

**RAMZI YOUSEF,
LIQUID EXPLOSIVES & CARRY-ON ARTICLES:
THEN AND NOW**

HOW DID WE GET HERE AND WHERE ARE WE GOING?

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I believe that aviation security can be improved and passenger screening wait time reduced by simply reducing the number and size of articles carried through airport security screening checkpoints. I establish an initial basis for this view in Part I of this article by providing some history on the screening issues associated with carry-on articles. Part II addresses some missed opportunities to address the problems associated with carry-on articles and Part III contains my conclusions and raises questions about the future of aviation security in the U.S. I caution the reader that this article is not all-inclusive in that it deliberately does not address all the vulnerabilities and risks associated with passenger screening. To do so would make this a sensitive security information document and as such it could not be released to a public forum.

PART I

The FAA's 1996 Baseline Working Group

On July 17, 1996, the FAA Office of Civil Aviation Security¹ (AVSEC) began a baseline review of the FAA's aviation security measures. The Civil Aviation Security Baseline Working Group received a substantial amount of promotion within the closed aviation security community by the FAA's Office of Civil Aviation Security prior to its first meeting. The probable reason for this promotion was to build support within the aviation community to counter any negative reaction from the U.S. airline community².

This review followed by one and a half years the Bojinka³ threat where Ramzi Yousef and his Al Qaeda terrorist cell developed and began their use of liquid explosives against civil aviation. In what was subsequently determined to be a test run in December 1994, Yousef carried the explosives through security at Manila International Airport and onto a Philippines Airlines flight to the northwestern Philippine city of Cebu and then on to Japan. Yousef was reportedly able to get the explosives through Manila's aviation

¹ Within the FAA the Office of Civil Aviation Security routing symbol was ACS. AVSEC is occasionally used in this article instead of ACS because the International Civil Aviation Organization's (ICAO) worldwide designation for "aviation security" is AVSEC and therefore is a more commonly understood term.

² The airlines and their industry association, the Air Transport Association (ATA), tended to view any actions that might result in more security as a threat to their financial "bottom lines".

³ Bojinka was the name reportedly given by the Ramzi Yousef group to their plans to bomb 12 US airliners over the Pacific Ocean. Some sources claim that "Bojinka" meant "loud bang, blast, or explosion" in Serbian or the Baluchistani dialect and others say that the phrase was written in Arabic and is meaningless while still others say that it may indeed have some specific meaning in Urdu.

security screening because it was in liquid form. This may or may not have been true. However, given the history of Manila International Airport's security effectiveness, Yousef may have been able to take a sizable amount of any explosives into the secure area of the airport with a little artful concealment⁴.

Once on the airplane between Manila and Cebu, Yousef is believed to have assembled the improvised explosive device in the toilet, connected wiring from the data port of a highly modified Casio wrist watch to the improvised detonator attached to the liquid explosive container, and returned to his seat, which was not the one he was assigned. He left the explosive device below his seat when he deplaned at Cebu. When the improvised explosive device (IED) detonated on the airplane from Cebu to Japan it killed the Japanese businessman sitting in the seat previously occupied by Ramzi and injured several other passengers. The pilots of the airplane managed to successfully make an emergency landing at the nearby Naha, Okinawa, airport.

Yousef's and his terrorist colleagues' eventual plan to simultaneously bomb up to 12⁵ U.S. airliners in the Pacific in early 1995 was thwarted when a fire broke out in their apartment in Manila and their bomb factory was discovered by the Manila police. Given the dire nature of this new threat, one would think that the July 1996 FAA Baseline Working Group was driven, at least in part, by this extraordinary new threat.

Unfortunately little attention was given to the nature of this threat publicly at the time of its initial revelation in early 1995. This was probably because the details of the Bojinka plot were relatively unknown to anyone but persons within the aviation security community and the Philippine and U.S. governments. But a substantial amount of attention has been given to liquid explosives by the world's media since the UK's new security measures were implemented on August 10, 2006. This was the date that the UK's actions to counter a threat by indigenous terrorists to bomb a number of airliners departing the UK for the U.S. and Canada became known publicly as a result of their implementation of stringent new aviation security measures to security screen for liquids and gels. Unfortunately, most of this attention by the press and the public, with a few notable exceptions, was delivered in ignorance of the true danger from this threat. Most notable among the credible sources was an article Thomas C. Greene wrote on August 17, 2006⁶; and another more recent article by Paul Quellin dealing with the whole panoply of possible liquid explosives⁷ that could have been used in the alleged August 10th plot in the UK.

⁴ Manila's inadequate application of aviation security measures are notorious within the aviation community, having been cited by the U.S. three times under the *U.S. International Security and Development Cooperation Act* for failure to properly apply ICAO aviation security requirements.

⁵ Actually his plan called for bombing 12 U.S. airliners but when his plot was discovered one of the flights had been discontinued from the airline's schedule.

⁶ Mass murder in the skies: was the plot feasible?, *The Register*, August 17, 2006 Thomas C. Greene, <http://www.theregister.com.uk/2006/08/17/flying.toliet.terror.labs/>

⁷ Liquid Explosives: identifying the likely culprit, *Aviation Security International*, October 2006, Volume 12, Issue 5, <http://www.asi-mag.com>.

Regardless of the reasons for convening the FAA Aviation Security Baseline Working Group the first meeting of the Group began, coincidentally, the same day as the explosion and loss of TWA-800 shortly after takeoff from John F. Kennedy International Airport over the Atlantic south of Long Island, New York. The initial assessment of the reason for the loss of TWA-800 was thought to have been the result of a detonation of a bomb in the cargo hold. This was subsequently disproved as the determination by the NTSB⁸ was that the explosion was from the ignition of fuel vapors in the airplane's center-line fuel tank. Nonetheless, the TWA-800 loss drove the establishment of President Clinton's Commission on Aviation Safety and Security chaired by Vice President Gore. Vice President Gore's name became attached to the Commission and it is more popularly known as the Gore Commission.

As the Gore Commission began its initial formation in August 1996, the FAA Aviation Security Baseline Working Group was hurriedly proceeding in its deliberations. The FAA Aviation Security Baseline Working Group was co-chaired by a former FAA head of security that subsequently became the Air Transport Association (ATA⁹) head of security for a period of time before also retiring from that position. This individual had had a distinguished government and private sector career of almost 40 years when he was asked to undertake the task of co-chairing the FAA Aviation Security Baseline Working Group. He was highly respected by U.S. Government officials as well as the airline industry. An FAA employee from its security organization was the other co-chair – and was supposed to be 'first among equals' in this co-chair position.

Aviation Security Advisory Committee

The FAA Aviation Security Baseline Working Group was essentially the FAA Aviation Security Advisory Committee, more frequently referred to as the ASAC. The Aviation Security Advisory Committee was created in the late summer/early fall of 1989 as a result of a February 28, 1989 letter to the DOT/FAA from the Aviation Consumer Action Project (ACAP), a Ralph Nader consumer advocacy organization. The genesis of the letter was a revelation to the Aviation Consumer Action Project that the FAA had been holding illegal advisory committees wherein advice and counsel was being obtained from aviation industry groups in violation of the Federal Advisory Committee Act¹⁰. The Federal Advisory Committee Act requires that advisory committees reflect a balanced view and the FAA was only obtaining one segment of the aviation industry views – the airlines' view. When DOT and FAA created the Aviation Security Advisory Committee in mid-1989, they proclaimed that they had planned to do this all along – distancing them from the Aviation Consumer Action Project letter threatening to take action if they did not cease their illegal activities.

The 1996 Aviation Security Advisory Committee members on the FAA's Aviation Security Baseline Working Group represented the "who's who" of the aviation industry, e.g. representatives from the airlines, aircraft manufacturers, Airline Pilots Association

⁸ NTSB/AAR-00/03.

⁹ The Air Transport Association is the U.S. airline industry's lobbying arm.

¹⁰ FACA - 1972 5 USC App. 1.

(ALPA), Association of Flight Attendants (AFA), and some aviation security advocacy groups¹¹. These latter Aviation Security Advisory Committee members were woefully outnumbered by the industry representatives and in the Aviation Security Advisory Committee meetings were frequently overruled or, perhaps more appropriately, overwhelmed by the sheer numbers of the industry representatives¹².

The FAA Baseline Working Group was no exception to this disparity as the industry representatives always outnumbered the aviation security advocates and consumer representatives in the deliberations of what needed to be done. The significance of the FAA Baseline Working Group is illustrated by the fact that Carol Hallett, the ATA President, reportedly attended the July 17, 1996 inaugural meeting. Normally this would have been handled by the ATA's head of security who wielded significant influence when he spoke at these meetings.

The stage was set for the outcome of the FAA Aviation Security Baseline Working Group even before the convening of the first meeting on July 17, 1996. The supposedly neutral non-government co-chairmen who had previously served as the head of government aviation security as well as the head of airline security was a known and respected entity whose mode of operation was to seek consensus as opposed to confrontation. He consistently followed this course of action when he was in charge of security for the FAA and while he was subsequently in charge of security for the Air Transport Association for several years after retirement from the FAA. Consensus decisions and actions are laudatory actions in many situations – but consensus frequently does not produce the hard decisions required in crisis situations. It did not produce the hard decisions in this instance on security subjects of interest to the aviation security advocacy groups.

The FAA's co-chairman of the Aviation Security Baseline Working Group was technically competent but not in a position to take hard-line positions vis-à-vis industry objections. As a consequence of these factors, the consumer advocates were either overwhelmed by the industry representatives or their protestations were moderated or overruled by the actions of the airline industry representatives.

The Bojinka Bombing Threat

In January 1995 the Manila fire department responded to a fire in a second floor apartment. After extinguishing the fire, the firemen notified the police because of the contents of the apartment. The police investigation resulted in the confiscation of a laptop computer and other data that led them to believe that the apartment was being used as a bomb factory. The police also arrested one of the apartment's occupants who later confessed to a plot to bomb 12 U.S. airliners.

¹¹ Notable among these were the Aviation Consumer Action Project (ACAP) and a number of persons representing the PAA-103 relative's disparate groups, the Alliance for Safe Skies, etc.

¹² Of the 17 members of the FAA ASAC 11 or 12 were aviation industry representatives and remaining could be loosely called aviation security or consumer action representatives.

The Bojinka plot to simultaneously bomb up to 12 U.S. airliners was a threat known to the FAA Aviation Security Baseline Working Group. The Working Group received at least one briefing on the threat posed by the Bojinka¹³ plot but no particular importance appears to have been placed on the incident by the aviation security consumer representatives. This may have been because the level of the briefing by the FAA did not contain enough details because of the sensitivity¹⁴ of the data nor was the term “Bojinka” used. Perhaps as a consequence of this lack of emphasis on the nature of the Bojinka plot, no specific security measures were forthcoming from the Baseline Working Group to deal with this known threat. In hindsight this is difficult to understand given the nature of this threat and the major scare the plot gave the U.S. aviation authorities in early 1995.

When I think back to the FAA’s Aviation Security Baseline Working Group, and the Gore Commission that was conducting its data gathering and deliberations in late 1996, I am reminded of the several definitions of committees, one of which is attributed to Milton Berle:

“A group of men taking minutes and wasting hours”¹⁵

Perhaps some will think that that is too harsh of an assessment, but I am reminded of the Gore Commission’s contribution to the FAA and airline industry’s failure to apply the security measures to Computer Assisted Passenger Pre-Screening System (CAPPS) profile selectees on 9/11¹⁶. One recommendation in the Gore Commission’s Final Report set in motion the implementation of CAPPS I¹⁷. This eventually played a part in the aviation security system on 9/11 wherein 10 of the 19 hijackers were identified as CAPPS I selectees but were not subjected to any special screening measures at Boston Logan, Newark Liberty and Washington Dulles International Airport’s passenger screening checkpoints¹⁸. Moreover, other than a few oblique references to the inadequacies of existing technology and the need to fund and purchase new equipment, the Gore Commission Final Report is silent on the issue of screening carry-on articles.

There is no question that the Gore Commission made many good recommendations, but its failure to address a number of other security concerns is most troubling. The failure was egregious enough that Commissioner Victoria Cummock filed a dissenting opinion

¹³ The briefing did not mention it by the Bojinka name – only by some of the particulars of the plot.

¹⁴ The details of the Bojinka plot may still have been classified in mid-1996 and, if so, the FAA would have been unable to divulge the classified information to a number of the ASAC members because they were not all cleared to see U.S. classified data.

¹⁵ Apologies to the women on these committees as Mr. Berle’s definition could be considered sexist in today’s politically correct world.

¹⁶ The *Authorized Edition of The 9/11 Commission Report*, pgs 1- 4 & 393. See also my paper entitled “Cost Avoidance versus Cost Consequences – the Airlines’ Financial Crisis” dated May 17, 2005 www.asiwebsite.com - articles.

¹⁷ CAPPS I is the only CAPPS process that has been used. A CAPPS II was planned but has been delayed because of opposition to profiles by privacy groups.

¹⁸ The failure to conduct any special screening of the 10 CAPPS I selectees was because the FAA and/or airlines did not include a requirement to provide special screening measures for CAPPS I selectees and their carry-on articles beyond the normal routine screening provided all passengers.

to the Commission's February 12, 1997, Final Report to the President¹⁹. It is significant that the Commission's Final Report failed to make any mention of the Bojinka liquid explosives threat, or to make any specific recommendation that would have addressed this type of threat. One would have thought that given the significance of the Bojinka threat and the scare it cause U.S. authorities in 1995 that this threat would have been a special subject of discussion during the Gore Commission's deliberations. It does not appear to have been so.

In her closing dissenting statement, Commissioner Cummock also noted "For the Record, I take objection to the inclusion of any "Classified Annex" to the Final Report of the White House Commission on Aviation Safety and Security. If a classified annex was issued in the name of the Commissioners, it has been included without privying all the Commissioners to the contents, issues, or providing applicable background data or conclusions, with our knowledge or consent."²⁰ If such an annex was issued²¹ it could have contained data about the Bojinka explosives threat – but if such was the case then nothing was ever implemented to counter this known threat until the UK did so on August 10, 2006.

Aviation Safety, Security and the Difficulty of Detecting Prohibited Items in Carry-On Articles

Carry-on articles can include a host of items such as bags with clothes, cosmetics, electronics, computer cases, briefcases, loose items in shopping bags, baby paraphernalia, handicapped aids, cakes, pastries, chocolates; liquids such as water, maple syrup, honey, liquors, wines, gels, cosmetic products; and various assorted items and, hopefully, a number of other normally non-dangerous articles.

Detecting liquids of any kind can be a real problem at all security screening checkpoints depending on their location. Virtually all liquids can be imaged by X-ray systems and at least some liquid explosive X-ray images appear significantly different from water and similar liquids. However, contraband liquids or other articles concealed on a persons' body are not easily detected except by sophisticated new technical detection systems. This raises the often stated need to use the new low-dose X-ray or millimeter wave technology body-scan examination of all persons to detect non-metallic objects being carried on a person's body. Other detection possibilities such as passive terahertz wave technology are being examined as possible ways to detect articles concealed under clothing but the exploitation of new detection technologies can take from 5 to 10 years to be operationally deployable.

¹⁹ White House Commission on Aviation Safety and Security - *Final Report to the President February 12, 1997, Appendix I*

²⁰ Ibid, Appendix I, Re Dissent with the Final Report of the White House Commission on Aviation Safety and Security, Commissioner Victoria Cummock.

²¹ I cannot say with any certainty that no such classified annex was ever issued – but I have been unable to find anyone that was within government at that time that recalls having seen any such document.

These Advanced Imaging Technologies (AIT)²² are viewed by many as an unwanted and/or unneeded intrusion on a person's privacy because of the amount of detail these body scans reveal of a person's anatomy. The opposition to this level of intrusion of a person's anatomy argues for the application of a "risk assessment process", i.e. profiles of all passengers seeking access to secured areas. A risk assessment would then be the basis of applying additional security measures, e.g. X-ray body scans, etc. to persons designated as "selectees" in this process. Opponents²³ to the use of AIT body scans point out that none of these technologies will detect internally concealed IEDs. It is interesting that the essence of this specific argument is that all detection technologies would be delayed until an all-encompassing detection technology was available to detect all possible contraband on, or in, an individual, or in their personal articles. Such a system will never be available notwithstanding what one sees on TV and in the movies such as Star Trek, etc. The painful fact is that it takes decades and the expenditure of hundreds of millions of dollars to successfully deploy a detection technology. Moreover, dozens or perhaps hundreds of different possible technologies will have been examined in the process with most being dead-ends.

Unfortunately, some passengers have not shown good judgment in their selections of carry-on articles. Persons have been known to successfully carry-on wet-cell car batteries and place them in the overhead luggage bins. In a classic incident in the early 1980s an individual traveling from Detroit, Michigan, to a Caribbean destination with a stop in Miami, Florida, managed to carry a wet-cell car battery through the security screening point and place it into an overhead bin. To make matters worse he placed it in the overhead storage bin on its side. While in this position it leaked battery acid which ate its way through the overhead structure, down the back of a seat, including onto the wig of a female passenger as it dripped from the hole in the overhead, then through the floor of the passenger cabin and into the cargo hold of the aircraft. This was discovered at some point enroute to or immediately after arrival in Miami where the aircraft was taken out-of-service by the airline. This was a reportable aviation incident under the FAA's airworthiness rule but the airline did not immediately report the incident – an upset airline maintenance employee did so to the FAA and an investigation revealed the foregoing events²⁴.

The 50,000+ Association of Flight Attendants raised the safety issue associated with the placement of heavy carry-on articles in overhead bins with the FAA several years ago²⁵. The Association of Flight Attendants even held a conference on the subject and petitioned the FAA to deal with the safety issue. The FAA declined to identify it as a safety issue – yet several persons are reportedly injured each day by heavy articles falling from the overhead bins²⁶. The FAA has to deal with this issue on a cost/benefit basis per

²² AIT is the new TSA acronym that replaces Whole Body Imaging (WBI).

²³ ACLU, EPIC and individuals have objected to the use of AITs.

²⁴ My personal recollection while Director of the FAA's Office of Civil Aviation Security.

²⁵ The Association for Flight Attendants have argued this for years and have advocated strict control over the size and number of articles that passengers can bring into an aircraft passenger cabin.

²⁶ Head Injury Risks from Overhead Luggage, *The AirSafe Journal*, Issue 13 – 7 September 1999, and Recommendations for Injury Prevention in Transport Aviation Accidents, *2001 Society of Automotive*

federal regulations. Said another way, if the FAA can not establish that there is sufficient benefit, i.e., reduced injuries and/or deaths, vis-à-vis the cost to prevent these injuries or deaths then it can not justify regulatory action to mandate a change to a safer environment.

Reportedly the FAA stated to the airlines that they could make any restriction that they wanted on the size and number of carry-on articles under their rules of carriage. This permissive approach, like a number of other such FAA actions left the airlines in a no-win position with their passengers. Individual airlines could restrict the number and size of the carry-on articles. But they would have to take the heat from their passengers, including the prospect of seeing passengers patronize other airlines that did not have carry-on restrictions. Airlines understandably chose not to take any unilateral action hoping instead to get the FAA to issue a universal requirement.

Technology and the Screening of Carry-on Articles

One argument about the size and number of carry-on articles permitted through airport security screening points is that the more articles permitted per person, and the larger the articles, the better the chance of persons avoiding detection of Improvised Explosive Devices (IEDs) or weapons concealed in their cabin baggage. The proponents²⁷ of this argument believe that the myriad number and types of things packed in these larger carry-on articles makes it more difficult for the X-ray operators to sort out the prohibited items from the confusing mish-mash of other items packed in the bags. This argument is bolstered by the fact that the X-ray technology available for use at these screening checkpoints are imaging systems – not automated explosives or weapons detectors.

These X-ray systems are usually dual-energy systems that use one energy level to image organic substances and a higher energy level to deal with metals and other dense objects. Explosives are usually densely packed nitrogen compounds that can be penetrated by the lower energy X-ray beams and are presented in a false color (orange) image on the operator's display. The denser the organic substance the more intense the orange color presented to the operator. Any densely packed organic substance may be an explosive and the X-ray operator is trained to look for these images. If the X-ray operator cannot visually ascertain that the organic object is not suspicious, good security practice dictates that the operator will require the bag to be opened and physically searched and/or be examined with a Trace Explosives Detector to resolve any ambiguities.

The lower energy level X-ray beams are insufficient to pass through the denser metal materials and therefore a higher energy level X-ray beam is used to penetrate metals²⁸.

Engineers, Inc., Anita E. Grierson, Simula Technologies, Inc. and Lisa E. Jones, NASA Langley Research Center.

²⁷ The AFA, Aviation Security advocates such as some of the PAA-103 Family groups, ACAP, the author of this article, etc.

²⁸ Other variations of X-ray are commonly referred to as backscatter, computed tomography and diffraction technologies. These technologies offer certain detection advantages under some circumstances and/or conditions – however this paper is not intended to be a technical exposition of the merits of the existing technologies.

Metals and other objects too dense to be penetrated by these transmission X-ray units will be presented to the operator in some contrasting colors to Orange. Those metals that the X-ray beam is able to penetrate will be shown in a color that tells the operator that the object is too dense for the X-rays to penetrate. In addition to looking for possible explosives X-ray operators must also scan their monitors looking for all types of metal prohibited items, in particular firearms and knives. In the event the higher energy X-ray beam fails to penetrate an object the X-ray operator is supposed to identify the bag for examination using a Trace Explosives Detector followed by a physical search of the bag and its contents²⁹.

Some considerable amount of funds, both by governments as well as private industry, has been devoted to the exploration of pattern-recognition software. The allocations of funds for pattern-recognition software for security purposes was initially devoted to trying to automatically recognize weapons shapes, e.g. silhouettes of guns. More recent allocations of research and development funds have been devoted to the much more ambitious goal of trying to detect components of improvised explosive devices (IED). In this latter case the attempt is to identify wires, batteries, timing mechanisms, and densely packed organic compounds, i.e. possible explosives.

Research and development of software for pattern-recognition of weapons shapes or improvised explosives devices have not yet borne fruit to the point that these features can be readily incorporated into the currently available X-ray imaging systems at security screening checkpoints. A notable successful effort in the late-1980s resulted in a specialized X-ray unit that was capable of detecting specific shapes associated with detonators, i.e. blasting caps. This pattern recognition software was combined with the detection of specific explosives compounds in these detonators. Unfortunately this specialized X-ray system was too little too late in that the specific explosive compounds being detected were only present in approximately 40% of all detonating devices³⁰. While this one example was somewhat successful, pattern recognition software technology is not yet mature enough for automatic detection of prohibited items at security screening checkpoints.

The prevailing view is that the only system that is, or will be, effective, now or in the future that consistently offers the best prospect of detecting prohibited items at airport security screening points is a well trained and resourced human system that is complemented with whatever technology exists or emerges in the future. Complemented, that is, in the sense that it makes the human system, with all its foibles, complete by the addition of complementary technology. Not, however, in the sense that the technology is the primary security feature – only that it adds to the human detection system. This perspective leaves the human brain, with all of its unique cognitive capabilities, as the

²⁹ An explosive device may be concealed behind a blocking object, e.g. a thin lead sheet.

³⁰ At the time of the initial development of this specialized X-ray detection system the explosives compounds, metal container and shape it would detect were an integral part of most commercial blasting caps. By the time the system was operationally useful the percentage of detonators using the detectable explosive contents, metal and shape had dramatically changed because of the introduction and availability of other types of detonators.

only existing pattern-recognition-system-of-choice. However, according to Clark Kent Ervin, a former Inspector General for the Department of Homeland Security, interpretations of X-ray images “depends entirely on screener alertness and training and there are problems with both.”³¹

The current situation can perhaps best be summarized as stated by a friend³² who paraphrases human factors expert Dr. Andrew McClumpha³³ as follows:

"The human factors considerations at the checkpoint are bloody simple. Imagine, for starters, how many times you've gone to the fridge to get a bottle of catsup, opened the door, stood there and stared at the bloody bottle for 30 seconds or so, closed the door, and asked the household in general 'where's the bloody catsup?' We're asking the screeners to do the equivalent of opening the door to a fridge that's not theirs, grabbing the catsup, and closing the door all within five to ten seconds, and then immediately go to the next fridge for a bottle of beer, and then, immediately, to the next to get the mustard, and so on, and so on, all the while identifying all of the other contents of each fridge on each opening. All with unerring accuracy. Bloody impossible!"

So, now and in the foreseeable future, we are left with reliance on the combined knowledge, skills, experience and cognitive capabilities of persons serving as interpreters, i.e. operators, of what they observe on X-ray monitors at airport security screening checkpoints. This perspective demands the creation of the best situation for human detection of prohibited items. One generally refers to this as the human factors issues of operator selection, training, supervision, benefits, resources, operating environment and sustainment of human performance on-the-job. As pattern-recognition software technology continues to mature it is being added to the security screening technology suite being deployed at security screening checkpoints.

The TSA and Carry-on Articles

One would think that TSA screening personnel who are standing in front of screening checkpoints would be aware of the number of each passenger's carry-on articles but these individuals are positioned to advise passengers about the things they need to send through the X-ray units versus what they can carry through a Walk-Through Metal Detector. Prior to the August 10th UK threat, these TSA employees could care less how many bags an individual had in their possession – other than perhaps the individual who presents themselves at the screening point with an excessive number of bags. Even then the TSA employee may not have said anything as it was not one of their areas of interest.

³¹ *Washington Post*, pg 1A and 4A – Newly Banned Items Often Fly Past Airport Screeners, 13 September 2006.

³² Roger Cotterrill, a recently retired FAA/TSA AVSEC and security screening equipment expert.

³³ Dr. Andrew McClumpha is a Chartered Psychologist and Associate Fellow at the British Psychological Society.

In early October 2006 I observed an interesting attempt to control the number of carry-on bags at the Washington Dulles International Airport. As I entered the screening checkpoint line, I overheard the person controlling the entry point say to another colleague “he has more than two bags.” My interest was piqued immediately and I turned to observe a person with a moderate sized bag on top of a wheelie³⁴. The person was also carrying a moderate sized shoulder bag. The two persons controlling the screening line then consulted with a third person who engaged the individual in a conversation about his number of bags. I then overheard one of these persons suggest to the individual that he place the third bag into the one of the other two bags. The passenger willingly did so and proceeded through the screening checkpoint – apparently without incident.

This is the first that I have observed this happening. I have observed check-in agents ask a passenger to place their carry-on articles into a measuring stand once or twice over the past decade but I have not encountered someone at or near the screening checkpoint monitoring the number of bags per passenger. The persons doing the surveillance of the number of bags carried by passengers in line for the security screening checkpoint at the Dulles International Airport appeared to be contract employees – not direct TSA employees or direct airline employees. Whether this action involved some new requirement by the TSA, or was instituted by the airlines or airport is unknown. It is interesting that this action in the incident cited did not reduce the amount of items being carried through the screening checkpoint – it only reduced it to the allowed “one bag plus a personal article”. It did not reduce the burden on the screeners nor did it improve aviation security.

The TSA has assumed responsibility for the checks of passenger credential/tickets prior to the airport security screening checkpoints. Unfortunately the TSA does not appear to be doing anything about controlling the number and size of the articles being carried by passengers through airport security screening checkpoints. Moreover, the TSA’s history and actions on carry-on articles since assuming responsibility for the United States’ aviation security indicates exactly the opposite, i.e. they could care less whether passengers carry more than two bags – and as long as the articles can be processed through the X-ray screening units then they are OK.

One argument supporting restricting the number of bags to one per passenger would result in halving the number of bags airport security screeners have to view. Restricting the one bag per-passenger allowance to something the size of a laptop computer should also result in less cluttered bags. After all, one can only pack a limited amount of items in a small bag.

The combination of restricting carry-on articles to one bag per passenger - and that one bag limited to the size of a laptop computer - should enable the screeners to identify prohibited items easier. Severely restricting the number and size of carry-on articles, as was done by the UK and the U.S. following the August 10th terrorist threat should improve both security and safety. An added benefit will be the speeding up of the

³⁴ A small commonly used wheeled suitcase carry-on.

security screening process³⁵. Taking this action, while perhaps unpopular with many airlines and passengers, would seem to be a desirable process that would speed up the processing of passengers at screening points and achieve a security and safety purpose as well.

The converse to this argument is that all one needs do is add more screening checkpoints and screeners under this perspective and passengers would not have to change their past practices. While this may be true as far as facilitating the movement of passengers through airport security screening checkpoints, it would not necessarily address the issue of better security – nor would the safety issue be addressed. Would, for instance, screeners be able to have the same level of success in detecting prohibited items in carry-on articles simply by increasing the number of screening checkpoints and screeners; versus the detection success that screeners would have when viewing a lesser number of bags that are also much smaller? Logically it would appear that the latter situation would be more successful in detecting prohibited items. This appears to be exactly the result of the UK August 2006 experience. Nonetheless, there are those who adamantly argue that it is simply a matter of the number of screeners versus the number of bags to be viewed.

As a frequent flyer I have observed the carry-on phenomenon with mixed amusement and dismay for the past two and a half decades; and particularly so since the 9-11 attacks. I have watched with absolute amazement people struggling with “wheelies,” large cumbersome bags, along with their “personal article” to reach their seating area only to find that all the overhead bin space had already been used. I watched this happen on three 2005 U.S. coast-to-coast flights where all seats were filled. Four of the six departure segments of these flights were 10 to 20 minutes late on push-back from the gate because several persons could not find space to store their carry-on bags in the overhead bins. We then waited while they brought their bags to the front of the airplane where they were checked by airline ground personnel for carriage in the cargo hold of the airplane.

I am amused and sometimes appalled watching flight attendants refereeing the placement of bag and assorted articles into overhead luggage bins. The Flight Attendant reactions vary from disinterested to frustration to the one who gets totally involved. In some situations I have watched flight attendants help late arriving passengers rearrange the baggage in the bins – to the dismay and opposition of passengers who have already seated themselves after storing their carry-on articles. The situation gets somewhat testy when someone has carefully placed an article of clothing or a cap in a bin and someone comes in and, without any apparent thought, thoroughly crushes the carefully stowed article. This sometimes results in a confrontation with some bad words being exchanged. The Flight Attendant then becomes the arbitrator – or a reporter of an unsavory incident.

³⁵ "In a way, the new guidelines have expedited the lines, although it may be a little more of an inconvenience for passengers," Greg Chin, a spokesperson for Miami International Airport, told the *South Florida Sun-Sentinel*. The reason for the increased speed at checkpoints is the significant reduction in carry-on baggage, Chin says", *Access Control & Security Systems*, August 15, 2006.

Some flight attendants, mostly males, will help passengers lift heavy bags into the overhead bins – particularly females. One wonders why these passengers, who have difficulty getting the heavy bags into the overhead bins, feel it necessary to lug two heavy bags into an airplane cabin when they could have checked the bags at the check-in counter. This is particularly puzzling to me when it is an elderly person.

PART II – MISSED OPPORTUNITIES

The Airline Industry and the U.S. Government

Complicating this safety/security issue is the opposition by some airlines and other industry representatives who oppose any change to the carry-on practices. The airlines object to checking more bags as it would increase their labor costs because it might require them to hire more baggage handlers³⁶. But the principal reason may be because it would reduce the space available in the cargo holds of passenger aircraft for the carriage of cargo. Cargo on passenger aircraft represents a considerable revenue stream to most U.S. airlines. It is reportedly the difference between a profit or a loss on a number of flights between certain city-pairs.

The TSA has not publicly weighed in on the issue of passengers checking more bags since the August 10th UK threat that drove passengers to check more bags. Given the fact that the TSA must screen all checked bags in the U.S. any appreciable increase in the number of bags checked will affect their screening workload. Handling the volume of checked bags was reported as a problem in some locations during the initial start-up of the TSA's assumption of this screening function. Presumably the recent increase in checked bags in the U.S., and any continuation of this increase, will impact TSA's checked baggage screening vis-à-vis the passenger/carry-on screening matrix.

Forcing passengers to check more bags would also require U.S. airlines to solve the problem of mis-directed bags. The mis-directed bag problem has plagued the U.S. airline industry for decades. U.S. airlines have thus far successfully resisted measures that would have resulted in a considerable diminishment of this problem, if not outright solved it forever. One of the most recent efforts to address this problem, but for another purpose, was the PAA-103 victim's family organizations' promotion of a baggage-passenger reconciliation measure for the domestic U.S. Again, this was a major issue raised before the FAA's Aviation Security Baseline Working Group in July/August 1996; and also a major issue before the Gore Commission in late 1996.

Obviously checking more bags will add to this already thorny problem but the airlines have had ample opportunity to address these issues and have failed to do so. Ironically, one major U.S. airline still does not have an automated baggage tracking system – they cannot tell you where your bag is at any given time. Moreover, this airline cannot tell

³⁶ Ibid. *Access Control & Security Systems*, August 15, 2006 “The reason for the increased speed at checkpoints is the significant reduction in carry-on baggage, Chin says. However, the increased speed for the passengers comes with a price: The reduced load of carry-on items has translated to a "tremendous increase" in checked luggage, says TSA spokesman Christopher White.”

you where your bag was last known to exist after they have failed to deliver it to you at your destination.

Most of the airline industry has historically refused to tackle the carry-on problem as a number of airlines advertise or otherwise promote the ease of the carry-on process. Airline interior designers, along with the two major manufacturers, Boeing and Airbus, design and install ever-larger overhead storage bins. As noted earlier, having the passengers responsible for their own baggage pleases many airline executives as these airlines reap the benefit of not having to engage additional baggage handling personnel. These factors have to do with the facilitation and pleasing of passengers, and the airline's bottom-line profit and loss figures – and nothing to do with good safety or security processes or procedures. In addition, the airlines reduction in size and weight of allowable checked baggage from 70 to 50 pounds that occurred in 2005 could have actually caused passengers to try to place more items in their carry-on bags.

A group of airlines at Washington Dulles International Airport in the pre- and post 9/11 era, led by United Airlines who ran the Dulles security screening checkpoints, arbitrarily reduced the size as well as the number of carry-on articles allowed through the screening checkpoints. In order to accomplish this objective the airline operations committees installed templates at the intake point of the security screening checkpoint X-ray units. This was reportedly done at a number of other airports in the U.S. because it subsequently became an issue with some airlines who objected to this measure to control the size of bags being sent through airport X-rays at security screening checkpoints. The decision at Dulles International Airport was apparently not unanimous as Continental Airlines, another airline operating from Dulles where its passengers used the same screening checkpoints, objected and eventually sued the other airlines imposing the restrictions and won the case in court.

The TSA weighed in on the template issue in their first year of existence by asking airlines who tried to screen out oversized bags at the screening checkpoints not to enforce a size limit. A TSA official said that the templates were not required and therefore “don't have to be in place” and “when we move into all airports, those templates will come down,” he added, referring to the November 19, 2002, deadline to federalize security screening at the nation's airports³⁷. The TSA lived up to its word – the templates were removed. This was one of the more brilliant moves by the new-found TSA aviation security “experts” in the immediate post-9/11 era. The TSA assigned the security responsibility for limiting the number of carry-on bags to “one plus a personal item³⁸” to the airlines. Actually, this security responsibility, like a few other security measures, can logically be done best by the airlines – not the TSA. Unfortunately, until the August 10th UK threat the TSA has not shown any specific interest in providing oversight of the airlines' enforcement of the “one plus a personal item” carry-on guidance.

One interesting aspect of the carry-on article problem is that it seems to be either ethnic- or regional-centric for a variety of reasons. People flying in the United States are some

³⁷ *Air Safety Week*, Oct. 7, 2002, Vol. 16 No. 38, pg. 4

³⁸ October 1, 2001 Report of the Secretary's (DOT) Rapid Response Team on Airport Security

of the worst offenders. On the other hand Asians, and particularly Southeast Asians, appear to be less likely to carry on more than one moderate sized article. Persons from the Saudi Arabian peninsula, i.e. Saudi Arabia, Bahrain, and the Emirates, are less likely to bring massive amounts of carry-on with them. The same cannot be said for South Asians, as the Indians tend to have large checked bags as well as large carry-on articles. And, last but not least, the Europeans, while not as offensive as the Americans in this regard, nevertheless tend to bring too much into the cabin of the passenger aircraft³⁹.

9/11 and Secretary Mineta's Airport Rapid Response Team's Contribution to Today's Problem with Carry-On Articles

Department of Transportation (DOT) Secretary Norman Mineta named two Rapid Response Teams on September 16, 2001, to identify post-9/11 recovery actions. He did so without naming any aviation security advocate representatives to the two committees. Moreover, the Rapid Response Team on Aircraft Security was headed by one of the leading airline's Chief Executive Officers⁴⁰ - and the Rapid Response Team on Airport Security was headed by another leading airline executive⁴¹.

In Secretary Mineta and his staff's defense, in the crisis following the 9/11 terrorist attacks it is logical that they would react by looking for the best expertise available. That said, however, the remainder of the members of the two teams, while also very well qualified and respected individuals, could be expected to have views biased by their experience and positions since all, with a couple of exceptions, were in aviation industry positions with known agendas. Naming these persons from the aviation industry to the two Rapid Response Teams without any balancing views - was the equivalent of putting the "foxes in the henhouse."

Two persons from employee unions named to the Rapid Response Team on Aircraft Security were Duane Woerth, president of the Air Line Pilots Association (ALPA) and Patricia A. Friend, International President of the Association of Flight Attendants. Captain Woerth and Ms. Friend could be expected to promote their agendas as well - but the subject of carry-on articles came out of the Rapid Response Team on *Airport* Security - not the committee these two individuals served on. Ms. Friends' organization - the Association of Flight Attendants - was a known proponent of restricting the number and size of carry-on articles. The recommendation on the restrictions on carry-on articles from the Rapid Response Team on *Aircraft* Security did not contain any restriction on the size of carry-on articles.

One of the recommendations of the Rapid Response Team on Airport Security, which was subsequently accepted in total by Secretary Mineta, was, as noted earlier, that passenger carry-on articles be restricted to one plus a personal article. But, the personal article most often was then, and is now, a second bag - not the small laptop bag or ladies hand bag probably envisioned by the Airport Team. This was effectively what was being

³⁹ My observations over several years of extensive international travel.

⁴⁰ Robert W. Baker, the Vice Chairman of American Airlines

⁴¹ Herb Kelleher, the Chairman of the Board of Directors of Southwest Airlines.

done by the vast majority of passengers prior to the attacks on 9/11, although admittedly some individuals were carrying as many as three bags into the passenger cabin for storage in overhead bins.

In retrospect, would an informed aviation security advocate on the Airport Rapid Response Team have objected to this recommendation because of the past history of the problem? One could argue that this would not necessarily have been the case depending on who was appointed as the aviation security advocate representative. While this argument has some validity, the aviation security advocate representatives that were actively engaged in the promotion of security initiatives on 9/11 were largely from the PAA 103 disaster⁴² families and the Ralph Nader organizations. Some of the representatives from these families, and the Aviation Consumer Advocate Project representative, were acutely aware of the dangers inherent in the carry-on screening problems⁴³. Had they have been appointed to Secretary Mineta's Rapid Response Teams, would they have sought counsel and guidance from the aviation security advocate and consumer community? Did the absence of a knowledgeable aviation security advocate and/or consumer representative negatively affect the validity of the recommendations from the Rapid Response Teams vis-à-vis carry-on articles?

Whether the recommended reduction in the number of carry-on articles was a genuine attempt to improve aviation security; a political ploy for appearances; a measure of impotence; or ignorance on the part of the Rapid Response Team on Airport Security is one of many things that happened in the post-9/11 attacks era that will have to be determined by historians. In all probability it was done in good faith, but ignorant of the implications for aviation security, believing that it was actually going to result in an improvement to aviation security.

Aircraft Manufacturer Interest/Influence on Carry-On Articles

During telephone conferences and in at least one meeting held by the Rapid Response Teams in the FAA headquarters auditorium⁴⁴ during the short one-month life of the committees, the subject of restrictions on carry-on articles was discussed. An Association of Flight Attendants representative articulated their position on restricting the number and size of carry-on articles to one article with dimensions not exceeding 16 inches wide, 24 inches in length, and not more than 6 inches in depth, or not more than 46⁴⁵ inches total of the three measurements. One aircraft manufacturer's representative vigorously opposed these restrictions.

⁴² PAA-103 bombing of December 21, 1988 over Lockerbie, Scotland.

⁴³ The representative from these organizations had consistently advocated more attention to the screening of passengers and their carry-on articles in their speeches and public announcements.

⁴⁴ Attendance at this meeting was by invitation only and not open to the public or the media because of the sensitive data discussed.

⁴⁵ In retrospect I now believe this is too large – one article of 15 inches wide, 18 inches in length and not more than 4 inches in depth, or not more than 37 linear inches total should be sufficient with exceptions for mothers with small children, certain severely handicapped persons, and flight crew members.

Presumably the aircraft manufacturer representative was concerned that a restriction on the size of carry-on articles would affect the sales promotion of their aircraft as they were promoting the increased capacity of the overhead storage bins on their new aircraft interiors. This opposition was also interesting in that it revealed that aircraft manufacturers directly participated with input to the Rapid Response Team's deliberations - but a security advocate representative was denied that opportunity. This action could leave one with the impression that aircraft manufacturers are a part of the aviation community but that passengers are not.

Were the manufacturers given access to the debates of the Rapid Response Teams because of the money they contribute to the U.S. political arena? Or, were they given access to the discussions because of their importance to the overall aviation industry? What skewed thinking omitted the consumer's (passenger's) views when they, by any reckoning, are the most important element of all - their patronage makes it all possible - and they (and flight crews) are the ones at immediate risk in any terrorist attack? It is not the airlines' money - it is the passenger's money that pays for the entire system.

Would a recommendation from the Rapid Response Teams restricting passengers to not only one carry-on article but also one of a definitive size as recommended earlier by the Association of Flight Attendants have resulted in a reduction in the clutter being observed by the X-ray screener; and would this have increased the probability in the future that security screeners would find the difficult to detect edged weapons like those used in the 9/11 attacks and the liquids that might present an explosives threat?

World Class Security versus World Class Customer Service Impact on the Problem

TSA Acting Undersecretary James Loy's first appearance before the FAA's Aviation Security Advisory Committee in early October 2002 added scant improvement to the situation. He articulated a policy of "world class security coupled equally to world class customer service"⁴⁶.

I am troubled by this "world class security coupled equally to world class customer service" because it smacks of the FAA's pre-9-11 long-term collegiate approach⁴⁷ to safety and security. In all instances that I am aware, the collegiate approach by the FAA resulted in diminishing the effectiveness of security measures. As Robert Monetti, President of The Victims of Pan Am Flight 103, asked TSA Undersecretary Loy during his first appearance at an Aviation Security Advisory Committee Meeting: "Where is service mandated by the law?," and Under Secretary Loy allegedly responded, "The harsh reality in our nation is that we must be attentive to security while accepting the needs of service."⁴⁸ I do not object to this statement if the proper focus was placed on "world class security" before dealing with the "needs of service." I am not in favor of putting hijackers or bombs on airplanes faster!

⁴⁶ *Air Safety Week*, Oct. 7, 2002, Vol. 16 No. 38, pg 1.

⁴⁷ The author's view was that the FAA frequently engaged in "coaching and counseling" rather than using fines and legal action to enforce compliance with FAA Safety Regulations.

⁴⁸ *Air Safety Week*, Oct. 7, 2002, Vol. 16 No. 38, pg. 3.

Acting Undersecretary Loy's remark reminds me of so many meetings I had when I was head of security for the FAA with airline representatives who constantly harped on the need for "facilitation," i.e., service – generally to the detriment of good security. I, like most people, really appreciate prompt and courteous service. And, I am not now, nor was I then, cold to the idea of customer service, but only after the security requirements have been properly satisfied. In other words, I will not feel any better because my loved ones went to their death with courteous service when their security and safety was neglected.

The Association of Flight Attendants representative, and the individual most responsible⁴⁹ for the formation of the Aviation Security Advisory Committee in 1989, shared Mr. Monetti's concerns at the same Aviation Security Advisory Committee meeting by asking Loy: "Is customer service now being facilitated in the name of national security?"⁵⁰ Former Admiral Stone (Ret.) of the TSA (now deceased), as a newly established regulator, added "leadership, partnership, and friendship" vis-à-vis the aviation industry to this lexicon on September 30, 2004 in his first meeting with the Aviation Security Advisory Group⁵¹.

Over the years that I have been associated with aviation security I have constantly heard the refrain about not delaying passengers at security screening checkpoints. Admiral Loy came into the TSA promoting Secretary Mineta's stated objective of moving persons through security screening checkpoints within 10 minutes. Secretary Mineta's emphasis in the few months after the 9-11 attacks, as reported by the media, was for facilitation as opposed to better security. Perhaps the emphasis portrayed by the media on facilitation as opposed to better aviation security was because that was what the media could see. The arcane aspects of aviation security would only give the media an opportunity for an occasional glimpse of the inner workings of the aviation security system. Most often this was a fragmented view and this appeared to frequently lead the media to draw wrong conclusions about what was happening.

The DOT very quickly assumed responsibility for aviation security after the 9/11 attacks, telegraphing the message that the FAA aviation security system and its people were incompetent. One has to wonder what was happening within the inner sanctums of the DOT during this period. I saw many of the aviation security measures issued during this time period and a number of them were embarrassing in their naiveté and construction. Feedback from the FAA's aviation security experts (as opposed to its management) indicated that the DOT and TSA almost completely ignored the knowledge and resources within the former aviation security network for the first six months following the 9/11 attacks. Reportedly this anti-FAA aviation security mentality continues to exist in the TSA today.

⁴⁹ In a memorandum dated February 28, 1989 Chris Witkowski, as the head of the Aviation Consumer Action Project (ACAP), petitioned the FAA and the DOT and the FAA to bring their previous illegal consultation with selected airline and industry representatives to the exclusion of obtaining a balanced view from all interested parties into compliance with the Federal Advisory Committed Act (FACA).

⁵⁰ *Air Safety Week*, Oct. 7, 2002, Vol. 16 No. 38, pg. 3.

⁵¹ *Air Safety Week* e-mail message to the author on October 1, 2004.

More troubling perhaps was the failure by the powers that assumed responsibility for the aviation security functions to recognize or to take action on reducing the number of articles and their size that the screening personnel had to examine. While I hate the cliché “thinking outside the box” here was an instance where both thinking and acting outside the box was most appropriate. The DOT, and the follow-on TSA⁵², appeared to continue to operate in the same paradigm as that of their aviation security FAA predecessor even to the point that the TSA made it quite clear that they would remove the templates on X-ray units that restricted the size of carry-on articles. The bitter irony is that Secretary Mineta and his colleagues could have had both better security as well as improved facilitation of passengers through airport security screening points if they had focused on reducing the number and size of carry-on articles. Was this failure the result of ignorance of the importance of strictly controlling the number and size of the carry-on articles; or was it because the DOT/TSA (and now the DHS) refused to confront the airline, aircraft manufacturers and associated industry?

We saw the concern about facilitation by the world’s airlines once again following the UK’s critical security activities on August 10, 2006. The International Air Transport Association (IATA) representative Mr. Anthony Concil “suggested that the rules should not last for more than a few weeks.⁵³” Mr. Concil also allegedly stated that the arrests in Britain at suspects’ homes showed that airport security, while hugely important, was secondary to the role played by national police and intelligence authorities in breaking up terror rings well in advance of an attack, and “The more significant part of security is to ensure capture of these people before the get near an aircraft.⁵⁴”

While I agree with Mr. Concil’s desire to ensure capture of these people - and our police forces around the world have done a magnificent job since the 9-11 attacks - it is wishful thinking to believe that this will eliminate all threats to aviation. One commentator succinctly addressed this point in his comments on the nature of the August 10th threat in the UK shortly after they became public knowledge. In his conclusion, the author states:

“For some *real* terror, picture twenty guys who understand op-sec, who are patient, realistic, clever, and willing to die, and who know what can be accomplished with a modest stash of dimethylmercury.

You won't hear about those fellows until it's too late. Our official protectors and deciders trumpet the fools they catch because they haven't got a handle on the people we should really be afraid of.

They make policy based on foibles and follies, and Hollywood plots.⁵⁵”

⁵² Activated on February 19, 2002.

⁵³ *International Herald Tribune*, Airlines question ban on carry-on items, pg 4 August 12-13, 2006

⁵⁴ *Ibid*

⁵⁵ Thomas C. Greene, *The Register*, Mass murder in the skies – was the plot feasible?, Thursday 17 August 2006.

Mr. Greene's assessments notwithstanding, there are genuine plots targeting our society. Even the "Keystone Cops" variety of threat can be devastating if we are not properly prepared for the threat. The full nature and potential consequences of the UK August 10th threat were revealed during the trials of accused participants in 2008 and 2009. A number of the accused were found guilty of various crimes and some were sentenced to long prison terms⁵⁶. We must keep our vigilance at a high level and also recognize that we cannot expect to discover all of the plots targeting aviation prior to their execution regardless of how good our intelligence collection efforts might be. The airline industry's pain with the UK critical security measures mirrors their reluctance to come to grips with the known threat to their operations – a known threat that has existed since the mid-90s. Such wishful thinking has gotten us into trouble several times in the past two decades.

These issues again raise the need to add risk assessment to the passenger screening process. The fact that CAPPS I identified 9⁵⁷ of the 19 hijackers on 9/11 as persons of interest should be conclusive proof that the profiling process works. The fact that the FAA and/or the airlines failed to add the proper follow-on security measures for CAPPS I selectees does not detract from the proof that the profile system worked. The TSA's attempts to develop a successor system to CAPPS I has been killed by privacy advocates and the Congress. This should not be allowed to stand and we should accelerate our development of a successor profiling system and implement the successor system just as soon as possible.

Some Airline Reaction to the August 10th UK Threat

One airline did not miss the opportunity to criticize the security apparatus following the UK's reaction to the August 10th arrest of the alleged plotters to bomb several airplanes from the UK. Willie Walsh, the Chief Executive of British Airways, was reportedly most vocal in his criticisms, "We are ready and able to operate a full schedule at London Heathrow," Walsh said. "We have sufficient flying crew, ground staff and aircraft in place. Our staff are doing a great job given the extremely testing circumstances. However, BAA⁵⁸ is unable to provide a robust security search process and baggage operation at London Heathrow and as a result we are being forced to cancel flights and operate others from Heathrow without all the passengers onboard."⁵⁹

Given the history of the world airlines' disturbing focus on their bottom line profits to the detriment of good security practices, Mr. Walsh's reaction is not surprising. For some airlines security is frequently a secondary consideration – after facilitating the movement of passengers and making on-time departures. It is surprising to hear these comments

⁵⁶ http://en.wikipedia.org/wiki/2006_transatlantic_aircraft_plot#Arrests

⁵⁷ The 10th selectee was the ringleader of the hijackers, Atta, who was designated as a selectee by an alert passenger check-in agent.

⁵⁸ Under the UK AVSEC system the British Airports Authority was responsible for the conduct of the security screening at their contract airports.

⁵⁹ Nick Mathiason, Oliver Morgan and Rob Sharp Sunday August 13, 2006 *Observer*

from Mr. Walsh as British Airways has frequently been a leader in developing and implementing security measures for the protection of their operations.

Other criticisms of the UK's reaction to the August 10th threat were that "The UK Home Office and Department for Transport also admitted to having no contingency plans to cope with the effects of implementing security level Critical."⁶⁰ This indeed is a deficiency that needs to be remedied, but if the known Bojinka liquid explosives threat had been addressed by the international aviation community in 1995, the shock of the UK August 10th actions would have been minimal.

A noted terrorism expert, Mr. Brian Michael Jenkins, recently commented, "The fact is, the airline industry for decades successfully opposed measures to improve aviation security."⁶¹ That said, however, the airlines reaction to increased security measures is not monolithic, and it is definitely not totally negative. One report on debates by the European Commission states that "Some airlines want harsher guidelines on the carriage by passengers of liquids and electronic equipment" and "Security experts from France, Germany, and the UK were keen to push for tighter controls while other representatives wanted less-disruptive solutions."⁶² Outside the obvious stress placed on the U.S. airlines' checked baggage system, U.S. airline reaction has generally been positive and supportive, or at least muted, awaiting more details on the UK threat.

Some Passenger Reaction

Perhaps more troubling is some passengers reactions to the recent revelations about the threat from explosives. One frequent traveler is quoted as saying "I've reached my tipping point. I've decided not to fly until the latest Draconian carry-on prohibitions are significantly rolled back. Security has finally reached the nether regions on the idiocy graph"⁶³. Where is the idiocy – the person who is willing to travel light to avoid risking a fiery death from liquid explosives smuggled into the passenger cabin of an airplane; or the person unwilling to forego the dubious privilege of being able to carry-on whatever they wish into the airplane at whatever risk it poses?

Adverse passenger reaction to the post-August 10th UK and U.S. TSA threat response continues, at least according to a Washington Post article on 13 September 2006⁶⁴. The author of this Washington Post article reports that some passengers are deliberately violating the ban on liquids and gels in their carry-on articles. On the other hand, an article in USA Today on the same date notes that passengers are "using checked luggage instead of carry-on bags."⁶⁵ Some reports indicate that as much as 20% more bags are being checked as opposed to pre-August 10th levels. Mr. Don Thomas, a screener at

⁶⁰ *Flight International*, pg 31, Have measures introduced since 9/11 been effective? 5-11 Sept. 2006.

⁶¹ *Rand Review*, Vol. 30, No.2, True Grit, pg 16. Mr. Jenkins served as a Commissioner on the Gore Commission and is now a senior advisor to the president of the RAND Corporation.

⁶² *Flight International*, pg 14, Europe ponders airline security after UK scare, 5-11 Sept. 2006.

⁶³ *USA Today*, pg 2A Road warriors find new ways to travel light, avoid baggage check-in" August 15, 2006

⁶⁴ *Washington Post*, pg 1A and 4A, Newly Banned Items Often Fly Past Airport Screeners.

⁶⁵ *USA Today*, pg 1A, Backups from ban at airport checkpoints short-lived.

Orlando International Airport, is quoted in the 13 September USA Today article as saying that “travelers are following the liquid ban “surprisingly well”⁶⁶”.

Logically the resistance of some passengers to submit to security procedures for their protection does not make sense. We have become accustomed to the practice of carrying our travel items with us for reasons outside our personal best interests given the threat conditions to aviation. The fact that these reasons include a lack of trust in the airlines capability of ensuring that we and our bags will arrive at the same destination on the same airplane is not sufficient reason to continue this unsound practice.

Then we have those persons who make judgments about the efficacy of the aviation security procedures without any obvious expertise to do so, or access to the sensitive background data available to the authorities that drove the procedures. One such individual stated: “It’s hard to predict how all this will shake out, as so little of it is based on common sense.”⁶⁷

How does one judge what is common sense without knowing the sensitive security issues that drove the security requirements? Presumption of knowledge of these matters based solely on the conditions one is able to observe, reported in the media, or is subjected to during a screening session is a risky assumption. Nonetheless, we see this daily by the so called “experts” in the print and visual media. Declaration of these persons as “experts” is usually a title bestowed by a media person who stayed in the proverbial “Holiday Inn Express” the night before.

I am constantly amazed at the focus on complete freedom of action expected by some persons, even at the risk of death to themselves and presumably their family members. Some would argue that that is an individual’s choice, but independent choice is insufficient reason where it directly affects the safety and well being of others.

A counter to this is the equivalent of the confiscation of the eyebrow tweezers and scissors of a several months ago. This is perhaps best articulated by the passenger quoted in a USA Today article on 7 September 2006 who says “I thought flying couldn’t get any more bizarre; then it did – now, you can’t get on a plane with a Diet Coke you bought across the aisle from the gate”⁶⁸. Some of these ambiguities have recently been addressed but more care must be taken to avoid future inconsistencies if the TSA and other organizations responsible for aviation security are to successfully establish and maintain their credibility.

A passenger and general public education program are obviously necessary that addresses the nature and consequences of the threat facing aviation. Government officials will nonetheless be restricted in what and how much they will be able to divulge to the public because of the sensitivity surrounding threat data. As a consequence, any education

⁶⁶ Ibid.

⁶⁷ Ibid *USA Today*, pg 2A Road warriors find new ways to travel light, avoid baggage check-in” August 15, 2006

⁶⁸ *USA Today*, pg 1b and 2B, Most flyers accept intrusion in the name of security.

program will suffer because of the restrictions on the release of certain sensitive data. And, regardless of how good any such education program might be there will still be those that doubt that there is a bona fide threat.

PART III

Will We Continue Missing Opportunities?

The carry-on problem has been allowed to continue while we struggle to screen millions of passengers to prevent the introduction of dangerous weapons and articles into airport sterile areas and passenger aircraft. It does not (or should not) take a genius to know that a substantial reduction in the size and number of carry-on articles would speed-up the security screening throughput. Moreover, as noted earlier, the security screening would obviously be more effective as the screeners would not have to look through the multitude of bags and their contents in their attempt to prevent the introduction of weapons or dangerous articles into passenger airplanes. Reducing the number and size of the carry-on articles should enable screeners to scrutinize the considerably reduced number of smaller articles much more intensely – and also quicker.

The UK authorities lowered the stringent carry-on restrictions on August 15, 2006, and permitted one carry-on item by each passenger “no larger than 17.7 by 13.7 by 6 inches, about the size of a laptop computer bag. Smaller items, such as purses, must fit within that bag.”⁶⁹ “The smaller baggage size will make it easier for security staff to search your bags and make it more difficult for terrorists to hide something dangerous.”⁷⁰

Effective November 6, 2006, the UK implemented new rules restricting carry-on articles to one-per-person not exceeding (56cm x 45cm x 25cm); or a total approximately 22 x 18 x 10 inches⁷¹. The UK press release notes that “From April 2007 this maximum baggage size requirement will be in effect across all EU Member States”⁷². The UK revised these rules effective in 2008 to less stringent measures. As the EU controls or has a major influence on what many adjacent states do in the way of aviations security and in Eastern Europe; and in North Africa, the Middle East, South Asia, Southeast Asia, and in Australia/New Zealand as well, this had a worldwide impact. The UK subsequently reverted to less stringent carry-on requirements.

So, where do we in the U.S. go from here, continue with the past relatively unrestricted carry-on articles? Or, do we adopt the now abandoned UK lead of stringently restricting the size and number of carry-on articles and make their rules the standard for the U.S. and the rest of the world? Just how much are we interested in our personal safety – or perhaps a better question is: Do we allow some group or individual who cannot countenance having to give up the privilege of carrying a ton of stuff into a passenger

⁶⁹ *USA Today*, “Britain eases travel rules after terror alert lowered” pg 2 August 15, 2006

⁷⁰ *Ibid* – Mr. Douglas Alexander, Britain’s transport secretary’s statement on August 10, 2006

⁷¹ This size exceeds what I now believe to be necessary for good security, i.e. 15 x 18 x 4 inches, or a total of about 37 linear inches.

⁷² *Ibid*

cabin make the decision for us about how safe we choose to be? Likewise, do we allow the overwhelming desire by special interest groups that place their desire for privacy above their, and our, safety to decide what safety/security measures are used? And, lastly, what do we do to get the U.S. government agencies that are supposed to protect our collective safety in aviation to actually do so?

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GLOSSARY

ACAP	Aviation Consumer Action Project
AFA	Association of Flight Attendants
AIT	Advanced Imaging Technology
ALPA	Airlines Pilots Association
AOC	Airline Operator's Committee
ASAC	Aviation Security Advisory Committee
ATA	Air Transport Association
AVSEC	Aviation Security
BAA	British Airports Authority
CAPPS	Computer Assisted Passenger Pre-screening System
CCTV	Closed Circuit Television
DOT	Department of Transportation
FAA	Federal Aviation Administration
FACA	Federal Advisory Committee Act
GSA	General Services Administration
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IED	Improvised Explosive Device
NTSB	National Transportation Safety Board
TSA	Transportation Security Administration
WBI	Whole Body Imaging