



(U) Vehicle Ramming Attacks

Threat Landscape, Indicators, and Countermeasures

Office of Security Policy and Industry
Engagement Surface Division - Highway and Motor Carrier Section

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Transportation
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(U) VEHICLE RAMMING

(U) Vehicle ramming is a form of attack in which a perpetrator deliberately aims a motor vehicle at a target with the intent to inflict fatal injuries or significant property damage by striking with concussive force.

(U) THREAT LANDSCAPE

(U) Terrorist organizations overseas have advocated conducting vehicle ramming attacks—using modified or unmodified motor vehicles—against crowds, buildings, and other vehicles. Such attacks could target locations where large numbers of people congregate, including parades and other celebratory gatherings, sporting events, entertainment venues, or shopping centers.¹

(U) Vehicle-ramming attacks are considered unsophisticated, in that a perpetrator could carry out such an attack with minimal planning and training. It is likely that terrorist groups will continue to encourage aspiring attackers to employ unsophisticated tactics such as vehicle-ramming, since these types of attacks minimize the potential for premature detection and could inflict mass fatalities if successful.² Furthermore, events that draw large groups of people—and thus present an attractive vehicle ramming target—are usually scheduled and announced in advance, which greatly facilitates attack planning and training activities.

(U) From 2014 through 2017, terrorists carried out 17 known vehicle ramming attacks worldwide, resulting in 173 fatalities and 667 injuries.

¹ U.S. Department of Homeland Security and Department of Justice, Federal Bureau of Investigation. “Terrorist Use of Vehicle Ramming Tactics.” 2010. p.1

² Department of Homeland Security, Transportation Security Administration. “ISIL’s Third Edition of Rumiyah Promotes Vehicle Ramming Tactic.” 2016. p.2

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(U) Table 1: Recent Terrorism Inspired Vehicle Ramming Attacks, 2014-2017 cont.

Attack Details	Casualties
4/2017, Stockholm, Sweden (truck rammed a department store in the city center)	4 killed, 15 injured
3/2017 London, England (car rammed pedestrians on Westminster Bridge)	6 killed (including attacker), 50 injured
1/2017, Jerusalem, Israel (truck rammed military personnel near a popular promenade)	5 killed (including attacker), 15 injured
12/2016, Berlin, Germany (truck rammed pedestrians at outdoor Christmas market)	12 killed, 56 injured
11/2016, Columbus, OH (car rammed pedestrians at Ohio State University)	1 killed (attacker), 11 injured
10/2016, Vienna, Austria (car rammed pedestrians on a busy street)	none
7/2016, Nice, France (truck rammed pedestrians during parade)	87 killed (including attacker), 434 injured
1/2016, Valence, France (car rammed military personnel guarding a mosque)	1 injured
6/2015, Lyon, France (van rammed gas cylinders at gas factory)	2 injured
6/2015, Graz, Austria (car rammed pedestrians in the city center)	3 killed, 36 injured
12/2014, Nantes, France (van rammed pedestrians at Christmas market)	1 killed, 10 injured (including attacker)
12/2014, Dijon, France (car rammed pedestrians throughout the city)	11 injured
11/2014, Jerusalem, Israel (van rammed pedestrians at light rail station)	4 killed (including attacker), 13 injured
10/2014, Jerusalem, Israel (car rammed into pedestrians at light rail station)	3 killed (including attacker), 7 injured
10/2014, Quebec, Canada (car rammed military personnel in shopping center parking lot)	2 killed (including attacker), 1 injured
8/2014, Jerusalem, Israel (tractor rammed pedestrians and a public bus)	2 killed (including attacker), 5 injured
5/2014, Xinjiang, China (two sports utility vehicles rammed pedestrians in street market; attackers also threw explosives from vehicles)	43 killed (including 4 attackers), 90+ injured

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(U) COMMERCIAL VEHICLES USED IN VEHICLE RAMMING ATTACKS

(U) Commercial vehicles – distinguished by their large size, weight and carrying capacity – present an especially attractive mechanism for vehicle ramming attacks because of the ease with which they can penetrate security barriers and the large-scale damage they can inflict on people and infrastructure. Furthermore, commercial trucks and buses are plentiful and routinely arouse no suspicion because of the exceptional access they have to structures and activity centers.

(U) Commercial vehicles may be obtained for terrorist activity in a variety of ways, including:

- (U) Insider threat – authorized commercial vehicle driver carries out or facilitates the attack;
- (U) Hijacking – attacker gains control of a commercial vehicle by force;
- (U) Theft – attacker steals a commercial vehicle;
- (U) Rental – attacker rents a commercial vehicle; and
- (U) Purchase – attacker purchases a commercial vehicle.

(U) INDICATORS

(U) There are several indicators that may suggest terrorists are planning a commercial vehicle ramming attack. Although a single indicator may not always warrant suspicion, one or more indicators might indicate an imminent attack, based on specific facts or circumstances. It is also important to note that a commercial vehicle ramming attack can occur with little to no warning.

(U//FOUO) The commercial vehicle industry should be aware of the following potential vehicle ramming attack indicators:³

1. (U//FOUO) Unusual and unexplained modifications to commercial motor vehicles, such as attempts to reinforce the front of the vehicle with metal plates.
2. (U//FOUO) The purchase, rental, or request for temporary use of commercial motor vehicles, if accompanied by typical indicators such as nervousness during the purchase, paying in cash, or lack of familiarity with the vehicle's operations.
3. (U//FOUO) Attempts by a commercial vehicle driver to unnecessarily or unlawfully infiltrate areas where crowds are gathered.
4. (U//FOUO) Commercial motor vehicles being operated erratically, at unusual times, or in unusual locations, particularly in heavy pedestrian areas.

³ U.S. Department of Homeland Security and Department of Justice, Federal Bureau of Investigation. "Terrorist Use of Vehicle Ramming Tactics." 2010. p.1

5. (U//FOUO) Presentation of altered or questionable driver's license, proof of insurance, credit cards, or other required documents when purchasing or renting vehicles.
6. (U//FOUO) Suspicious behavior on the part of a vehicle trainee, such as lack of interest in what type of work they will do, what route they will drive, or how much they will be paid.

(U) COUNTERMEASURES

(U) Would-be terrorists can be stopped by some of the least-intrusive and lowest-cost means available: meaningful security awareness. Drivers and staff who both remain alert to potential threats and report suspicious activities to appropriate authorities are the most effective means of detecting acts of terrorism by commercial vehicle.

(U) TSA has developed the following countermeasures in partnership with public and private sector transportation security partners with the aim of aiding in preventing, protecting, and mitigating the use of commercial vehicles in terrorist attacks within the homeland.

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(U//FOUO) Table 2: Vehicle Ramming Countermeasures

Countermeasures	Insider Threat	Hijacking	Theft	Rental	Purchase
Instruct all drivers and staff to go online to www.tsa.gov/firstobserver to view the appropriate security awareness training module and to maintain a high level of alertness.	X	X	X	X	X
Instruct all drivers and staff to report any suspicious activities, behavior or approaches by unauthorized persons to proper authorities and company leadership.	X	X	X	X	X
Establish a robust facility security program with vehicle accountability measures.	X	X	X	X	X
Reinforce to drivers, staff and passengers the importance of the "See Something, Say Something" campaign.	X	X	X	X	X
Reinforce the importance of strong vehicle security during any period when your operation or your cargo destinations are near parades and other celebratory gatherings, sporting events, entertainment venues, shopping centers, or other activities which place crowds near roads, streets or venues accessible by vehicles.	X	X	X	X	X
When possible, establish an adequate vehicle stand-off distance in relation to parades and other celebratory gatherings, sporting events, entertainment venues, or shopping centers.	X	X	X	X	X
If vehicles must access parades and other celebratory gatherings, sporting events, entertainment venues, and shopping centers, reduce the ability of a potential assailant to accelerate a vehicle into a crowd by employing vehicle barriers that create a serpentine path of entry.	X	X	X	X	X
Increase presence and visibility of security personnel and request increased presence and visibility of law enforcement personnel in and around critical facilities and areas of high pedestrian traffic including passenger boarding and cargo loading areas.	X	X	X	X	X
Consider offering your vehicle to planners and law enforcement as a secured and monitored barrier to streets, alleys, or parking facilities which lead directly to parades and other celebratory gatherings, sporting events, entertainment venues, or shopping centers.	X	X	X	X	X
Collaborate with the law enforcement community through commercial vehicle inspection programs that promote security training and awareness.	X	X	X	X	X
Drivers should take extra precaution on routes that approach higher-risk facilities such as government buildings, military facilities, schools, hospitals, national monuments, houses of worship, or other heavily populated venues.	X	X	X		
If equipped, test security features and equipment such as remote disabling devices, driver authentication systems, panic buttons, and silent alarms.	X	X	X		
Instruct drivers and maintenance staff to keep vehicles locked while in operation and while parked.		X	X		
Instruct drivers to secure vehicles when parked or in slow moving traffic.		X	X		
Instruct drivers to be suspicious of any unknown person who approaches them or attempts to enter the vehicle while in route.		X	X		
To the extent possible, avoid resting in vehicles parked in secluded areas and be wary of persons who may be observed outside your vehicle when exiting.		X	X		
Instruct drivers to watch for suspicious vehicles at the pickup point or suspicious vehicles that may follow their vehicle on the highway.		X	X		
Instruct driver to inform the dispatcher of their route and ensure route compliance. If the route changes, inform appropriate personnel.		X	X		
Instruct drivers to never pick up hitchhikers, unticketed passengers, or any other unauthorized riders. Report any unauthorized riders to proper authorities and company leadership.		X	X		
Report to authorities any suspicions arising from the rental of large capacity vehicles in areas and within a proximate timeframe of parades and other celebratory gatherings, sporting events, entertainment venues, shopping centers, or other activities which place crowds near roads, streets or venues accessible by vehicles.				X	
Report repeat renters who may appear to be "practicing" their large vehicle skills in the time leading up to a nearby open event.				X	
Report unauthorized persons loitering where rental vehicles are parked or serviced.				X	

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(U) SUMMARY

(U) TSA recommends vigilance and preparedness to prevent the use of commercial vehicles in terrorist attacks. Commercial vehicle owners and operators should alert their staff to possible theft or hijacking of vehicles by would-be attackers and the importance of reporting suspicious activities to appropriate authorities.

(U) Commercial vehicle owners and operators can also help their home community's business and law enforcement agencies by partnering to discuss the threat of vehicle ramming attacks and the security awareness, planning, and countermeasures which could mitigate the threat.

(U) No community, large or small, rural or urban, is immune to attacks of this kind by organized or "lone wolf" terrorists. Good security is good business. TSA recommends you to take an active role in protecting your business and your community from this potential threat.

(U) ADDITIONAL RESOURCES

(U) Assessments and Planning

- (U) The *Highway Baseline Assessment for Security Enhancements (BASE)* is a voluntary, risk-based program designed to identify security vulnerabilities within the various highway transportation modes and, in turn, offer mitigation options for reducing those vulnerabilities. HighwaySecurity@dhs.gov
- (U) The *Transportation Security Template and Assessment Review Toolkit (T-START)* provides (1) an Overview of Security, (2) guidance on conducting a Vulnerability Assessment, and (3) instructions on completing a Security Plan. HighwaySecurity@dhs.gov

(U) Training and other Resources

- (U) *First Observer /First Observer Plus* is a security domain awareness video training program focusing on delivery of a simple message to highway transportation professionals to "Observe, Assess, and Report" suspicious activities. <http://tsa.gov/firstobserver>
- (U) *Counterterrorism Guides* are intended to provide an awareness of specific issues that should be considered when developing and implementing your organization's security plan. HighwaySecurity@dhs.gov
- (U) *Intermodal Security Training & Exercise Program (I-STEP)* provides exercise, training, and security planning tools and services to the transportation community. HighwaySecurity@dhs.gov
- (U) *Exercise Information System (EXIS)* is an online exercise tool that provides users with resources to design, document, and evaluate exercises for all transportation modes. <http://exis.tsa.dhs.gov>
- (U) *TSA Surface Transportation Cybersecurity Resource Toolkit for Small and Midsize Business (SMB)* is a collection of documents designed to provide cyber risk-management information to surface transportation operators. TSA-Surface@tsa.dhs.gov