FIRST**RESP**ONDER'STOOLBOX

NCTC

Vehicle-Borne Attacks: Tactics and Mitigation

SCOPE: This product encourages discussion and creativity among intergovernmental and private sector stakeholders for integrating protective security measures into public and private places to reduce vehicle-borne threats.

Terrorists use vehicles to target pedestrians, breach physical security barriers, and deliver explosive devices. Vehicle rammings are scalable, require minimal preparation and are encouraged in terrorist messaging. These attacks garner widespread media coverage. Therefore, security specialists, architects, engineers, and first responders are encouraged to adopt a layered security approach to mitigate vehicle-borne threats.

Terrorists carry out a variety of vehicle-borne attacks worldwide and vehicle ramming attacks are the most common type of vehicle-borne attack used in the United States. Other types of vehicle attacks, such as vehicle-borne improvised explosive device (VBIED) attacks, have been either foiled or are less likely to be attempted in the United States possibly due to the complex nature of building a VBIED. Since May 2020, there have been over a dozen malicious or intentional vehicle rammings carried out during protests and riots in the United States.

- In September 2020, a woman rammed a vehicle into a gathering of protestors and counter-protestors on a six-lane highway in Yorba Linda, California, injuring two. The attack may have been motivated by political ideology. Criminal charges are pending.
- In July 2020, a woman drove a car through a police barricade on a Seattle, Washington freeway and into a group of protesters, killing one and injuring another. The attack may have been motivated by political ideology. Criminal charges are pending.
- In February 2020, a man drove a van through a tent, targeting a group of political campaign volunteers in Jacksonville, Florida. There were no injuries, and the attack may have been motivated by political ideology. Criminal charges are pending.

RESOURCES

- CENTRE FOR THE PROTECTION OF NATIONAL INFRASTRUCTURE (CPNA)/UK –HOSTILE VEHICLE MITIGATION: https://www.cpni.gov.uk/hostile-vehicle-mitigation-0
- DHS/CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY (CISA) – VEHICLE RAMMING ATTACK MITIGATION: www.cisa.gov/first-responder
- DHS/CISA – DAMS SECTOR ACTIVE AND PASSIVE VEHICLE BARRIERS GUIDE (2020): https://www.cisa.gov/publication/dams-vehicle-barriers-guide
- DHS/CISA – VEHICLE RAMMING: SECURITY AWARENESS FOR SOFT TARGETS AND CROWDED PLACES https://www.cisa.gov/sites/default/files/publications/Vehicle%20Ramming%20-%20Security%20Awareness%20for%20ST-CP.PDF
- DHS,DOJ BOMB THREAT STAND-OFF CARD: https://tripwire.dhs.gov/reports/220482
- DHS, FBI, AND TSA: VIDEO - PARTNERS IN PREVENTION: VEHICLE RENTALS AND VEHICLE RAMMING https://www.fbi.gov/video-repository/vehicle-rentals-vehicle-ramming-013019.mp4/view
- NCTC/JCAT FIRST RESPONDER'S TOOLBOX: VEHICLE BORNE IMPROVISED EXPLOSIVE DEVICE (VBIED): PREPAREDNESS, RECOGNITION, AND RESPONSE https://www.odni.gov/files/NCTC/documents/jcat/firstresponderstoolbox/VBIED-Preparedness-Recognition-Response-ONLINE-Version.pdf

HOSTILE VEHICLE: METHODS AND MITIGATION: Vehicle attacks may include a combination of tactics. Therefore, effective mitigation will require a layered security approach that includes traffic management, physical barriers with routine maintenance and other access controls to restrict or prevent vehicle access without compromising emergency response.
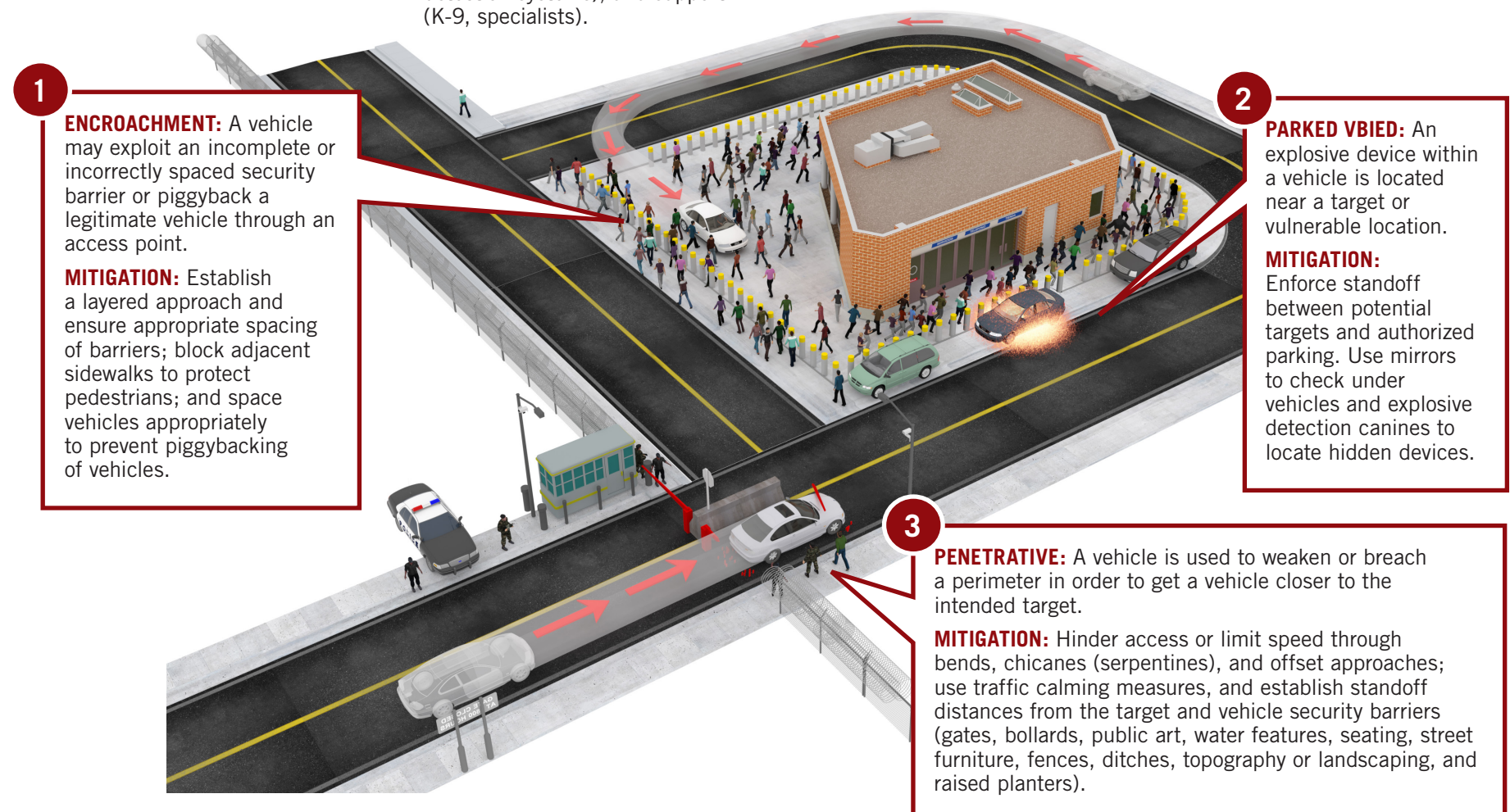
DECEPTION: Rented or stolen vehicles modified to replicate official vehicles. Drivers and their occupants may use false pretenses (impersonation, false identity, fraudulent documents, or an unwitting driver) to gain access to a targeted location (a compound, building, and/or garage).

MITIGATION: Employ a layered screening approach that includes visual inspection, technology (license plate scanner, bar code reader, and/or explosive trace detection systems), and support (K-9, specialists).

DURESS: An individual is forced to grant a vehicle access into a secure or restricted area, or an innocent driver with authorized legitimate access is forced to conduct an attack unwittingly.

MITIGATION: Use passive vehicle barriers with established standoff distances.

1

ENCROACHMENT: A vehicle may exploit an incomplete or incorrectly spaced security barrier or piggyback a legitimate vehicle through an access point.

MITIGATION: Establish a layered approach and ensure appropriate spacing of barriers; block adjacent sidewalks to protect pedestrians; and space vehicles appropriately to prevent piggybacking of vehicles.

2

PARKED VBIED: An explosive device within a vehicle is located near a target or vulnerable location.

MITIGATION: Enforce standoff between potential targets and authorized parking. Use mirrors to check under vehicles and explosive detection canines to locate hidden devices.

3

PENETRATIVE: A vehicle is used to weaken or breach a perimeter in order to get a vehicle closer to the intended target.

MITIGATION: Hinder access or limit speed through bends, chicanes (serpentines), and offset approaches; use traffic calming measures, and establish standoff distances from the target and vehicle security barriers (gates, bollards, public art, water features, seating, street furniture, fences, ditches, topography or landscaping, and raised planters).

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Vehicle-Borne Attacks: Tactics and Mitigation *(continued)*

CONSIDERATIONS: A collective approach between government and industry stakeholders can ensure an effective and proportionate response to prevent vehicle attacks or minimize the effects

- A combination of architectural design and traffic movement engineering can improve site security measures to channel a vehicle's movement, and reduce a vehicle's momentum.

- A shared understanding among all security stakeholders of current terrorist tactics aids in the development of tailored security assists and inform risk and vulnerability assessments, as the threat evolves.

- Understand the changes in landscaping, construction, land development, traffic flow, adjacent streets, and other approach avenues such as multi-use paths, bike lanes, and pedestrian crosswalks.

- **EVENT PLANNING:** Special events and their associated security footprints often encompass not only a central location or venue, but also much of the surrounding area, including adjacent buildings, roads, sidewalks, multi-use paths, and mass transit.

  » Consider pedestrian-friendly streetscapes, physical security measures, and conventional traffic principles to prevent vehicle access or limit proximity to a site by closing as many roads as possible in the surrounding area of the event.

  » Crowds may have to be screened prior to event entry. Flows of people typically bottleneck at predictable locations such as security checkpoints and public transit stations.

  » Anticipate locations where large crowds (demonstrators and protestors) might not regularly gather.

  » Review security modifications to ensure emergency response routes are not impeded.

  » Ensure all potential security and response stakeholders are familiar with changes made to a venue and its surrounding areas.

ISIS MESSAGING: In April 2020, the third issue of pro-ISIS online magazine Sawt al-Hind (Voice of India) issued a call for vehicular attacks as one of multiple inexpensive and easy ways to attack non-believers.

- **VEHICLE BARRIERS** can be passive (static), active (operable), re-deployable, and improvised. The appropriate use, type, and location of vehicle barriers may require a site assessment, traffic engineering study, and site survey. When deciding vehicle barrier types (bollards, trees, street art), consider intended use, routine maintenance needs and costs, accessibility and safety.

  » **Passive security barriers** include landscape features, large immovable landmarks, integrated street furniture, level changes (high curbs or steps), water features, vegetation, chain-link fences supplemented with high-strength cables, and concrete walls.

  » **Active barriers** include the use of retractable bollards and rising-arm gates that can be used if legitimate vehicle access is required past the standoff perimeter.

  » **Re-deployable barriers** are quick to set up and used during a short notice event or during an increased threat to a planned event.

  » **Improvised barriers**, such as large vehicles, are used to fill gaps and control access to roadways, sidewalks or paths. Consider the size, weight, and placement of improvised barriers relative to the potential threat.

- **TRAFFIC CALMING MEASURES** may reduce the speed of a vehicle, decreasing vehicle energy and impact.

  » **Horizontal Deflection:** Chicanes (serpentines), lateral shift, and traffic circles hinder straight line driving by creating a horizontal shift in the roadway. Consider placing chicanes at both the entrance and exit of an event or venue to prevent a vehicle from traveling the wrong way down a one-way street.

  » **Vertical Deflection:** A change in the height of the roadway that typically forces a motorist to slow down, to maintain an acceptable level of comfort; however, vertical deflections, such as speed humps and speed cushions, will have minimal impact for speed reduction on a vehicle attack.

  » **Inclines:** Steep grade inclines will likely hinder larger and heavier vehicles from increasing speed towards a target. Gradients may also restrict the line of sight along a potential attack route, creating an unpredictable situation for the attacker. Inclines sufficient to slow down vehicles require a large amount of physical space.

VEHICLE RAMMING NICE, FRANCE: In July 2016, a terrorist drove a 19-ton truck through a crowd celebrating Bastille Day along a distance of 1.25 miles, killing 85 and injuring 434. The driver was inspired by international terrorism.

1. At **10:32 pm**, the driver entered the promenade, across from the children's hospital and rode along the traffic for approximately .2 miles. He drove up onto the broad sidewalk filled with revelers and families.

2. At **10:33 pm**, two police cars attempted to give chase but were unsuccessful in keeping up with the truck while avoiding hitting bystanders. The driver accelerated to 35 mph.

3. At **10:34 pm**, the driver reached the .9 mile mark and then accelerated to approximately 55 mph.

4. The truck drove past a police barricade with metal barriers located in the roadway.

5. The driver turned over the curb, off the sidewalk and into the pedestrian area of the promenade.

6. The truck slowed as it reached the Hotel Negresco.

7. At **10:35 pm**, police officers on foot chased the truck; the driver shot at the officers.

8. The truck traveled another 150 yards and came to a stop at the Palais del la Mediterranee. At **10:36 pm**, the driver was shot and killed by police.

Rendering of Nice promenade **BEFORE** the attack.

Promenade **AFTER** the 2016 attack. Note the addition of bollards, concrete barriers, and vegetation.

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ADDITIONAL COMMENTS, SUGGESTIONS, OR QUESTIONS. HOW DOES JCAT MAKE PRODUCTS BETTER?

WHAT TOPICS DO YOU RECOMMEND?