

**Our Continuing Critical Vulnerability
To
Vehicle Bombs and Individual Suicide Bomb Attacks at U.S. Airports**

By
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On September 25, 2004, I made the following statement in a presentation preceding the 35th Session of the ICAO Assembly in Montreal, Canada¹:

“My greatest concern at the moment however is the simultaneous use of suicide car bombs against airport terminal buildings. The U.S. and a number of other countries are particularly vulnerable to this type of attack. Some have addressed this vulnerability with countermeasures but in most instances the measures do not fully address the problem.”

The currency of the vehicle bomb threat from Al Qaeda’s perspective is illustrated by the 24 February 2006 attack on Saudi oil facilities. The New York Times February 24th edition stated that “Security forces in Saudi Arabia repelled a terrorist attack on the country’s most important oil and gas facility on Friday. The attack on the gargantuan Abqaiq oil facility consisted of two cars carrying explosives that attempted to penetrate the facility’s defenses.” A Reuters AlertNet report (2/26/2006) estimated that each of the two cars was carrying as much as 2,200 pounds of ammonium nitrate, nitroglycerine, RDX and other substances.

In other venues I have also stated that another pressing threat is the simultaneous attack by multiple suicide attackers using bombs² concealed within their baggage during peak check-in periods in our crowded major airport terminals. The resulting horror of the hundreds of deaths and injuries from three or four suicide bombers each simultaneously detonating 20–30 pounds of C-4 plastic explosives studded with nails secreted in suitcases in a crowded airport terminal is beyond belief. But that, or a vehicle bomb at the front of one of our crowded airport terminal buildings, is exactly what I believe our principle vulnerability is at the moment. Moreover other events have shown that both of these attack scenarios are attractive to our adversaries.

Al Qaeda’s second-in-command, Ayman al-Zawahri, called President Bush a “butcher” and threatened a new attack on the United States in a videotape aired on Arab television on January 29, 2006. The video came in the wake of a January 19 audiotape by bin Laden in which he warned that al Qaeda is preparing attacks in the United States³.

¹ *Worldwide Conference on Current Challenges in International Aviation*, September 24 – 26, 2004 Presented by McGill University Institute of Air & Space Law, Montreal, Canada in cooperation with the International Civil Aviation Organization in association with the Airports Council International, Concordia University International Center for Aviation Management Education & Research, The Canadian Bar Association (Air & Space Law Section) and the International Air Transport Association.

² For the sake of expediency, I am using the term “bomb” here as meaning an improvised explosive device (IED) or a vehicle borne improvised explosive device (VBIED).

³ January 31, 2006 CBS/ABC.

From all public indications, the U.S. Department of Homeland Security (DHS) and its subordinate organizations, such as the Transportation Security Administration (TSA), have ignored our vulnerability to this threat. Perhaps this is an overstatement as we do not know what the DHS or any of its subordinate organizations have done to covertly address this threat. What we do know is that our vulnerability to these kinds of attacks continues to exist – so at the very least the DHS and its subordinate organizations have not instituted any publicly known countermeasures for these threats.

A friend and colleague of mine with years of experience in the intelligence and threat assessment disciplines, whose opinion I respect very much, has asked whether there is an articulated threat scenario for these methods of attacks. I am unaware that there is within the U.S. Government – but my intuition and past experience tells me that if there is an attractive enough vulnerability in one’s defenses the adversary will exploit that vulnerability. And, we are indeed vulnerable to vehicle bomb attacks at our airport terminal building vehicle access areas and to suitcase bombs immediately inside our terminal buildings passenger check-in areas. Moreover, even our adversary’s casual observation of our aviation system will have revealed these vulnerabilities.

The failure of the DHS to address these vulnerabilities is puzzling as a number of other countries have instituted countermeasures to address these threats – some have done so for several years. Three examples of countries that have addressed these types of threats immediately come to mind; Jordan, Saudi Arabia, and Israel. Others no doubt exist.

The countermeasures instituted by other countries to address their vulnerabilities to these types of attacks include vehicle surveillance, assessment, and inspection systems on their roadways well prior to their airport terminal buildings; and to some level of inspection of people and baggage as they enter the terminal buildings. As with any other countermeasures, none of these systems will ever be 100% effective. The fact that we can never have perfect protection should not deter us from adding these defenses as additional layers of our overall aviation security systems. In my presentation at the 2004 Montreal conference I went on to comment about countering vehicle bombers:

“Effective countermeasures are not particularly attractive in their impact or cost. As I see it, a three-stage system is necessary to have a reasonable chance of preventing successful attacks using suicide vehicle bombs against terminal buildings. Stage 1 is a surveillance and preliminary assessment of all vehicles on the approach road(s) to airport terminal buildings. Stage 2 is an inspection station for those vehicles designated by the Stage 1 surveillance team(s). Stage 3 is the installation of barriers, e.g. above and below ground, as a means of stopping relatively large vehicles if they ignore orders to stop for inspections at Stage 2. I believe it imperative that we address this vulnerability immediately⁴.”

My proposed vehicle bomb countermeasures for U.S. airports immediately raise the question – Are these countermeasures effective? And, what are the costs and what is the

⁴ Montreal conference.

impact on aviation and ancillary operations? I am afraid that none of the answers to these questions will provide anyone with any high degree of comfort or satisfaction. The plain and simple facts are that some countries believe that their surveillance, assessment, and screening of vehicles is effective. It is not clear that they also believe them to be efficient as they spend a considerable amount of human resources and some complementary technologies to run their security system.

What is the likelihood of a suicide bomber detonating a bomb at a U.S. airport in the immediate future? The logistics associated with acquiring the materials to make a bomb requires consummate skills and, like other terrorist operations have demonstrated, requires a dedication to a goal that is not easily accomplished. Just obtaining the explosives to build a large vehicle bomb is probably very difficult given the overall tightening of acquisition procedures for Ammonia Nitrates in the U.S. after the World Trade Center bombing in 1993 and the Oklahoma City bombing in 1995. Nonetheless, it is possible that it could be done provided the right “insider” or “sleeper” personnel were available to assist the terrorists.

Obtaining high explosives such as C-4 is probably an order of magnitude more difficult than obtaining Ammonia Nitrates, but here again it is possible given the assistance of an insider – or by theft. The Bureau of Alcohol Tobacco, Firearms and Explosives (ATFE) regularly reports on thefts of explosives – usually dynamite or slurries but sometimes military grade high-explosives – around the U.S.

A third method of obtaining military-grade explosives would be the illegal movement of explosives into the U.S. through seaborne cargo. A military type of high-explosive would be the ideal choice for a terrorist group wishing to detonate suitcase bombs in terminal buildings. In fact, a high explosive would be the only way a terrorist could hope to wreck havoc under such conditions as any low-explosive would normally be too bulky to conceal within a suitcase - particularly one using Ammonia Nitrates, as well as being quite smelly and therefore inviting suspicion. The probability of a group of terrorists succeeding in obtaining military type high explosives is less likely than that of a terrorist obtaining access to several hundred pounds of Ammonia Nitrates, but it is nevertheless a possibility.

An alternative would be for the terrorists to make their own explosives – as they have been known to do using chemicals available on the open market. Ramzi Yousef of the 1993 World Trade Center bombing infamy and his Bojinka gang were doing just that in Manila, Philippines in late 1994 when they made a mistake causing a fire. Their Bojinka plans were to bomb 12 U.S. airliners operating in the western Pacific Ocean area. The fire department’s response caused Ramzi and his team to vacate the apartment and that subsequently resulted in the police discovering their bomb factory. Ramzi Yousef’s Bojinka failure notwithstanding, other groups have succeeded in making their own Triacetone Triperoxide (TATP) explosives – so it could be done.

Al Qaeda and other terrorist groups have a history of returning to failed operations. Ahmad Ressay, an Algerian national living in Canada, was caught trying to bring

homemade explosives into the U.S. in late 1999 through Port Angeles in Washington State. He subsequently confessed to planning to bomb Los Angeles International Airport. Ramzi Yousef and his gang in New York and New Jersey failed in their 1993 effort to bring down a World Trade Center tower in 1993. Mohammed Atta and his hijacking teams succeeded in completing the job in 2001 – will Al Qaeda persist in their planning to attack Los Angeles International Airport? What better way to do so by using a vehicle bomb – or the simultaneous detonation of multiple suitcase bombs?

It is interesting that Los Angeles is perhaps the only U.S. airport that is known to have seriously contemplated building a system that would prevent a vehicle bomb from reaching the front of a terminal building. The Rand Corporation recently published a study entitled “*Implementing Security Improvement Options at Los Angeles International Airport*” see www.rand.org. In this study RAND addresses the possibility of establishing vehicle checkpoints at the six roadway access points to the airport. They concluded that it would take from \$5 to \$7 million to establish these checkpoints.

The RAND study reported that Los Angeles World Airports (LAWA) “completed an in-depth study of adding and staffing permanent vehicle checkpoints. Although their infrastructure costs were about the same as ours, they assumed much higher staffing costs.” The RAND study went on to state that “LAWA concluded that the congestion caused by the checkpoints was too disruptive and the staffing costs too high to provide round-the-clock inspections of every vehicle.”

Los Angeles World Airports has shown the most initiative by a U.S. airport authority in this regard, but they still backed away from addressing the vehicle bomb vulnerability. Given that LAWA has been the most progressive on this issue, and they backed away from doing anything, what can we expect from other U.S. airports?

It is interesting that the RAND study for LAWA also concluded that “existing lines (of people) create an attractive target where a terrorist could bring a substantial bomb concealed in luggage with little risk of arousing suspicion” (parenthetical added). The problem is that one has a limited choice of countermeasures to suitcase bombs in the check-in areas in virtually all U.S. airports. These countermeasures would seem to be restricted to:

- Establishment of checkpoints for examining baggage off-airport in safe areas where people are dispersed and bomb detonation mitigation features are built in to the check-in areas, or
- Inspect all baggage at the entrance to the airport terminal buildings.

I observed one such countermeasures area inside a European airport in the 1980s that was processing passengers and their baggage that were enroute to Israel. The features of the facility were designed to limit deaths and injuries to small groups of people – but would not have prevented some persons from being killed or maimed.

The second option identified above would do little to reduce the number of deaths and injuries as most airport terminal entrances are constructed of glass – or have large areas of glass. I have also observed several of these baggage screening configurations at entrances to airport terminal buildings around the world. Some additional mitigation of deaths and injuries can be realized if the terminal entrances are of substantial steel or masonry construction and the suitcase inspections are done immediately outside the terminal building. The implementation of these countermeasures for suitcase bombs would raise havoc with the current U.S. checked baggage screening system using Computed Tomography (CT) explosives detection units.

Given my projections that we are vulnerable to suicide vehicle and suitcase bomb attacks in areas of our airport terminals prior to any current security screening checkpoint, one might ask “why hasn’t it happened yet?” Only our adversaries can really answer that – but we know from Ahmad Ressam’s intention to bomb Los Angeles International Airport at the Millennium that Al Qaeda did indeed intend to use this method of attack. It was only through the alertness of a U.S. Customs Inspector at Port Angeles that this did not happen. What we do not know is if there are any groups planning to do so now.

An equally valid question is: Why only airports? Why not the Grand Central Train Station in New York City, or the Union Train Station in downtown Washington? First these facilities are not easily accessible to large vehicle bombs as there is some depth to them before one sees large concentrations of people. But, even so, ramming a large vehicle bomb through the entrance doors of the Union Train Station in Washington and then detonating the explosives would wreck havoc and result in scores of deaths and injuries. Simultaneous suicide bombers with suitcases packed with explosives could penetrate to the depths of the Grand Central Station in New York or Washington’s Union Station during the peak traffic periods and also kill scores of people.

So, why not the same concern for trains as I am evidencing for airports? Well perhaps the same threat applies, as well as the same degree of vulnerability, and therefore the same need to provide some protective countermeasures. That the Al Qaeda associates consider trains a valid and desirable target is evidenced by the simultaneous bombing of the morning commuting trains in Madrid in March 11, 2004. The lesson I take from this is that Al Qaeda succeeded in bombing trains in Madrid with hundreds killed and injured. They failed in Ahmad Ressam’s attempt to bomb the Los Angeles International Airport – and they have shown a tendency to return to the targets where they failed – so, is it airports or train stations? At this point it appears to be anybody’s guess – unless of course government authorities have obtained information that leads them to conclude otherwise.

We have all heard the Bush Administration officials infer that several terrorist groups have had their planning disrupted by U.S. law enforcement efforts, U.S. military activities, and by foreign government’s interdiction activities. We have also read extensively about alleged renditions of terrorists – and the suggested intelligence gathered from these renditions. One more recent story was the New York Times’ revelation that President Bush had authorized the wiretapping of U.S. citizens speaking

with foreign terrorist sources. Perhaps a more accurate statement would be “eavesdropping” through intercepts of communications between questionable sources within and outside the U.S. What we don’t know is if any of these actions have prevented additional attacks on U.S. interests, including vehicle or suitcase bombs directed at people in the check-in areas at U.S. airport terminal buildings.

The predicament we find ourselves in is that we have many vulnerabilities and we face a high threat level from a demonstrably capable adversary. The choice of attack(s), the time of the attack(s), method(s) of attack(s) are all the choice of this adversary. We cannot afford to waste critical and scarce resources and therefore must choose our actions and countermeasures wisely. This raises the question of costs associated with the implementation of countermeasures to address threats from vehicle and multiple simultaneous suitcase bombs.

Given our experience with the 9/11 terrorist attacks one cannot address countermeasures costs without also considering consequence-costs of a failure to prevent attacks. Some have calculated cost of the 9/11 terrorist attacks to be well in excess of a Trillion dollars U.S. to the world economy. The true cost consequences are still being felt and may continue for decades – in short they are incalculable. We have to consider the overall cost consequences of a failure to address a known vulnerability – moreover one that we know is an attractive target to our adversaries. How devastating is a successful attack to our airports or major train stations that result in hundreds of deaths and injuries going to be on our national will? – our sense of self worth? – our determination to prevail in the war on terrorism? Can we afford to ignore this possibility – dare we do so?

I believe that we cannot afford to suffer these consequences and that we should address the vehicle and suitcase bomb threat without further delay.

END OF ARTICLE

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