



Veneratio Diligentia Vires

The Threat Of Terrorist Vehicular Ramming: Attacks And Prevention Measures

By Dr. Joshua Sinai

French police secure the area as the investigation continues at the scene near the heavy truck that ran into a crowd at high speed killing scores who were celebrating the Bastille Day July 14 national holiday on the Promenade des Anglais in Nice, France, July 15, 2016. REUTERS/Eric Gaillard

Firearms, improvised explosive devices (IEDs) and knives have long been the weapons of choice for terrorists, but in what has become one of their latest warfare tactics motor vehicles are being weaponized as their instrument for ramming attacks against pedestrians. In this tactic, trucks, vans or cars are intentionally driven into public crowds, sometimes over long stretches of road before the attacks are terminated, usually through crashes. In some of these incidents, the attackers' violence continues when they flee their stopped vehicles and use knives to inflict further damage on the nearby pedestrians.

This type of "vehicle ramming attack" (VRA) terrorism is defined as utilizing a motor vehicle to deliberately ram into people to kill and wound them, or to cause significant property damage, as part of their extremist political objectives. Both civilians and military/law enforcement personnel are targeted in such attacks. This tactic differs from employing car bombs in which vehicles are used as platforms for detonating IEDs in an attack. In the United States, for example, recent incidents in which terrorists attempted to detonate a car bomb in a public place included Faisal Shahzad's unsuccessful attack on May 1, 2010 in Times Square, where the explosives in his sport utility vehicle (SUV) had failed to detonate, and Anthony Warner's December 25, 2020 detonating

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of explosives in his recreational vehicle in downtown Nashville, TN, which severely damaged the nearby buildings.

The use of vehicular ramming tactics in a terrorist group's warfare, while long used in conflict zones such as the Middle East (especially in Israel and the West Bank) and elsewhere, is relatively recent in the West, including the United States. In the U.S., the first car ramming attack after 9/11 took place on March 3, 2006 when Mohammed Reza Taheri-azar, an Iranian-American, intentionally rammed his SUV at the campus of the University of North Carolina (UNC) in Chapel Hill, injuring nine persons.

Incidents of Vehicle Ramming Attacks, 2004-2021

The following is a representative sample of twenty incidents in which terrorists have used the tactic of vehicle ramming against crowds of people in their attacks over the past 17 years. Numerous other incidents involving terrorists' ramming of vehicles in their attacks have occurred during this period, especially in Israel (and in the West Bank), so this listing is intended to serve as a preliminary account, to be expanded in other projects

- **December 6, 2004:** An al Qaida cell drove two vehicles to storm through the fortified gate of the U.S. Consulate in Jiddah, Saudi Arabia, and launched a three-hour gun battle that led to the killing of five consulate employees, including the four attackers.
- **March 3, 2006:** Mohammed Reza Taheri-azar, an Iranian-American, intentionally rammed his SUV at the campus of the University of North Carolina (UNC) in Chapel Hill, wounding nine persons.
- **October 26, 2015:** A man smashed his stolen car through the gates of an army barracks in Flawinne, southern Belgium, and continued driving the vehicle after shots were fired by the security guards. He was shortly thereafter arrested.
- **January 1, 2016:** A man drove a car at four soldiers guarding a mosque in Valence, in southeastern France, injuring one of the soldiers. When he returned for a second pass, they shot and wounded him.
- **July 14, 2016:** Mohamed Lahouaiej-



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- **November 28, 2016:** Abdul Razak Ali Artan a Somali refugee, drove his car into a crowd at Ohio State University, in Columbus, OH, where he was a student, and then got out of his crashed vehicle and attempted to stab others. In total, 11 people were wounded.
- **December 19, 2016:** Anis Amri, a Tunisian, Berlin, drove a truck into a crowd at a Christmas market in Berlin, Germany, killing 12 people and wounding 56 others.
- **March 22, 2017:** Khalid Masood drove a SUV into a crowd along the pavement of Westminster Bridge, in the vicinity of the British Parliament, in London, England. Four people were killed and more than 50 others wounded. After the drive left his vehicle, he stabbed a police officer. Masood was then shot by a responding police officer.
- **April 7, 2017:** Rakhmat Akilov, rejected asylum seeker and citizen of Uzbekistan, drove his hijacked lorry truck into a department store in Stockholm, Sweden, killing five people and wounding 14 others.
- **June 3, 2017:** Three radicalized Muslim male assailants drove their van into crowds on London Bridge, England, after which the attackers left their vehicle and stabbed several people in the area. Seven people were killed and 48 others injured.
- **June 19, 2017:** Darren Osborne drove his van into a group of pedestrians attending late-night prayers at Finsbury Park Mosque, in London, England, killing one person and wounding 11 others.
- **August 12, 2017:** James Alex Fields Jr. drove from Ohio to Charlottesville, Virginia, to attend a neo-Nazi rally, where he deliberately drove his car into a crowd of counter-rally protesters, killing one person and wounding several dozen others. He was immediately arrested.
- **August 17, 2017:** Three radicalized Muslims deliberately drove a rented van into pedestrians in the Las Ramblas tourist area, in Barcelona, Spain, killing 13 and wounding more than 100 others.



- **September 30 2017:** Abdulahi Hasan Sharif, a radicalized Somali refugee, deliberately drove his SUV at a police officer outside a football game, in Edmonton, Canada, after which he jumped out of the vehicle and stabbed the officer with a knife. After fleeing, he rented a U-Haul truck which he used to drive into pedestrians, wounding four people.
- **October 31, 2017:** Sayfullo Habibullaevich Saipov drove a rented pickup truck down a bicycle path near the World Trade Center, in New York City, killing eight people and wounding almost a dozen others. After crashing his truck into a school bus, he got out of his vehicle and brandished a BB gun. He was immediately shot to death by a responding police officer.
- **April 23, 2018:** Alek Minassian, an adherent of the extremist Incel movement, drove his rented van through a business district in Toronto, Ontario, Canada, and deliberately targeted pedestrians, killing 10 and wounding 16 others. He was taken into custody by the responding police.
- **May 14, 2020:** Bahaa Muhammad Abdullah Alawada, age 15, a Palestinian, deliberately drove his car at an Israeli soldier in Hebron, West Bank/Israel, seriously wounding him. Alawada was shot dead by the responding Israeli military forces.
- **October 19, 2020:** Three to four men of Pakistani origin drove a dark BMW, which was followed by a Mercedes, and attempted to hit a security officer outside the Israeli embassy in Paris, France. The security officer dodged the vehicles and was not hurt. The suspects were arrested the following day.
- **January 9, 2021:** Two Palestinians attempted a car-ramming attack against Israeli soldiers at a military checkpoint near the Palestinian village of Ya'bad in the West Bank. An IDF soldier was hit, but did not require medical attention. After driving away, they opened fire on Israeli troops stationed at a nearby checkpoint. The Palestinian attackers managed to escape, but were arrested several days afterwards.



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Assessment

As demonstrated by these twenty incidents, there are three basic types of vehicle ramming attacks.

In the first type, which is predominant, the vehicles are intentionally driven into public crowds to cause as many fatalities and injuries as possible.

In the second type, the vehicles are used to ram into crowds but as part of an additional tactic in which the vehicle's driver will get out and attempt to stab or shoot as many additional victims as possible.

In the third type, the vehicles are used to breach a hardened target's security by driving past its security gate to conduct a further attack within its compound, if possible.

Ideological Motivation

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In the case of Islamist extremists, groups such as al Qaida and the Islamic State have called on their supporters to use vehicles as weapons. In September 2014, for example, Abū Bakr al-Baghdadi, ISIS's late leader, called on the group's lone actor adherents to use whatever weapons or devices, including vehicles, to kill "infidels." Al Qaida, the Islamic State's rival, had earlier published an article in its "Inspire" magazine, "recommending wannabe jihadists [to] consider car rammings as a particularly effective terrorist tactic."

With vehicle ramming attacks also used by far-right-wing extremists, especially at rallies against street protesters they regard as their adversaries, this tactic has become common to terrorist groups of all ideological types.

Tactics, Techniques and Procedures (TTPs)

Terrorists' tactics, techniques, and procedures (TTPs) continuously adapt and evolve

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in response to changing responses by their government adversaries, especially when they harden their defenses against certain types of attacks. As demonstrated

by the 20 selected incidents, terrorists, especially lone actors whose primary affiliation with a terrorist group is their adherence to the group's extremist ideology and objectives, are increasingly employing the vehicular ramming tactic in their warfare. It is a weapon of choice for them because vehicles are easily acquirable, especially through vehicle rental agencies (or through theft), and they are virtually impossible to be identified as a potentially suspicious attacker. In fact, the vehicles enable the perpetrators to become "smart attackers" because they can make their way to their targets and change direction, if needed, to inflict maximum lethality in their attacks. Finally, using vehicles enable these attackers to exploit the soft target nature of public places where pedestrians can be easily attacked by such moving vehicles.

The tactics of employing vehicles as weapons follow the five TTPs of terrorist warfare. These consist of 1) attack preparation steps (such as acquiring the expertise and funding to launch a vehicular attack by deciding on whether to rent, steal or use their own vehicle); 2) the execution timeline (such as identifying the timeline for an attack); 3) targeting (such as carrying out reconnaissance of a potential target, including identifying its potential vulnerabilities); 4) the planning stage (collecting the resources for the attack, in this case, acquiring the vehicle); and 5) the final execution stage (i.e., the actual vehicle ramming attack).

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Conclusions

With vehicular ramming attacks becoming increasingly prevalent among terrorists of all ideological types, especially when they see that such attacks generate massive publicity for their perpetrators and causes, several protective measures can be implemented in preventing or, at least, mitigating the impact of such tactics in their warfare. First, a crucial physical protection measure is the placement of concrete barriers, such as bollards, since they keep vehicles from driving up onto pedestrian areas. This is especially important at special events that are held outdoors, where barriers need to be erected to prevent potential vehicular attacks. A second related measure is enhanced situational awareness. While there are no specific types of vehicles that could be linked to a potential terrorist attack, suspicious driving patterns by an incoming vehicle could indicate that an attack might be underway. Third, since several attacks involve rental vehicles, a reporting guidelines and procedures protocol system needs to be established for employees at vehicle rental companies to report suspicious activities by customers with a potential terrorist intent. Finally, since terrorists and those who aspire to engage in terrorist attacks tend to leak their threat intentions in extremist social media sites, when their posts reveal an intention to use vehicles as their weapon of choice, such postings need to be reported to the appropriate law enforcement authorities for preemptive preemption.

About the Author

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