Traditionally viewed as a problem affecting the Middle East and South Asia, after September 11 and July 7, the threat posed by suicide terrorism is spreading around the globe to the western world too. Since the 80s suicide attacks were witnessed in Lebanon, Kuwait and Sri Lanka, Israel, India, Panama, Algeria, Pakistan, Argentina, Croatia, Turkey, Tanzania and Kenya, USA and United Kingdom. The enhanced migration of terrorist groups from conflict-ridden countries, the formation of extensive international terrorist infrastructures and the increased reach of terrorist groups in the post Cold War period, all affected the spread of suicide terrorism to the Western Europe and North America.

Groups that use suicide bombings

Suicide operations are attractive to terrorist organizations, as they result in many casualties, cause extensive damage, attract media coverage, guarantee the most appropriate time and place with regard to the circumstances at the target location, are extremely difficult to counter and require no escape plan. Today, there are about 10 religious and secular terrorist groups that are capable of using suicide terrorism as a tactic against their governments and/or foreign governments. These are: the Islam Resistance Movement (Hamas) and the Palestinian Islamic Jihad of the Israeli occupied territories, Hizbullah of Lebanon, the Egyptian Islamic Jihad (EIJ) and Gamaya Islamiya (Islamic Group - IG) of Egypt, the Armed Islamic Group (GIA) of Algeria, Barbar Khalsa International (BKI) of India, the Liberation Tigers of Tamil Eelam (LTTE) of Sri Lanka, the Kurdistan Worker's Party (PKK) of Turkey and the Osama bin Laden network (Al Quaida). Suicide attacks are used mostly by fanatic religious and nationalistic groups who regard them as a kind of “Holy War” by divine command. The phenomenon has seen a growing popularity especially among Islamist fundamentalist terror groups, though different groups in various locations of the world have used them. Suicide-capable groups differ in form, size, orientation, goal and support. A review of the key characteristics of the 10 suicide-capable groups reveals that any group can acquire suicide bomb technology and engage in suicide terrorism. Some of suicide groups are motivated by religion, religious/ethnic nationalism, or ethnic nationalism. Al Quaida's religious philosophy transcends territorial borders. Hamas, the PIJ and Hizbullah are primarily religious groups, but they are also driven by ethno-nationalism. BKI is the only non-Islamic religious group. While the LTTE and the PKK are driven by ethno-nationalism, the PKK is also infused with Marxist-Leninist ideology. As such, the motivation of Hamas, the PIJ and Hizbullah suicide bombers is primarily Islam. The motivation of the LTTE and the PKK suicide bombers is mainly Tamil and Kurdish nationalism respectively.
Suicide terrorism: tactics and perpetrators

Suicide terrorism is the readiness to sacrifice one's life in the process of destroying or attempting to destroy a target to advance a political goal. The suicide attack is an operational method dependent upon the death of the perpetrator. The attack is carried out by activating explosives worn or carried by the terrorist in the form of a portable explosive charge, or planted in a vehicle. The aim of the psychologically and physically war-trained terrorist is to die while destroying the enemy target. There are two types of suicide operations: battlefield and off the battlefield. In battlefield operations, suicide bombers are integrated into the attacking groups. Most off-the-battlefield operations have involved single suicide bombers, but for example in the case of the LTTE and Hamas, there have been multiple suicide bombers. The targets have been static and mobile, against infrastructure and humans. Suicide bombers have destroyed military, political, economic and cultural infrastructure. They have committed terrorist attacks by killing civilians in buses, crowded places and in buildings. Suicide bombers have also assassinated political and military VIPs.

Two basic types of suicide bomber exist, the individual and the vehicular. Each type has its own advantages and limitations. The individual suicide bombers carry the explosive device either on their body or within an object. They can carry explosives in vests or aprons, belts, satchels, backpacks, the sole of a shoe and even bras and boxer shorts. Among the objects bombers have used are boxes, gym bags, briefcases, guitar cases, computers, TV cameras, birdcages and even a watermelon. Because explosive devices may be so well disguised, innocent individuals can be tricked into carrying them. Underwater divers can attack ships with suicide satchels or limpet mine charges. The major limitations of individual suicide bombers are that they can carry only a limited amount of explosives and they have a limited range on foot. Advantages of these bombers are that the logistical requirements to field them less demanding and they can reach targets difficult to threaten otherwise, such as very important persons (VIPs), commercial aircrafts and the inside of venues such as shopping malls. No recorded use of cavity bombs (i.e., in the stomach, rectum, or vagina) exists, but this tactic represents a potential threat. Another area of concern is the use of “necklace bombs” (used in Colombia, where they are placed around the neck of the victim) for terrorist hostage taking or forced suicide bombing, rather than for their original ransom-taking purpose. One of these bombs was used in August 2003 in the Erie, Pennsylvania, “Pizza Deliveryman” incident. In that incident, the victim, who was eventually killed by the device, was forced to rob a bank. Bombs placed on animals (a tactic used by Russian forces to destroy German tanks in World War II) have also been considered a possibility.

The vehicular bomb includes all motorized and nonmotorized vehicles on land, air and sea with the potential to be turned into a suicide bomb delivery platform. Car and truck bombs are most
common, but commercial airliners, motorcycles and bicycles, donkey carts, small sailing craft, speedboats and even submarines have all been utilized or attempted. Concerns have also been expressed over the potential use of light planes, microlights, gliders, and small helicopters. The major advantages of vehicular suicide bombing are the ability to carry a large explosive payload, and the high levels of mobility. In addition, donkey carts and bicycles are valued for their innocent appearance (who would expect explosives inside a bicycle frame?), while a microlight might be useful for its ability to access a hard-to-reach target. Limitations of vehicular bombing are the increased logistical needs and the necessity of hiding the vehicle before its use in the suicide mission. It must be noted that suicide bomber threats can rapidly change. In one incident in Afghanistan, when a vehicular suicide bomb failed to explode, the driver left the vehicle wearing a bomb vest and then assaulted the target on foot. Active terrorist groups that have engaged in suicide bombings use both individual and vehicular bombs. These groups include the Al-Aqsa Martyrs Brigades, Al Qaeda and affiliates, the Zarqawi group in Iraq, the Chechens, Hamas, Hezbollah, Palestine Islamic Jihad, and the Tamil Tigers.

Advantages of suicide terrorism
The operational advantages of suicide bombings over normal terrorist bombings include:

1) Superior dedication to the mission: A suicide bomber is considered a shahid—a martyr who engages in jihad (holy war) and will, upon completion of the mission, bring honor to his or her family and organization and enjoy the benefits of eternal paradise. After individuals are selected to become a shahid, they usually go through long training sessions that determine their level of religious commitment, attitude and ability to remain calm under pressure. Individuals who pass this indoctrination and training process should be considered fanatics who will gladly blow up themselves and others to reach their intended target.

2) The device is precisely delivered to the target: The suicide bomber functions as a precision weapon, taking the explosive device right to the target. The terrorist is “invisible” (stealth-masked) until the device is detonated, which helps overcome the Western advantage of standoff targeting and defense based on physical distance. Because the explosive device is guided by a human, it also has the ability to change locations at the last second in case the primary target is too difficult to reach or a better target of opportunity presents itself.

3) Harder targets can be attacked: Targets that cannot be attacked by normal terrorist bombing techniques can be reached. Heavily fortified compounds with proper standoff distances will not be damaged by normal terrorist bombings, whereas suicide bombers can crash through the front gate of a fortified compound or sneak in undetected and reach the desired target. Vehicular suicide bombers often use gatecrashing to gain entry to a target.

4) The device has small window of vulnerability: In normal bombing, when the terrorist leaves the explosive device at the target and then escapes to safety prior to detonation, there is a possibility
that the explosive device can be found and moved or rendered safe. There is no opportunity for such defensive action in suicide bombing, given the ability of the bomber to self-detonate. No planned egress is required. The explosive charge simply has to be delivered to the target and detonated.

5) No one is left alive to interrogate: Because suicide bombers typically are not captured, operational security of the terrorist group is better maintained. The Tamil Tigers use poison capsules as a fail-safe method in the event of capture. Some Palestinian groups use a redundant, cell phone activated detonator that can be set off by calling the cell phone in case the suicide bomber attempts to back out of his or her mission.

6) No burden of wounded comrades exists: Injured comrades create a logistical strain on a group. Suicide bombers do not typically survive the detonation of the explosive device, unless there is some form of malfunction.

7) Psychological impact: Suicide bombers are blown to pieces, with the head typically being separated from the body in the case of those wearing body armor. Witnesses obviously find this sight traumatic. In areas where suicide bombings take place frequently, individuals become concerned about the proximity of other people. Everyone in a crowd must be scanned for bulky clothing or watched for unusual behavior, such as walking away from a bag or package.

**Operational Issues**

Individual bombers are usually employed in an antipersonnel mode because of the small amount of explosives they carry. Carried explosive devices typically range in weight from 10 to 35 pounds, while suicide bodysuits usually weigh from 1 to 20 pounds. On occasion, individual bombers can be used in an anti-infrastructure mode. Small amounts of explosives are more than adequate to take down a commercial aircraft, destroy a bus, or blow up a gasoline storage tank. Vehicular bombers can be used in an antipersonnel mode too but, with their larger payloads, are better suited for targeting infrastructures. Payloads can range from 500 to 1,000 pounds of explosives for cars and 10,000 to 20,000 pounds of explosives for a U-Haul or Ryder-type moving truck. Bicycle frames can carry very small explosive payloads, possibly a few pounds, while small boats and planes can carry payloads in the mid-hundreds to low-thousands of pounds. Commercial aircraft can carry fuel loads (in essence, an explosive payload) between 3,000 and 58,000 gallons (for example a Boeing 747-400), along with sizable kinetic energy potential. Military barracks, embassies, skyscrapers, ocean-going vessels and even entire troop convoys have all been attacked and destroyed by suicide bombers. An overseas attack by a suicide bomber is generally well organized and requires at least four supporting teams: one that engages in recruitment and training, one that plans the mission and conducts surveillance and reconnaissance on the target, one that assembles the bomb and one that provides the bomb to the bomber and takes the bomber to the target.

**Targets**
Generally, suicide bomber operations focus on the following types of targets:

1) The general public: Large masses of people in public areas such as mosques, churches, markets, malls, nightclub lines and restaurants, as well as people on public transportation have all been attacked. In a terrorism campaign, people gathering in large groups are a primary target set. The 2002 Chechen rebel takeover of a Moscow theater, which led to more than 120 civilian deaths, is one example of this type of targeting.

2) Police and military forces (including other responders): Members of this target set have been engaged individually and in small and large groups. Police on the street, in their stations and at their favorite restaurants have been attacked. The same goes for military forces on patrol, in convoys, in their command centers and in barracks. In insurgency campaigns, this is a primary target set.

3) Infrastructure (including vehicles): This target set is vast and includes vehicles such as trains, planes, ships, as well as distinct industries such as power generation and finance. Nuclear power plants and the control rooms of major systems such as electrical grids are high-value targets.

4) Very important persons: On occasion, individual suicide bombers assassinate government officials and other political leaders. VIPs are a much harder target to reach than the general public, police or military forces. These bombers have reached their target by bypassing the official’s security detail. Typically, this has happened when the official is exposed, such as when greeting the public or conducting a press interview.

5) Symbolic venues: The 9-11 attacks on the World Trade Center and the Pentagon represented assaults on the financial and military centers of the Western world. Important monuments such as bridges, structures, churches and statues fall within this category.

**Suicide Bomber Preincident Indicators**

Suicide bombers must possess both intent and capability before they can carry out their attacks. During the preincident phase, intent must be formed and preparation made to attack a specific target or targets. Intelligence is vital during the entire preincident phase. Surveillance teams may be difficult to identify, but if the same individual is repeatedly getting lost (“boundary probing”) in off-limits or restricted areas, surveillance or spoofing (misleading surveillance) may be taking place. Cars parked near high-value targets (especially cars containing individuals using binoculars or telephoto cameras), which then leave as law enforcement arrives, indicate that active surveillance is likely taking place. Pretending to have a broken-down car, by putting the hood up, is another, less suspicious way many bombers conduct surveillance.

No suicide bomber profile exists, as men, women and adolescents have all engaged in this activity. Yet, most commonly, bombers are unmarried males between 16 and 40 years old. To a lesser extent, females between 16 and 25 years old have engaged in this activity. On a terrorist group-by-
group basis, much variability exists, as each group has its own tactics, techniques, and protocols. Chechen terrorist groups have used numerous female “black widow” bombers, whereas Al Qaeda has not. There are some constraints that affect the deployment of female suicide bombers. An examination of the groups driven by religious ideology reveals that Islam has had some constraints about the use of women suicide bombers, nevertheless, this has been changing. About five of the suicide operations in Lebanon involved women and in Israel Palestinian groups have used women. Also, about 30% of the suicide operations in Sri Lanka have been conducted by women. A woman staged the suicide operation that killed Rajiv Gandhi in India and most suicide operations in Turkey are by women. For many reasons, women are the preferred choice of secular groups when it comes to infiltration and strike missions. First, women are less suspicious. Second, in the conservative societies of the Middle East and South Asia, there is a hesitation to body search a woman. Third, women can wear a suicide device beneath her clothes and appear pregnant. Suicide bombing operations conducted by families have also taken place. In one incident in December 2001, a father, son, and daughter jointly engaged in a multiple vehicular suicide bombing attack against a government headquarters building in Grozny.

Prior to the actual attack, suicide bombers seek to remain undetected by blending in with their surroundings. This defense, based on stealth-masking, is employed as they move against the selected target. It may be recognized by observing subtle items or actions that appear out of place. While any one indicator by itself may not be cause for concern, multiple anomalies will signify a potential threat:

1) Behavior: Does the individual act oddly, appear fearful, or use mannerisms that do not fit in? Examples include repeatedly circling an area on foot or in a car, pacing back and forth in front of a venue, glancing left and right while walking slowly, fidgeting with something under his or her clothes, exhibiting an unwillingness to make eye contact, mumbling (prayer), or repeatedly checking a watch or cell phone. To overcome nervousness, some suicide bombers are given drugs; thus, a person in a drug-induced state is another red flag. Other indicators include sudden changes in behavior— for example, a fanatically religious person visiting sex clubs (or the reverse), or an individual giving away personal belongings or suddenly paying off all debts.

2) Appearance: Is the clothing, grooming, gender, or age of an individual out of place within the context of the environment? Examples include someone wearing a heavy coat or jacket in warm weather, overly bulky or loose-fitting clothing, protrusions under the clothing, or strange hair coloring (that is, badly dyed hair). Chemical burns on clothing or stained hands are other indicators. Of concern is the fact that suicide bombers have been able to blend in with their surroundings by disguising themselves to look like many types of professionals and civilians. Suicide bombers have appeared as military and law enforcement personnel, ambulance drivers, pregnant women, festival attendees, nightclub goers, TV camera crews, university students, and
Orthodox Jews.

3) Smell: Is the individual wearing too much cologne or perfume, or does he or she smell of talcum powder or scented water (for ritual purification)? Some military explosives are odorless, while other types of explosives have a distinct odor, such as a fertilizer or petrochemical smell. These odors are not detectable in the small quantities carried by an individual bomber but may be noticeable in the quantities utilized in a large vehicular bomb.

4) Equipment: Does a briefcase, duffle bag, or backpack seem extra heavy or have protrusions or visible wires? When the individual sits down, is he or she overly protective of this item or preoccupied with it? The discovery of any combination of the following bomb-making materials suggests that an attack is being planned: gristmills, grinder banks, bottles of urine, chemicals, detonators, wire, nails, cell phones, and piping. It should be noted that, in the case of individual bombers, some explosive devices are being created without metal fragmentation. This is an attempt by some terrorist groups to get past metal detectors. As a result, these devices rely solely on blast (heat and overpressure) effects and secondary fragmentation occurring from human bone fragments and shards of glass from nearby windows to cause injury and devastation.

5) Vehicle: There are several things on or relating to vehicles to watch for, such as front and back license plates that look forged, don’t match, or are missing. Other red flags include a vehicle trunk that is weighed down, a vehicle identification number (VIN) that has been removed from the dashboard, illegible or expired tags or registration, a specific make of vehicle or vehicle condition that does not fit into the surrounding neighborhood, prolonged parking in a nonparking spot, and parking in a central choke point.

**Suicide Bomber Profile**

Following is a checklist for observing, reporting, responding and investigating suicide bombing incidents. It is not designed as a comprehensive or complete list of all considerations in these areas but is suggestive of the types of common concerns that may affect police and other emergency service responders. The following are among the most obvious signs of such persons according to this source. Such profiles are valuable not only for law enforcement personnel but for all persons who work in security or related fields in facilities or other locations that are potential targets or, where intelligence indicates an elevated risk of a terrorist attack:

1) The wearing of heavy clothing, no matter what the season. Long coats or skirts may be used to conceal explosive belts and devices.

2) An unusual gait, especially a robotic walk. This could indicate someone forcing or willing himself or herself to go through with a mission.

2) Tunnel vision. The bomber often will be fixated on the target and for that reason will look straight ahead. He or she also may show signs of irritability, sweating, tics, and other nervous behavior.
(The Al Qaeda terrorist Ahmed Ressam, who was captured at a border crossing in Washington state while driving a car filled bomb-making materials, caught the attention of authorities because of his excessive sweating, furtive eyes, and other nervous movements.)

3) The appearance of being drugged. The suicide truck bomber who attacked the U.S. Marine Barracks in Beirut in 1983 had been drugged before the attack and was tied to the seat of his vehicle.

4) Signs of drug use—including, for example, enlarged pupils, fixed stare, and erratic behavior.

5) Bags or backpacks (used to carry explosives, nails, and other shrapnel). The bomber generally holds his or her bag or backpack tightly, sometimes gingerly, and may refuse to be separated from it.

6) A fresh shave—a male with a fresh shave and lighter skin on his lower face may be a religious Muslim zealot who has just shaved his beard so as not to attract attention, and to blend in better with other people in the vicinity.

7) A hand in the pocket or tightly gripping something—this could be someone clutching a detonator or a trigger for an explosive device. Such triggers, which may be designed in the form of button, usually are rather stiff so that they may not be set off accidentally. (One Israeli acquaintance described how he and several guards shot a would-be bomber numerous times, but found his twitching finger still on the button—and still posing a danger, thereafter.)

8) Evasive movements. It seems obvious that anyone who tries to avoid eye contact, or to evade security cameras and guards, or who appears to be surreptitiously conducting surveillance of a possible target location, may be a bomber.

**Final suggestions**

A state faced with suicide attacks must thwart these attacks through intelligence, operational (counter-terrorist) measures, and protective (anti-terrorist) measures. To these steps must be added psychological measures. Intelligence is the first link in the chain of thwarting any terror attack, but is of the utmost importance, before they are put into practice. Operational efforts should be diverted towards the application of pressure on elements involved in the overall planning and implementation of the attacks and several circles of people aware in advance of the plan (family, activists initiating the attack, recruiting, train the perpetrator, devising the explosive device, gathering operational intelligence on the target, and guiding the perpetrator on the mission, collaborators giving logistical assistance and supporters who create an atmosphere making the operation possible). New security methods should be adopted and action taken to prevent the suicide bomber reaching the target. Increased protective measures and the exposure of the actor before the opportunity to carry out the attack at the planned target, may reduce the amount of damage caused and perhaps even prevent the attack. Another important facet is countering the moral damage of these attacks, supporting and strengthening the civilian population.