for only 30% of the fatalities. By contrast, mentally unstable individuals—that is to say, those who need help and intervention and who apparently didn't get it in time—account for 49% of the attacks and 43% of the fatalities. Meanwhile, Palestinian attackers in Israel and the West Bank account for 22% of the attacks but just 6% of the fatalities; and right-wing extremists 5% of the attacks and 4% of the fatalities.

In fact, terrorists did not invent the tactic. They adopted into their repertoire something that occurred in earlier incidents. Vehicle rammings by terrorists started first with Palestinians in the 2000s, and then in 2010 as both Al Qaeda and ISIS started urging their followers—with vivid imagery—to ram vehicles into the public. Those initial exhortations, however, didn't produce any response.

A cluster of attacks appeared in the wake of the November 2016 exhortations in ISIS's online magazine, *Rumiyah*. There is, however, a chicken and egg problem here. The Bastille Day ramming in Nice in 2016, which resulted in 86 fatalities, preceded the *Rumiyah* exhortation and it may have inspired both the *Rumiyah* author and others to replicate the attack. Vehicle rammings seem to be a kind of contagion reaching beyond political extremism. One event inspires others, and attacks appear in clusters.

Suicidal attackers are more lethal, representing 17% of the attacks and 44% of the fatalities. — the most lethal attacks take place when attackers ram into public celebrations or people walking on pedestrianized streets. A determined attacker driving a large vehicle at speed leaves victims with few places to hide.

That brings us to the type of vehicle used and how it is acquired. Most use their own or a family vehicle, but 9% of the time the vehicle is stolen, and in 5% it is rented. Rented vehicles are the most lethal, accounting for 29% of all deaths. Attackers renting

vehicles tend to have planned the attack and very often they rent larger vehicles.

Vehicle rammings kill more in public gatherings such as Christmas Markets or on pedestrianized streets, and especially when large vehicles are used.

Policy/Practice Recommendations

Since urban areas contain up to millions of vehicles and pedestrians, preventing vehicle rammings is not a realistic goal. However, putting temporary or permanent barriers around the most exposed targets—public gatherings, street markets, and pedestrianized or partially-pedestrianized streets—can help reduce fatalities. We also recommend increasing the scrutiny of those renting vehicles, particularly large vans or trucks. Many countries are acting upon these considerations.

About the Authors

Brian Michael Jenkins is the director of the Mineta Transportation Institute's Allied Telesis National Transportation Security Center and, since 1997, has directed the Institute's continuing research on protecting surface transportation against terrorism and other serious forms of crime. Bruce R. Butterworth is a Senior Transportation Security Researcher at MTI and former Director of Aviation Security Operations at the Federal Aviation Administration.

To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/research/SP1119.



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