

COMBATING AIR TERRORISM: SOME IMPLICATIONS TO THE AVIATION INDUSTRY

Atef Ghobrial

and

Wes A. Irvin

Andrew Young School of Policy Studies

Georgia State University

Atlanta, Georgia

ABSTRACT

The entire world uses and relies on aviation for leisure and business travel. Aircraft are also relied on to transport millions of tons of cargo every day. Without airlines, the world would come to a grinding halt. Aviation security concerns all unlawful acts connected with civil air transport. The attacks of September 11, 2001, on the United States have caused harm in almost every imaginable area including personal lives, economy and the aviation industry. Airlines were already beginning to experience the effect of a weak economy when the tragic events of 9/11 took place. This paper provides a perspective on the current status of the aviation industry including airlines, airports and passengers. It also sheds some light on the debate of funding aviation security and its implications on the aviation industry.

Atef Ghobrial is a professor of Transportation in the Andrew Young School of Policy Studies at Georgia State University. He received his M.S., M.B.A., and Ph.D. in transportation engineering from the University of California at Berkeley. He has published extensively in refereed transportation journals and presented papers in domestic and international conferences. He consults on transportation and aviation projects in the U.S. and abroad.

Wes A. Irvin is a graduate student at the Andrew Young School of Policy Studies at Georgia State University in Atlanta. He is also a Program Analyst for the Boeing 767-200 and 767-300 fleet at Delta Air Lines. He has been employed with Delta for over five years.

The views expressed in this paper are those of the authors and not necessary those of Delta Air Lines. The research was supported by an educational grant from the Southeastern Transportation Center (STC). STC is the U.S. DOT University Transportation Center that represents Region IV states.

INTRODUCTION

Although there is no internationally established definition for terrorism, Dr. Charters at the University of New Brunswick suggests that “terrorism is a violent process of social change involving the premeditated use of criminal techniques by agents of a state or a clandestine political organization to achieve political ends” (Wallis, 1993, p. 1). The expression aviation security concerns all unlawful acts connected with civil air transport. The unlawful acts and the actual number of casualties are less significant than the threat that anyone who uses air transport could become a casualty. It is important to realize that air transport is not the real target of terrorism. The targets are enemy countries and their governments, upon which the terrorists want to enforce a change in their politics. The terrorist can choose the time and place for the attack. The aircraft itself may be worth several hundred million dollars. The unlawful act will become a central theme of the news of all television and radio stations of the world, and the terrorist will get the required publicity.

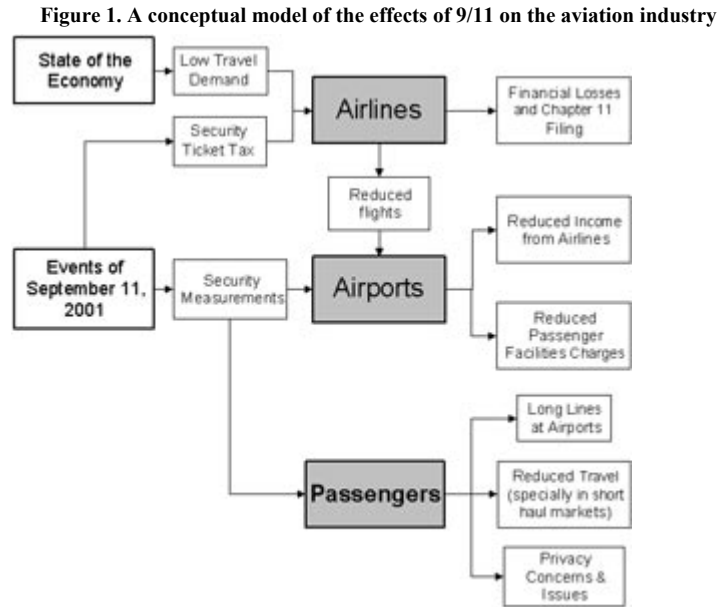
The attacks of September 11, 2001, on the United States (9/11) were intended to cause harm in several ways: fatalities and casualties among innocent, disturbance of the air transport system, and negative economic impacts. Aviation plays an important role in the economic prosperity of the U.S.: it links communities and countries together for business and leisure travelers, is a means for shipping goods, and it employs millions of Americans.

Unfortunately, the aviation industry was already in a difficult condition before 9/11. Many airlines have recently faced bankruptcy and almost all reported net losses in the billions. Layoffs have become a means to reduce the operating costs of airlines. High fuel prices, rising insurance costs, and the added costs of ensuring security have all contributed to the troubled condition of the aviation industry.

The paper provides a perspective on the current status of the aviation industry including airlines, airports and passengers. It also sheds some light on the debate of funding aviation security and its implications on the aviation industry.

The approach used in this study follows a conceptual qualitative model to assess the effects of 9/11 on the aviation system. We attempt to assess these impacts on airlines in terms of reduced travel demand and the addition of security ticket taxes. Increased ticket taxes along with low travel demand due to the state of the economy and fear of travel resulted in severe losses for airlines. Airlines then had to reduce capacity at almost all airports. Reduced airline operations triggered similar effects to airports that suffered reduced income from airlines and reduced income from passengers in terms of passenger facilities charges (PFCs). Imposing security measures at airports

resulted in long and unpredicted passenger queues and delays. Sharing passenger data with federal agencies has received criticism from many individuals and groups. Figure 1 depicts the flow of the impacts of 9/11 on airlines, airports and passengers.



THE AIRLINES

Deregulation of the aviation industry in 1978 has made significant changes in the structure and management strategies of U.S. airlines. An airline's survivability depends on the revenue generated mostly from passengers and shippers, and also on the cost structure of the airline. In addition, airline business is highly responsive to the ever-changing cycles of economy. In good times, profits can be met with ease, and during the down cycles those profits can be gobbled up at exponential rates. The aviation industry is perhaps the first to feel the negative affects of a weak economy, and could be the last to feel the positive affects of a rising economy. Airlines compete with each other in terms of the quality of services offered to passengers, while at the same time try to manage costs that are often uncontrollable.

Following 9/11, the federal government created the Transportation Security Administration (TSA). With respect to aviation, the agency would centralize aviation security and create policies to prevent future threats and

attacks. This could increase passengers' confidence in air travel and reassure them that the government is in charge of aviation security on a national level. It can be argued that the downturn in air travel had started before 9/11. The added security measures and expenses have only escalated the inevitable.

A number of the major U.S. airlines have faced bankruptcy, and almost all airlines have had serious losses. Delta Air Lines has reported a loss of \$466 million in the first quarter of 2002—its largest loss since the months immediately after 9/11. In addition to increased security costs, airlines attribute the losses to the fact that operations used more cash than was generated because of high fuel prices and the slump in demand leading up to the war in Iraq (Grantham, 2003).

A significant concern for airlines is the substantial increase in liability insurance since 9/11. Pre-9/11, terrorism insurance was merely included into a normal airline insurance policy for little-to-no cost. Post-9/11, the premium for insurance protection from terrorism rose from about \$2 million annually to \$150 million annually. These additional costs could continue to rise as concerns of subsequent attacks still loom and as the U.S. continues to fight terrorism (Brelis, 2002).

The new security tax imposed by the federal government has added a financial burden on the airlines. A tax of \$2.50 per segment was initially thought to be passed onto passengers. However, the decline in demand for air travel forced airlines to reduce airfares to encourage air travel after 9/11. It seems that airlines do not have pricing power. Leo Mullin, CEO of Delta, has stated that \$52 of a \$200 ticket is tax, which represents a 15% increase in the past five years (Field, 2002). The amount is significant since consumers, at the present time, are conscientious when they purchase tickets. Given that the demand for travel is elastic to price, airlines and airports are concerned that the additional taxes will result in fewer trips by passengers. In this high capacity and low demand environment, airline customers do not have to accept price increases, and they do not (Delta Air Lines Website, 2002).

AirTran Airways was among the very few airlines that showed small profits in 2002 rather than huge losses. AirTran is also concerned that increases in the security fees could impact small discount-airlines. Taxes already account for a high proportion of the lower-priced tickets, sometimes up to \$42 of a \$100 fare (Pickel, 2002). A spokesman for Continental Airlines stated that any new fees would further jeopardize the industry along with thousands of jobs (Alexander, 2002).

Another factor that has impacted the aviation industry is the availability of purchasing tickets on the Internet. Internet ticket sales accounted for more than 20% of U.S. aviation industry revenues for the first time in the third quarter of 2002. The ability to sell tickets online through airline and third-party websites permitted airlines to shed some \$3 billion in costs over a period of four years ending in 2002. However, it is argued that the pricing

transparency inherent to the Internet may cost carriers more in lost average fare than it otherwise saves in distribution expenses.

Airlines are also facing higher landing fees and PFCs as they struggle to reduce their costs and attract customers through discounted airfares. Examples of airports that have significantly increased landing fees include Raleigh-Durham, North Carolina and Lehigh Valley, Pennsylvania. These airports have increased their fees by 30-40% since September 2002. Other airports in the U.S. have either raised their rates or are considering it (Field, 2002). Airlines are facing the costs of airport modifications to improve security. From the airport perspective, funds for security modifications could either be provided by the government, or by raising the fees they charge airlines, even though the aviation industry is in no state to absorb extra costs (Larson, 2002). If airports continue to delay exiting capacity expansion projects due to lack of funds, infrastructure constraints would limit the comeback of the aviation industry when conditions for air travel improve. This will particularly be apparent when airlines start bringing some relatively large aircraft back into markets where smaller and medium-size aircraft are being used (Airport modification, 2002; Larson, 2002).

Another lost source of potential revenue to airlines is federal marshals who are taking up first-class seats that could otherwise be sold at premium prices. Federal Air Marshals (FAMs) have guarded more flights in the first two months of 2003 than they did during their entire career before 9/11. The agency currently has several thousand FAMs guarding the majority of the long-haul and international flights. The agency targets approximately 6,000 of the 23,000 daily flights in the U.S. (Airport security report, 2003).

Given the general state of the economy, airlines have realized that the alternative of passing these additional costs onto consumers is not feasible. In the past, airlines could transfer additional costs onto their best customers, that is, business travelers who are time sensitive and less price elastic than leisure travelers. That business segment of the market generated 37% of the airline revenue in 1998, and by June 2002, it only constituted 20%.

While some travel experts argue that the business segment will regenerate when the threat of terrorism subsides and the economy rebounds, others argue that the business travel segment has witnessed some significant changes that are likely to last, and that airlines will need to adjust their marketing and operational strategies accordingly. For example, many business organizations have instituted new travel policies, such as encouraging employees to book travel 14 or 21 days in advance and to use low-cost carriers. Some experts believe that these patterns will continue to persist even when the general conditions of the economy improve (Wieffering, 2003).

With new threats of bankruptcies, and appeals for labor concessions and government assistance, the nation's major airlines are facing a crisis that may

well spell the end for one or more carrier in the next few years, according to industry executives and experts. First is the growing competition from low-cost, low-fare carriers that is unlike any competitive threat seen by the industry before. Carriers such as Southwest Airlines, JetBlue and ATA have grown so fast and so large they have limited the ability of the network carriers to raise fares to stem losses, even with a record high percentage of seats being filled on aircraft in 2003. A second factor is the prolonged period of losses. None of the big carriers other than Continental has posted a quarterly profit since 2000. Nor are any of them expected to be profitable this year, and only half are expected to have a profitable 2005. During the recent downturn, the legacy carriers have gradually used up their financial cushion of aircraft and other assets they can borrow against, (Airline industry, 2003)

Another revenue sources for airlines that has been impacted by security considerations is the transportation of time sensitive cargo. Before 9/11, airlines were able to carry both passengers and time sensitive cargo on the same flight. This was particularly important on routes with thin passenger traffic, where the revenue from transporting cargo subsidized that from passengers. Following 9/11, the FAA enforced a measure prohibiting passenger airlines from transporting mail weighing more than 16 ounces. To comprehend the magnitude of this measure on airline revenue, we use Delta Air Lines as an example. Before implementing that security measure, mail weighing in excess of 16 ounces constituted approximately 50% of cargo revenue for Delta. Delta's 2002 Annual Report shows that its revenue from cargo operations declined by 9 percent to \$458 millions (Delta Air Lines, 2003, p.15). A study by the U.S. General Accounting Office found that on the average, the hull of passenger planes is typically half-full with cargo (U.S. GAO, 2002, December).

U.S. air carriers carry billions of tons of cargo each year in both passenger and all-cargo planes. Because of the magnitude of the volume of air cargo carried, vulnerabilities in the system could potentially threaten the entire air carrier system. Tampering could occur at various handoff points where cargo leaves a shipper's place to the point that it is loaded onto aircraft, (U.S. GAO, December, 2002). The federal government, along with industry groups and security experts identified measures to improve air cargo security. Examples of these measures include checking the identity of individuals making air cargo deliveries to implementing a computerized cargo profiling system. On March 13, 2003, the Senate Committee on Commerce, Science and Transportation approved the Air Cargo Security Act (U.S. Senate, 2003). The Act would, among other things, require the TSA to develop a strategic plan to ensure that all air cargo is screened, inspected, or otherwise made secure. The TSA would also be required to develop a system for the regular inspection of air cargo shipping facilities. The Act also

requires the development of a database that contains information on known shippers, and ensures that air carriers and third-party carriers could have their certificates revoked if they do not adhere to security laws or regulations. In November 2003, TSA announced that it would require passenger and freight airlines to inspect air cargo randomly and that non-U.S. all-cargo carriers transporting goods into and out of the U.S would also comply with the same security procedures. But TSA will not require 100% physical screening of air cargo because it is impractical" given technological and infrastructure limitations (Airlines ordered, 2003).

Although the dark clouds that have hung over the U.S. aviation industry since the 9/11 are starting to fade, airline executives are not yet seeing sunny skies ahead. Speaking at an analyst conference in New York on June 10, 2003, several airline executives said they were still hesitant to predict that the industry, which spiraled into an unprecedented financial crisis after 9/11, has turned a corner. However, the end of the war in Iraq and abating fears about Severe Acute Respiratory Syndrome (SARS) are good signs for airlines. A number of airlines are starting to see a modest increase in traffic, except on Pacific routes where SARS is, to some extent, still denting demand.

Carriers are hoping that the start of the summer travel season will help drive revenue higher. The injection of cash from a federal government aid package to help airlines offset security costs could also help airlines financially. Declines in fuel prices would also be a factor in airlines' recovery, whose second largest expense behind labor is jet fuel. For example, Delta Air Lines reported net income of \$180 million in the second quarter of 2003, substantially improved compared to a loss of \$189 million a year previously. The apparent turnaround, however, was due entirely to special items including a \$251 million net gain from federal security rebates and a \$176 million after-tax gain from the sale of Delta's stake in the Worldspan Global Distribution System. If special items are excluded from both periods, the carrier's loss actually widened to \$237 millions (Government aid, 2003). Likewise, Continental Airlines returned to profit in the second quarter, earning \$79 million compared to a loss of \$139 million a year previously. Continental received \$176 millions in pre-tax security rebates (Continental leads, 2003).

Still, the leaders of many carriers expressed similar caution in painting a picture of their future business. US Airways Chief Executive David Siegel believes that any recovery in the next 12 to 18 months is likely to be modest, and that no meaningful recovery will take place before 2005. Continental Airlines Chief Executive Gordon Bethune highlighted his company's effort to slash costs by \$500 million in 2004. Delta CEO Leo Mullin believes that, while the worst is over for the industry, it still faces another tough year. He argues that removing the national security burden from the airlines is crucial

not only to the aviation industry, but to millions of people, businesses, and organizations that depend on a secure, healthy, and efficient air transportation system (Airline executives, 2003)

THE AIRPORTS

U.S. airlines are not the only segment of the aviation industry that has been impacted by the events of 9/11. In the past, airports were concerned with the pressure arising from passenger complaints and the political pressures stretching from city halls to Capital Hill. A new source of pressure has emerged in the wake of 9/11. It came in the shape of the TSA. Airports are facing additional costs they never thought they would have to deal with (Field, 2002). The Inspector General for the U.S. Department of Transportation (DOT) estimated that airports would be liable for about \$2.3 billion in construction costs to accommodate the new explosive detection devices. The devices were mandated to be installed by the first of the year 2003. The costs of purchasing and installing the machines are significant, especially that older airports have limited space to accommodate the devices. These airports include the three major hub-and-spoke airports in the U.S., namely, Chicago, Atlanta, and Los Angeles. Some airport analysts believe that the estimated cost of \$2.3 billion is probably low. They argue that airport parking garages will need to be rebuilt, rental car facilities relocated and considerable concession spaces removed. All of these assets represent key revenue sources for airports (Field, 2002).

Although many in the aviation industry believe that funding security projects has become even more important in the aftermath of 9/11, they also recognize the need to continue funding other airport development projects, such as those designed to enhance capacity in the national airport system. During fiscal year 2002, the Federal Aviation Administration (FAA) awarded a total of \$561 million, 17% of the \$3.3 billion available for grants, in the Airport Improvement Program (AIP) funds to airports for security projects related to 9/11. This amount is the largest amount awarded to airports for security projects in a single year since the program began in 1982, (U.S. GAO, 2002, October).

The financial problems at airports have been compounded further as airlines eliminated flights in low-yield markets. Airports are thus receiving less user fees, and will resort to increasing fees to airlines, which in turn will impact the demand for air travel. It is estimated that airport user fees have dropped by 19% (Field, 2002).

Pre-9/11, airports were challenged to make travelers comfortable by providing spacious seating and to accommodate the needs of special populations—that is, travelers with special needs. Post-9/11, airports are also concerned with controlling the long passenger lines in the terminal as cost

efficiently as possible. The TSA has been looking at some queuing management mechanisms and seeking assistance from industries dealing with crowds, such as Walt Disney, to design systems for faster processing and access to boarding gates (Field, 2002).

Despite decreases in the revenue from most airport operations, revenue from concessions at most airport has risen. This is due to passengers having to spend more time at the airport and because of food service being eliminated from most domestic airline flights.

THE PASSENGERS

The most immediate impacts of the new security measures on passengers are the increased taxes on airline tickets. Given the state of the economy, the demand for travel is weak. The problems are compounded further by increased taxes on tickets that could increase the total airfare by 25 to 40 percent. Because leisure travel is price-dependent, the demand for air travel has suffered considerably. Also, some passengers have chosen other means of travel in fear of repeated attacks similar to 9/11. Business travel also has declined given the general state of the economy and the need to find alternate means to flying large air carriers. Many business travelers have chosen to fly discounted, no-frills carriers. Others changed their travel behavior by purchasing advanced tickets. These shifts in passenger behaviors along with the low-cost structure of a few airlines, such as Southwest and AirTran, have resulted in some positive net earnings for these carriers in 2002. Other large carriers have reported massive losses in the same year.

Prior to increased security procedures, passengers could arrive at the airport approximately 30 minutes before a flight and still be able to check-in and be at the gate in time for departure. Passengers now have to allow ample time for the long lines at check-in counters and at security check points before boarding. This is sometimes referred to as the hassle factor. Increases in security could continue to cause delays and inconveniences for travelers and for airport operators. During holidays and summer periods, airports will have to reduce sophisticated electronic screening and resort to less sophisticated screening to avoid causing operational delays. The problem is a prime example of the difficulties that are faced by the TSA and airports when attempting to balance security and efficiency (Airport Security Report, 2003). On the positive side, lines are now relatively shorter as airlines have implemented kiosk machines for self-service check-in of passengers holding electronic tickets. It is still inconvenient and worrisome for passengers as to how early they should be at the airport to avoid missing their flights. It is expected that U.S. air carriers will carry 65 million passengers each month during summer 2004, a 12% increase from the year before. Federal officials will closely monitor 25 of the busiest U.S. airports in the summer of 2004

and send in extra help if security delays arise as part of a plan to minimize waits for travelers (TSA unveils, 2003)

As passengers face the possibilities of increased ticket prices, they must also prepare themselves to be searched before boarding the aircraft. Some passengers have abandoned air travel all together or have cut back on flying due to the hassle factor. Many travelers who would have normally chosen a one-hour flight over a four- or five-hour drive would now rather drive. This new pattern is impacting the demand for air travel, especially in short-haul markets.

In addition to the physical searches, air travelers must become more accustomed to extensive and sometimes intrusive searches. The new security measures have implied some privacy risk for passengers. In January 2003, the TSA (2003) published a Federal Register notice announcing the Aviation Security Screening Records (ASSR) database. The Federal Register notice described a system that would allow government access to financial and transactional data as well as virtually unlimited amounts and types of data from other proprietary and public sources. TSA also indicated that many private and public entities might gain access to the personal information used in the ASSR database. Yet the notice did not provide information about how passengers can challenge their score or otherwise seek redress for their treatment at airports if they think it is based on inaccurate information. Over 100 individuals and organizations filed comments on the ASSR database that were almost universally critical of the program (Air travel policy, 2003).

Following the announcement of ASSR, the TSA announced the deployment of the second-generation airline passenger profiling system known as CAPPs II (Computer Assisted Passenger Prescreening System). CAPPs II would attempt to assess the security risk of every single airline passenger based on commercial and government data. The program would gather four pieces of information about each passenger from the airlines: full name, home address, home phone number and date of birth. That information would then be checked against credit header information and other data held by various data aggregators—private corporations that maintain files on the commercial activities of most American citizens—in an effort to verify the traveler's identity. However, credit header information can be inaccurate, and thieves can easily sidestep the identity check by presenting a false driver's license or passport, undercutting the system's entire mission.

After attempting to verify identity, CAPPs II would conduct a check against government databases (including intelligence and law enforcement databases) to assign a risk assessment score to each passenger: green for minimal, yellow to spark heightened security procedures, and red for those judged to pose an acute danger and would be referred to law enforcement. Although TSA does not plan to retain data on individuals, CAPPs II puts the

riskiest element of the program—the determination of risk and the construction of rules for conducting background checks—into the realm of the more secretive intelligence and law enforcement programs and databases. TSA plans to develop some mechanism for individuals to request a re-evaluation of their color code. However, it appears that CAPPs II is rooted in the secretive box of law enforcement and intelligence data which itself could include data mined from innocent people's commercial information (Alexander, 2003). The TSA claims that the purpose of the new security measures is to identify suspicious and high-risk travelers, while ensuring that most passengers are not inconvenienced by heightened security. The CAPPs II test project was initiated by Delta Air Lines at some selected airports, and the TSA expects that all of the nation's airlines will be using the system by 2004 (Alexander, 2003).

A study by the Reason Foundation (Poole & Passantino, 2003) calls for immediate creation and testing of a Registered Traveler Program and urges the TSA to adopt a risk-based approach to passenger and baggage screening that does not include the invasive privacy violations and data-mining used in CAPPs II. In order to improve security while also reducing the hassle factor, the Foundation's risk-based model separates passengers and their luggage into three categories: low-risk registered travelers, medium-risk travelers and high-risk travelers. Low-risk travelers would be part of a voluntary Registered Traveler program wherein passengers could choose to undergo in-depth background investigations in exchange for shorter security checkpoint lines. Registered travelers who voluntarily and successfully complete the investigation process would be issued biometric security cards to confirm their identities before proceeding to the security checkpoint. To alleviate personal privacy concerns, TSA would make the ultimate security clearance decisions but a private company interfacing with TSA and the airlines would operate the program. EDS, a U.S. company, operates a similar program at Israel's Ben Gurion Airport. The report also recommends restructuring the current baggage screening process and implementing a system similar to those found at most European airports. Checked bags would be processed through high-speed x-ray machines first, with those that cleared the system being forwarded for loading. If a bag triggered an alarm, it would be forwarded, along with all bags from high-risk passengers, to an explosive detection scanner for detailed inspection. If the explosive detection machine flagged the bag, it would be inspected manually, preferably with the owner present (Poole & Passantino, 2003).

In response to comments received from persons and groups concerned about privacy, the DOT explained how the TSA will manage information assessed by the second-generation CAPPs II. It will be a government-run system that replaces CAPPs I, which was administered by the airlines under federal guidelines. The new system, when active, will use routine

information that individuals will provide when making reservations to confirm a traveler's identity and assess a risk level (DOT makes changes, 2003)

It should be noted that The European Union has agreed to share information about its airline passengers with the U. S., in a deal announced on December 16, 2003. The deal ends year-long negotiations over a new U.S. law intended to fight terrorism. International airlines will turn over data about their U.S.-bound passengers, such as a traveler's name, e-mail address, telephone number and credit card number to the U.S. Department of Homeland Security's (DHS) Customs and Border Protection unit. The U.S. agency will then screen the traveler data and use it for terrorist investigations and other international probes into crimes such as drug trafficking and money laundering (Goo, 2003, December). In January 2004, major U.S. airlines agreed to work with the Homeland Security Department on ways to protect travel privacy, as the government seeks to use passenger information to keep terrorists off planes (Airlines ordered, 2004).

Another issue that is of concern to travelers is the possibility of theft of their belongings when their bags are checked. The TSA urges passengers to leave their checked baggage unlocked to avoid the potential need to open them forcibly in case physical inspection is needed. Screening of bags can be done using the large explosive detection system (EDS) machines, and other screening methods such as explosive trace detection systems, explosives sniffing dogs, passenger-bag matching and hand searches. If a checked bag is inspected, a statement to that effect is placed in the bag to notify the owner. TSA said it is moving toward providing travelers with free padlock-like seals that screeners can snip open if a search is necessary. However, the agency is advising passengers to use cable or zip ties as an alternative to locks.

Travelers and members of Congress have expressed concern about screeners working in airport security who have criminal records. Hiring thousands of federal security workers after 9/11 was intended to inspire the confidence of travelers. As of June 2003, the TSA has yet to complete background checks on 22,000 of its screeners. The agency has fired 85 felons who had been hired. In the six months ending June 2003, the TSA has received more than 6,700 complaints, most of which concerned damaged or stolen items. The figure also included some claims of lost luggage which is usually the responsibility of airlines. The problem of luggage thefts intensified after a federal security screener in New York was arrested in March 2003 on charges of stealing thousands of dollars in cash from passengers while inspecting their belongings at an airport checkpoint. Two baggage screeners were arrested in Miami in June 2003 and were charged with stealing things from checked baggage. The TSA claims to have a zero-tolerance policy when it comes to malfeasance of anyone working for the

agency. TSA also emphasizes that travelers should have confidence in the system as the agency continues to build a robust system for responding to their claims (Goo, 2003, June).

THE DEBATE ABOUT FUNDING OF AVIATION SECURITY

Prior to 9/11, airlines were responsible for supplying and paying for passenger screening. In practice, airlines contracted with the lowest bidders, who operated checkpoints with minimally trained and poorly compensated staff (Larson, 2002). Despite their concerns with security, airlines did not believe that the issue was serious enough to increase the costs associated with security. Airlines have always argued to have the federal government assume the responsibility of airport security and baggage screening. In 1996, Congress passed the Federal Aviation Reauthorization Act (1996) which contained a proposed legislation for funding airport security. The Act mandated that the FAA conducts a study to determine how to transfer the responsibilities of airport security—including costs—from the airlines to airport operators or to the federal government, (Sweet, 2002, p. 114).

Among the TSA first tasks was to federalize baggage screeners at airports. These were, however, met with many obstacles including the time constraints mandated by Congress and the lack of available funding. The TSA is responsible for hiring federal screeners, training and acquisition of security equipment. TSA employed nearly 62,000 screeners at the nation's airports. The TSA is attempting to reorganize staffing to better serve security needs at the nation's airports. In an effort to right-size its screener workforce, the TSA eliminated 3,000 jobs by May 2003, and plans to trim an additional 3,000 positions before the end of September 2003. The TSA claims that the right-sizing of its workforce, will save taxpayers an estimated \$320 million by September 2004 (U.S. Transportation, 2003). The TSA claimed that, despite the elimination of 3,000 airport screener jobs before the end of May, a representative sampling of airports found average passenger wait times in April and May remained well below the goal of 10 minutes. In addition, the number of prohibited items intercepted by TSA screeners totaled nearly 460,000 in April, the fourth-highest monthly figure since the agency assumed responsibility for airport security in February 2002 (U.S. Transportation, 2003).

There has been a heated debate since the issue of aviation security federalization came to surface. The main argument for the federal government to take over airport security is that most passengers consider security at the nation's airports to be part of U.S. national security. The costs associated with security personnel and with infrastructure have, however, increased considerably since the government took control. For example, annual salaries for security screeners have increased from \$10,000 without

benefits to between \$23,000 and \$35,000 with benefits (Miller, 2002). These unexpected costs have contributed to a shortfall of \$100 millions in the FAA budget for fiscal year 2002 (Thompson, 2002).

On October 8, 2002, Leo Mullin, CEO of Delta Air Lines, on behalf of the Air Transport Association gave a fundamental speech to the U.S. Chamber of Commerce. He stated that, since 9/11, the U.S. major carriers alone have trimmed costs by \$14 billion in a series of difficult steps with far-reaching consequences. The six major hub-and-spoke carriers have cut operating expenses by \$8.7 billion and most airlines are working through the painful process of re-negotiating labor contracts to further lower costs. They have removed \$86.8 billion of available seat miles from the air system and 267 aircraft from the fleet. These cuts have resulted in unfortunate service reductions for many cities and for the elimination of service to some countries (Leo Mullin remarks, 2002). With soft demand for air travel and continued overcapacity, airlines do not have the pricing power to get fares, yields and revenues up to acceptable levels.

In the past, the U.S. government has repeatedly refused to accept accountability for aviation security in spite of making sweeping declarations regarding terrorism and the nation's airways as constituting a vital national interest (Sweet, 2002). Now that the government accepted control of airport security, the debate has been changed to one about who is responsible for footing the bill. Taxpayers are reluctant to pay for all the added expenses of airport security, unless threats are considered imminent and on a reoccurring basis. The argument roots itself to the question of whether airline security is considered part of national security or is it a function of the product that the airlines have to offer.

Congress has been embattled with differing views on how to assist the ailing aviation industry. Proposals in both the House and Senate leading to the Emergency Appropriation Bill (H.R. Resolution 1559) provided ways to offset the losses and the additional costs incurred by airlines for the war in Iraq and anti-terrorism efforts. The House plan was to relieve airlines of paying security fees until September 30, 2003, and to reimburse them for the fees paid since 9/11. These security fees include passenger security tax, which can be as much as \$10 per round-trip ticket (Miller, 2003). The Senate package included reimbursing airlines for the cost of reinforcing cockpit doors and allowing airlines to keep revenue from passenger security fees from April 1 through September 30, 2003. The plan would reimburse airlines for the amount of \$1.1 billion for undertaking security measures. The Senate plan also included \$225 million for a 26-week extension of unemployment insurance for aviation workers and \$375 million for such costs as security-related infrastructure (Miller, 2003). Although the Administration did not oppose some assistance for airlines, given the current economic conditions of the nation, the Administration believed that the levels of airline assistance

recommended by both the House and Senate committees were excessive (Gillin, 2003).

On April 16, 2003, President Bush signed a near \$80 billion Emergency Appropriations Bill (H.R. Resolution 1159), including \$3.5 billion to assist airlines and airports. The Bill also extended unemployment benefits for airline and other employees. Under the Bill, Congress would reimburse airlines \$2.3 billion for security costs. TSA distributed the funds electronically in proportion to the amount of security fees eligible carriers have paid to TSA since February 2002. Delta Air Lines received \$390.2 million, the highest among the major airlines. American Airlines got \$361.0 million, United Airlines \$300.2 million, Southwest Airlines \$271.4 million, US Airways \$216.1 million, Northwest Airlines \$205.0 million, Continental Airlines \$173.2 million, America West \$81.3 million, Alaska Airlines \$67.1 million and ATA Airlines \$37.2 million. TSA cautioned that the program is not simply a cash handout for airlines to restore them to economic health. In order to receive this money, Congress has required that the air carriers report how they allocated the funds to offset operating expenses (Measure providing, 2003).

Nine of the 66 airlines, including American, ATA, Continental, Delta, Northwest, United, US Airways and World Airways, were required to limit their executives' salaries under a special provision added in response to Congressional outrage over airline CEO compensations (High executive salaries, 2003). In addition, \$100 million was set aside by Congress to compensate carriers for costs associated with reinforcing cockpit doors. The statute also suspended—from June 1 through September 30—the \$5-per-leg security fee that has been charged to passengers since February 2002. A separate fee charged to airlines was suspended for the same period. The suspensions are expected to save the carriers an estimated \$700 million (TSA begins, 2003).

Some analysts believe that the demands made by airlines were excessive in terms of assistance with security costs, federal subsidized insurance premiums, and a reduction in taxes. In fact, some politicians are feeling the criticism of other industries opposed to the preferential treatment of the aviation industry (Alexander, 2002). Unions complain that despite the grants and special funding that the airlines have been receiving, airlines are still reducing employee capacity in large numbers and making severe cuts into the pay and benefits of their employees. Some carriers have made drastic cuts that have never been seen before. For example, Delta Air Lines had a layoff of 10 to 15 percent of its personnel. It has also announced that it would offer a cash balance program for the retirement benefits of its non-contract employees. Delta estimated that the new program could reduce employee's retirement benefits by more than 6%, saving the company

millions of dollars in employee retirement expenses (Delta Air Line Internal Memo, April 16, 2003).

Although it has not been widely publicized, airlines have been receiving subsidized funding. For decades, U.S. airlines have provided passenger and cargo transport services to the military in both times of wartime and peacetime (Air Transport Association, 2003). This system, known as the Civil Reserve Air Fleet (CRAF), was instituted through a series of presidential executive orders, the first was signed on December 15, 1951. Under the program, U.S. airlines commit to support the Department of Defense (DOD) when airlift needs of the DOD exceed its own military capabilities. Virtually all major domestic carriers are enrolled in the program. Approximately 927 planes from more than 30 airlines, air cargo operators and charter services are currently enrolled (Bull, 2003). The CRAF program was activated for the first time in its history on August 17, 1990, when aircraft were called-up in response to Iraq's invasion of Kuwait. The CRAF program is divided into three main segments: international, national and aero-medical evacuation. The international segment is then further divided into the long-range and short-range sections, and the national segment is divided into domestic and Alaskan sections. Finally, the aero-medical evacuation segment is designed to provide evacuation of casualties from operational theatres to hospitals in the continental U.S. The aircraft are also used to deliver medical supplies and crews to the theatre of operation. Special kits have been devised to modify civil Boeing-767 passenger aircraft into air ambulances (CRAF, 2003).

The DOD provides incentives for civil carriers to commit these aircraft to the CRAF program. The Air Mobility Command awards peacetime airlift contracts to civilian airlines that are enrolled in the CRAF program. The DOD is also considering the possibility of opening up its small package business to commercial carriers, which could generate an additional \$200 to \$400 millions. In addition to the opportunity to compete for peacetime contracts, air carriers are compensated for the services provided during active stages of the CRAF program. The government pays airlines predetermined fees based on the carriers' costs of flying the missions, plus a negotiated rate of return. For example, airlines were paid \$1.2 billion for their services in Operations Desert Shield and Desert Storm (Bull, 2003). In 2002, the Pentagon spent \$1.4 billion on charters, the majority of which were used to move troops in support of the war on terrorism. The CRAF program can be a substantial source of revenue for airlines considering that they have been parking their aircraft in the desert for temporary storage due to lower demand for air travel. The CRAF program provided supplemental revenue to the aviation industry before and during the war in Iraq as demand decreased during these periods.

Congress has begun to take a look at measures to prevent shoulder-launched missiles from posing a threat to U.S. commercial aviation. Momentum continues to build in Congress to equip U.S. commercial air carriers with technology to defeat shoulder-fired missiles. However, funding remains a great obstacle. On board defense systems include infrared jamming devices, small decoy flares and lasers that burn out the missile's targeting system (Shoulder-Fired, 2003). In August 2003, the U.S. government dispatched teams of aviation safety investigators to Iraq and to major capital cities in Europe and Asia to determine if their commercial airports can be defended against terrorists who might try to shoot down passenger planes using shoulder-fired missiles (Shenon, 2003).

Some policy makers claim that it is time for some airlines to sink or to soar. By letting the weakest players fail, the industry would recover by weeding out excess capacity. The survivors would be able to expand their market share, regaining the ability to raise ticket prices and thus, return to profitability much faster. Some analysts warn that providing more assistance to airlines would waste taxpayers' dollars by delaying the free market's role in weeding out the weakest players.

SUMMARY AND CONCLUSIONS

This paper presents a perspective on the status of the aviation industry following 9/11. The paper highlights the effects on airlines, airports and passengers. A discussion of funding issues as related to aviation security is also presented.

Although government assistance is needed for the dire situation that the aviation industry is in, all entities—the federal government, airlines, and airports—need to work together to come up with equitable and practical policies to deal with increased security costs. Key issues such as unionizing screeners, U.S. airmail contracts, and airport equipment costs will have to be addressed quickly and fairly. In the absence of continued cooperation between the above entities, the aviation industry is doomed to dwindle to a few small carriers providing sub-standard air services.

The issue of who should pay for aviation security will continue to be a hotly debated topic. Airlines and airports will continue to argue that it is a matter of national security and that they should not be forced to bear the burden alone. Passengers cannot be required to shoulder the burden or else the aviation industry will be doomed to fail. Lastly, some members of Congress feel that airlines should continue to receive more assistance, while others feel that the government has done more than its share. There is, however, no dispute that aviation security is a matter of national security. Thus, Congress will ultimately have the responsibility to ensure a proper

combination of costs paid for by airlines, airports, passengers and the federal government.

It should be mentioned that the events surrounding the aviation industry are dynamic and can indeed affect the different components of the industry. Many analysts believe that the worst is over for the airlines. A number of large air carriers may, therefore, see much less losses, if not some profits, in 2003. Passengers' confidence in flying has also been increasing given the outcome of the war in Iraq and the perceived diminishing risks of other terrorist attacks. The contents of this paper ought to be updated continuously to reflect the dynamic changes and events surrounding the aviation industry.

REFERENCES

- Air Transport Association. (2003, February 10). Airlines proudly support U.S. military. Retrieved from Air Transport Association Web site: <http://www.airlines.org/public/news/display2.asp?nid=6420>
- Air travel privacy. (2003, April 18). Retrieved from EPIC Web site: <http://www.epic.org/privacy/airtravel/>
- Airline executives not seeing sunny skies yet. (2003, June 11). Retrieved from Cable News Network Web site: <http://www.cnn.com>.
- Airline industry to work on privacy issues. (2003, January 23, 2004). Retrieved from Cable News Network Web site: <http://www.cnn.com>
- Airlines ordered to conduct random inspections of cargo. (2003, November 19). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>
- Airport modification costs will hurt carriers, Kinton says. (2002, October 11). *Aviation Daily*, p. 4
- Airport security report. (2003, April 9). *U.S. Security Briefs*, 10(7), 1.
- Alexander, Keith L. (2002, September 6). U.S. security fees weigh on airlines. *The Washington Post*. p. E01.
- Alexander, Keith. (2003, March 11). Seeing red on security system. *The Washington Post*. p. E-01.
- Brelis, Matthew. (2002, July 30). Delta chief: security costs hurt airlines. *The Boston Globe*, p. D3.
- Bull, Leona C. (2003, January 24). Civilian aircraft could be activated for DOD support. *Aerotech News and Review*. Retrieved from *Aerotech News and Review* Web site: <http://www.aerotechnews.com/starc/2003/122403/CRAF.html>
- Continental leads network carriers with breakeven second period. (2003, July 18). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>

- CRAF: Civil reserve air fleet. (n.d.). Retrieved June 22, 2003, from the CRAF Web site: <http://usmilitary.about.com/mbody.htm>
- Delta Air Lines. (2003). *Moving forward: Delta Air Lines 2002 annual report*.
- DOT makes changes to CAPPs II. (2003, August 01, 2003). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>
- Federal Aviation Reauthorization Act of 1996. (1996). Public Law 104-264.
- Field, David. (2002, June 1). Uncertain world. *Airline Business*, 46
- Gillin, Eric. (2003, April 2). White House down on airline bailout plan. TheStreet.com. Retrieved from *The Street* Web site: www.thestreet.com/pf/markets/ericgillin/10077953.html
- Goo, S. K. (2003, June). TSA under pressure to stop baggage theft: For agency, a new airport security problem. *The Washington Post*, p. A01.
- Goo, S.K.. (2003, December). Europe, U.S. near accord on passenger information. *The Washington Post*, p. E02.
- Government aid, Worldspan sale boost Delta performance. (2003, July 18). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>
- Grantham, Russell. (2003, April 17). Delta reports \$466 million quarterly loss. *The Atlanta Journal-Constitution*. Retrieved from *The Atlanta Journal-Constitution* Web site: www.accessatlanta.com/ajc/business/delta/0403/17deltaearn.html
- H.R. Resolution 1559, 108th Cong., 149 Cong. Rec. H3358 (2003) (enacted).
- High executive salaries under fire from pilots, lawmakers. (2003, April 7). *Airline Financial News* 21(14), 1.
- Larson, Adrienne. (2002, September 11). September 11—One year later...An aviation daily special analysis. *Aviation Daily*, p. 12.
- Leo Mullin remarks before U.S. Chamber of Commerce: Aviation and the economy. (2002, October 8). Retrieved from Delta Air Lines Web site: <http://dalweb.delta>
- Measure providing aid to U.S. airlines becomes law. (2003, April 17). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>
- Miller, Leslie (2002, August 27). Report: Screeners cost U.S. money. *The Associated Press Online*. Retrieved from *The Associate Press Online* Web site: <http://www.ap.org>
- Miller, Leslie. (2003, April 2). House, Senate leaders raise ante for airline relief. *The Star Tribune*. Retrieved April 29, 2003, from *The Star Tribune* Web site: http://www.startribune.com/viewers/story.php?template=print_a&story=379776

- Pickel, Mary Lou. (2002, May 8). Airlines oppose plan to raise security fee; Funds would go to safety agency. *The Atlanta-Journal Constitution*, p. 4-A.
- Poole, Jr., Robert & Passantino, George (2003). *A risk-based airport security policy*. Los Angeles: Reason Public Policy Institute.
- Shenon, P. (2003, August 7). Threats and responses: Terrorism; U.S. is inspecting overseas airports for missile threats. *The New York Times*. Retrieved from *The New York Times* Web site: <http://www.nytimes.com>
- Shoulder-fired missile defenses gain support. (2003, March 25). *Airports*, 20(12), 3.
- Sweet, Katherine. (2002). *Terrorism and airport security*. Lewiston, NY: The Edwin Mellen Press, Ltd.
- Thompson, Richard. (2002, July 13). Budget of federal aviation administration drained by security costs. *Knight Ridder Tribune Business News*. Retrieved from *The Knight Ridder Tribune Business News* Web site: www.knightridder.com
- Transportation Security Administration Privacy Act Notice. 68 Fed. Reg. 2101 (Jan. 15, 2003).
- TSA begins to pay back airlines for security costs. (2003, May 16). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>
- TSA unveils plan to reduce airport security lines. (2003, May 14, 2004). Retrieved from Cable News Network Web site: <http://www.cnn.com>
- U.S. General Accounting Office, (2002, December). A report to the ranking minority member, aviation subcommittee, senate committee on commerce, science and transportation. GAO-03-344.
- U.S. General Accounting Office. (2002, October). Airport finance: Using airport grant funds for security projects has affected some development projects. GAO-03-27.
- U.S. Senate Committee on Commerce, Science and Transportation. Air Cargo Security Act. (2003, March 13). S. 165.
- U.S. Transportation Security Administration said it will meet a Sept. 30 deadline for "rightsizing" its screener workforce. (2003, June 9). *Air Transport World*. Retrieved from *Air Transport World* Web site: <http://www.atwonline.com>
- Wallis, Rodney. (1993). *Combating air terrorism*. McLean, VA: Brassey's (US).
- Wieffering, Eric. (2003, March 30). Airlines: Fighting for survival. *The Star Tribune*. p. A-1.\