

September 2005

# AVIATION SECURITY

## Flight and Cabin Crew Member Security Training Strengthened, but Better Planning and Internal Controls Needed





Highlights of [GAO-05-781](#), a report to congressional requesters

## Why GAO Did This Study

Training flight and cabin crew members to handle potential threats against domestic aircraft is an important element in securing our nation's aviation system. The responsibility for ensuring that crew members are prepared to handle these threats is a shared responsibility between the private sector—air carriers—and the federal government, primarily the Transportation Security Administration (TSA). This report addresses (1) actions TSA has taken to develop guidance and standards for flight and cabin crew member security training and to measure the effectiveness of the training, (2) how TSA ensures domestic air carriers comply with the training guidance and standards, and (3) efforts TSA has taken to develop and assess the effectiveness of its voluntary self-defense training program.

## What GAO Recommends

GAO is recommending that the Secretary of Homeland Security direct TSA to (1) establish strategic goals for crew security training, develop guidance and standards for air carriers to use to develop goals and measures for their training, and review air carriers' goals and measures, (2) develop written procedures for monitoring air carriers' crew security training, and (3) establish performance measures and a time frame for evaluating the effectiveness of the voluntary self-defense training. TSA reviewed a draft of this report and generally agreed with GAO's findings and recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-05-781](http://www.gao.gov/cgi-bin/getrpt?GAO-05-781).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Cathleen Berrick at (202) 512-8777 or [berrickc@gao.gov](mailto:berrickc@gao.gov).

## AVIATION SECURITY

# Flight and Cabin Crew Member Security Training Strengthened, but Better Planning and Internal Controls Needed

## What GAO Found

Since the terrorist attacks of September 11, 2001, TSA enhanced guidance and standards for flight and cabin crew member security training with input from stakeholders. Specifically, TSA revised the guidance and standards to include additional training elements required by law and to improve the organization and clarity of the guidance and standards. Some stakeholders we interviewed and our own review generally found that the revised guidance and standards improved upon previous versions in terms of organization and clarity of the information provided. However, some stakeholders identified concerns about, for example, the reasonableness of applying parts of the guidance and standards to both flight and cabin crew members and the difficulty in implementing some of the standards without additional information or training tools from TSA. Additionally, TSA has not established strategic goals and performance measures for assessing the effectiveness of the training because it considers its role in the training program as regulatory. In this regard, TSA views the individual air carriers as responsible for establishing performance goals and measures for their training programs, but has not required them to do so. Without goals and measures, TSA and air carriers will be limited in their ability to fully assess accomplishments and target associated improvements.

TSA recently took steps to strengthen its efforts to oversee air carriers' flight and cabin crew security training to ensure they are complying with the required guidance and standards. For example, in January 2005, TSA added staff with expertise in designing training programs to review air carriers' crew member security training curriculums and developed a standard form for staff to use to conduct their reviews. However, TSA lacks adequate controls for monitoring and reviewing air carriers' crew member security training, including written procedures for conducting and documenting these reviews. TSA plans to develop written procedures, but has not established a timeframe for completing this effort.

TSA has developed an advanced voluntary self-defense training program with input from stakeholders and implemented the program in December 2004, as required by law. However, stakeholders and our own analysis identified concerns about the training design and delivery, such as the lack of recurrent training and the lack of a realistic training environment. Also, TSA has not yet established performance measures for the program or established a time frame for evaluating the program's effectiveness.

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**Abbreviations**

ATSA	Aviation and Transportation Security Act
DHS	Department of Homeland Security
DOD	Department of Defense
DOT	Department of Transportation
FAA	Federal Aviation Administration
FAMS	Federal Air Marshal Service
FBI	Federal Bureau of Investigation
GPRA	Government Performance and Results Act
OMB	Office of Management and Budget
TSA	Transportation Security Administration
Vision 100	Vision100-Century of Aviation Reauthorization Act

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United States Government Accountability Office  
Washington, DC 20548

September 6, 2005

The Honorable Daniel K. Inouye  
Co-Chairman  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable John D. Rockefeller, IV  
Ranking Minority Member  
Subcommittee on Aviation  
Committee on Commerce, Science, and Transportation  
United States Senate

Training flight and cabin crew members (pilots and flight attendants) to handle potential threats against domestic commercial aircraft is an important element in securing our nation's aviation system. These flight and cabin crew members play a key role in ensuring the security of commercial aircraft and the safety of airline passengers and are the last line of defense in the event of an attempted terrorist attack onboard a commercial aircraft. The responsibility for ensuring that flight and cabin crew members are prepared to respond to these threats is a shared responsibility between the private sector—air carriers—and the federal government, primarily the Transportation Security Administration (TSA). In an effort to strengthen aviation security, title 49 of the United States Code, section 44918, requires that air carriers develop and deliver a basic security training program for flight and cabin crew members in accordance with training elements prescribed in the law. The law also requires that TSA monitor and periodically review air carriers' training programs to ensure they adequately prepare crew members for potential threat conditions. Furthermore, the law requires TSA to develop and provide an advanced voluntary self-defense training program for flight and cabin crew members. Although there has not been another successful terrorist attack against commercial aircraft in the United States since September 11, 2001, concerns remain about whether flight and cabin crew members are prepared to handle a potential hijacking and other threats to commercial aircraft.

To determine the progress TSA has made in developing and monitoring flight and cabin crew security training, we examined TSA's efforts to develop guidance and standards for air carriers' flight and cabin crew security training, monitor air carriers' compliance with the guidance and

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standards, and develop and deliver advanced voluntary self-defense training for crew members. Specifically, this report addresses the following questions: (1) What actions has TSA taken to develop guidance and standards for flight and cabin crew security training and to measure the effectiveness of the training? (2) How does TSA ensure domestic air carriers comply with required training guidance and standards? (3) What efforts has TSA taken to develop, implement, and measure the effectiveness of advanced voluntary self-defense training for flight and cabin crew members?

In conducting our work, we reviewed TSA and Federal Aviation Administration (FAA) documentation related to flight and cabin crew member security training guidance and standards and advanced voluntary crew member self-defense training. The security training guidance provides detailed guidance from which air carriers must develop their flight and cabin crew security training programs. The security training standards set forth the specific requirements for crew member security training, such as the training elements that must be included in air carriers' basic and recurrent (refresher) crew member security training programs. We also interviewed officials from 19 domestic air carriers, 2 air carrier associations, and 6 crew member labor organizations regarding security training guidance and standards, and advanced voluntary self-defense training.<sup>1</sup> We selected domestic air carriers based on whether they were currently offering initial and/or recurrent security training<sup>2</sup> and on the size of the air carrier in an effort to include a mixture of various domestic air carriers and air carriers of varying sizes. The size of an air carrier is based on the annual operating revenues and the number of revenue passenger boardings. We visited 8 of these air carriers to observe their training and to

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<sup>1</sup>Foreign air carriers operating to and from the United States are not regulated under the mandates of the Aircraft Operator Security Program (under which domestic air carriers operate) but are subject to the security requirements of 49 C.F.R. part 1546. Foreign air carriers operating under part 1546 must maintain a security program that TSA accepts as providing passengers a level of protection similar to the level of protection provided by U.S. air carriers serving the same airports. See 49 U.S.C. § 44906. Further, foreign air carriers must abide by the standards and recommended practices established by the International Civil Aviation Organization, which adopted expanded security training requirements for crew members in March 2002 that are similar to those found in the Aviation and Transportation Security Act (ATSA), Pub. L. No. 107-71, § 107, 115 Stat. 611, 610-11 (2001).

<sup>2</sup>Initial security training is provided to newly hired flight and cabin crew members as well as crew members returning from a leave of absence of more than 3 years. Recurrent security training is annual refresher training provided to all flight and cabin crew members.

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interview flight and cabin crew members about the training. Because we selected a nonprobability sample of domestic air carriers, the information we obtained from these interviews and visits cannot be generalized to all domestic air carriers. We also observed two sessions of TSA's advanced voluntary crew member self-defense training. Information obtained from our interviews and visits cannot be generalized to all air carriers and stakeholders. Additionally, we interviewed officials responsible for developing security training guidance and standards and reviewing air carriers security training programs at TSA headquarters. We also interviewed officials at the FAA; Federal Bureau of Investigation (FBI); Bureau of Immigration and Customs Enforcement, Federal Air Marshal Service (FAMS); Department of Defense (DOD); crew member labor organizations; and associations representing air carriers to obtain information on their involvement in the development of crew member security training guidance and standards and advanced voluntary crew member self-defense training. A more detailed description of our scope and methodology is contained in appendix I.

We conducted our work from June 2004 through August 2005 in accordance with generally accepted government auditing standards.

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## Results in Brief

Building on the legislatively mandated guidance developed by FAA in January 2002 and corresponding standards, TSA enhanced guidance and standards for flight and cabin crew member security training with input from various stakeholders. However, TSA has not established strategic goals and performance measures for assessing the effectiveness of crew member security training, nor required air carriers to do so. TSA officials stated that they revised the guidance and standards for two main reasons. First, the law, as amended by the Vision 100—Century of Aviation Reauthorization Act (Vision 100), enacted in December 2003, required that air carriers include additional training elements in their basic crew member security training programs to prepare flight and cabin crew

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members for potential threat conditions.<sup>3</sup> Second, TSA determined that the guidance and standards needed to be better organized and to more clearly define security training elements, in part due to feedback from air carriers, flight and cabin crew member labor organizations, and associations representing air carriers. Some stakeholders stated and our own review found that the organization of the previous security training standards were difficult to follow and lacked clarity in some areas. For example, the previous guidance did not define what constitutes life-threatening behavior, whereas the revised guidance provides both a definition of this behavior and examples. Although the revised guidance and standards were an improvement over the previous versions in terms of organization and clarity, some stakeholders identified concerns about the reasonableness of applying parts of the guidance and standards to both flight and cabin crew members, difficulty in implementing some of the standards without additional information or training tools from TSA, and the vagueness of some of the guidance and standards. For example, some of the training standards remain generalized to both flight attendants and pilots, rather than targeted to their specific job functions in responding to a security threat. Additionally, TSA has not established strategic goals and performance measures for the flight and cabin crew member security training program. The Government Performance and Results Act (GPRA) of 1993 requires, among other things, that agencies use outcome-oriented goals and measures that assess results of a program or activity compared to its intended purpose. TSA training officials stated that they decided not to develop strategic goals or performance measures for flight and cabin crew security training because the officials view their role in the training program as regulatory—that is, monitoring air carriers’ compliance with the training guidance and standards established by TSA. In this regard, officials stated that it is the individual air carriers’ responsibility to establish performance goals and measures specific to their security

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<sup>3</sup>49 U.S.C. § 44918. The Aviation and Transportation Security Act (ATSA), enacted in November 2001, created the Transportation Security Administration (TSA) and mandated the Federal Aviation Administration (FAA) to develop a detailed guidance for a scheduled passenger air carrier flight and cabin crew member training program. FAA continued to be responsible for overseeing flight and cabin crew members’ security training until TSA assumed that responsibility pursuant to ATSA. Subsequently, the Vision 100—Century of Aviation Reauthorization Act (Vision 100), enacted in December 2003, revised the basic security training program requirements and mandated that TSA develop and implement an advanced voluntary self-defense training program for crew members. Pub. L. No. 108-176, § 603, 117 Stat. 2490, 2563-65. Together, these acts mandated actions for TSA, FAA, and air carriers to strengthen flight and cabin crew security training under § 44918, including the development of security training guidance and standards.



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training programs. However, without overall strategic goals developed by TSA, air carriers do not have a framework from which to develop their individual performance goals and measures. Further, TSA has not explicitly required air carriers to develop performance goals and measures or provided air carriers with guidance and standards for doing so. The absence of performance goals and measures for flight and cabin crew security training limits the ability of TSA and air carriers to fully assess the accomplishments of the flight and cabin crew member security training program in adequately training crew members, and to target appropriate improvements.

Although TSA has recently taken steps to strengthen its efforts to oversee air carriers' flight and cabin crew security training to ensure carriers are complying with required guidance and standards, TSA lacks adequate internal controls for monitoring and reviewing air carriers' flight and cabin crew member security training. The law requires TSA to monitor and periodically review air carriers' security training to ensure that the training is adequately preparing crew members for potential threat conditions. The law also requires TSA to consider complaints from crew members in determining when to review an air carriers' crew member security training program. Further, the Comptroller General's *Standards for Internal Control in the Federal Government*, which describes the minimum level of quality acceptable for internal controls in government and the basis against which internal controls should be evaluated, calls for, among other things, that controls generally be designed to assure that ongoing monitoring occurs during the course of normal operations, transactions and other significant events be documented clearly, and documentation be readily available for examination.<sup>4</sup> TSA has recently taken several steps to strengthen its review of air carriers' crew member security training curriculum, including (1) adding staff with expertise in designing training programs to review the overall design of the air carriers' crew member security training curriculums, rather than solely ensuring that each of the training elements is discussed in the training curriculums; (2) developing a standard form for TSA inspectors and training staff to use to conduct and document their reviews of air carrier security training curriculums to ensure training requirements stated in the revised security training standards are included in the air carriers' security training and to enhance consistency in the review process; (3) requiring air carriers to obtain

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<sup>4</sup>GAO, *Internal Control: Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

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written participant feedback at the end of flight and cabin crew member security training to capture information on participants' overall satisfaction with the training; and (4) reorganizing the inspection staff into a newly created Office of Compliance and issuing position announcements to fill vacant TSA inspector positions, which should allow for greater monitoring of air carriers' flight and cabin crew security training programs. Although TSA made these recent improvements, the agency lacks adequate internal controls for monitoring and reviewing air carriers' crew member security training. Specifically, TSA does not have written procedures for (1) completing the standard form used by TSA inspectors and training staff in reviewing air carriers' flight and cabin crew security training curriculum; (2) conducting and documenting observations of air carriers' classroom delivery of flight and cabin crew security training—a function performed by TSA inspectors—and selecting the air carriers to visit; (3) ensuring that air carriers track flight and cabin crew members' completion of required security training; and (4) considering flight and cabin crew members' written feedback on security training and security-related complaints from flight and cabin crew members in determining when to review air carriers' flight and cabin crew security training. TSA officials stated that they plan to develop a handbook that documents procedures for TSA inspectors to use in reviewing air carriers' flight and cabin crew members security training as well as guidance for the training staff to use during their reviews. However, officials stated that they have not established a time frame for completing these efforts. Until TSA documents procedures for monitoring and reviewing air carriers' flight and cabin crew member security training, TSA will continue to lack a structure that provides reasonable assurance that TSA inspectors and training staff are performing thorough assessments of air carriers' security training.

TSA has developed an advanced voluntary self-defense training program for flight and cabin crew members with input from key stakeholders and implemented the program in December 2004 as required by law. However, some stakeholders and our own analysis identified concerns about the training design and delivery, and TSA has not yet developed performance measures for the program or established a time frame for evaluating the program's overall effectiveness. In developing the advanced voluntary self-defense training program, TSA consulted with law enforcement experts,

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the Federal Air Marshal Service,<sup>5</sup> air carriers, air carrier associations, crew member labor organizations, and other subject matter experts and self-defense experts. TSA also piloted the training course in five cities and made refinements to the course based on feedback from participants. For example, training participants stated that the course included too much lecture time and that the training course was too long, particularly given that crew members must attend the training on their own time and must pay for their travel, lodging, and meals. In response, TSA increased the amount of hands-on training and shortened the training program from 4 days to 3 days. During the first 7 months of the training program, participation in the training was relatively low, with only 474 flight and cabin crew members (39 percent of total capacity) attending the training. TSA officials attributed the low participation to crew members having a difficult time obtaining 3 consecutive days of leave to attend the training. Although TSA incorporated some stakeholder input into the course design, some stakeholders, including individuals identified as experts by TSA, and our own analysis identified several concerns regarding the training design and delivery, such as the lack of recurrent training, the lack of a realistic setting in which to conduct the training, and instructors' lack of knowledge of crew members' actual work environment. Our prior human capital work has found that in implementing a training program, an agency should ensure that implementation involves effective and efficient delivery of training<sup>6</sup>—that is, the training should be conducted in a setting that approximates the participants' working conditions and be taught by individuals who are knowledgeable about the subject matter and work environment. Furthermore, TSA has not yet developed performance measures for the program or established a time frame for evaluating the program's overall effectiveness. TSA training officials stated that although they recognize the importance of measuring the effectiveness of the self-defense training program, they have not been able to undertake this effort due to resource constraints within which they are operating and numerous internal process improvements currently under way in TSA. Without performance measures and an evaluation of the program's effectiveness, TSA will not have meaningful information from which to determine

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<sup>5</sup>The Federal Air Marshal Service provides air security and promotes public confidence in our nation's civil aviation system through the deployment of Federal Air Marshals who are specially trained civil aviation security specialists that are deployed onboard aircraft to protect passengers, crew, and aircraft from terrorist activities on both domestic and international flights.

<sup>6</sup>GAO, *Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, [GAO-04-546G](#) (Washington, D.C.: March 2004).

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whether the voluntary training program is achieving its intended results and to make any needed improvements.

To assist TSA in further strengthening its flight and cabin crew security training program and to provide the tools necessary to monitor the delivery and accomplishments of the training, we are making a number of recommendations to the Secretary of the Department of Homeland Security (DHS). These recommendations include directing the Assistant Secretary, Transportation Security Administration, to develop a framework from which to assess the accomplishments of flight and cabin crew member security training, including establishing strategic goals for the training; developing guidance for air carriers to use in establishing performance goals and measures for their individual training programs; and reviewing air carriers' goals and measures as part of its monitoring efforts. We are also recommending that the Assistant Secretary, Transportation Security Administration, strengthen internal controls for monitoring and reviewing air carriers' flight and cabin crew member security training programs and for documenting the results of its monitoring efforts; and establish performance measures for the advanced voluntary crew member self-defense training program and a time frame for evaluating the effectiveness of the training.

We provided a draft of this report to the Department of Homeland Security for its review and comment. DHS, in its written comments, generally concurred with the findings and recommendations in the report, and agreed that efforts to implement our recommendations are critical to a successful flight and cabin crew member security training program. DHS described some actions TSA has taken or planned to take to implement these recommendations. For example, DHS stated that TSA has begun to establish strategic goals for the flight and cabin crew member security training program. DHS also stated that TSA is in the process of developing a monitoring plan, to the extent that resources permit, and a handbook for reviewing air carriers' flight and cabin crew member security training programs. Additionally, DHS stated that TSA is currently working with the Office of Management and Budget (OMB) to establish performance measures for use in OMB's Performance Assessment Rating Tool for TSA's flight security training. The full text of DHS's comments is included in appendix III.

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## Background

After the terrorist attacks of September 11, 2001, the President signed the Aviation and Transportation Security Act (ATSA) into law on November 19, 2001, with the primary goal of strengthening the security of the nation's

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aviation system. ATSA created TSA as the agency responsible for securing all modes of transportation, including aviation.<sup>7</sup> The President also issued the National Strategy for Homeland Security in July 2002. The National Strategy for Homeland Security sets forth a plan to strengthen homeland security through the cooperation of federal, state, local, and private-sector organizations in various areas. The National Strategy for Homeland Security aligns and focuses homeland security functions into six critical mission areas: (1) intelligence and warning, (2) border and transportation security, (3) domestic counterterrorism, (4) protecting critical infrastructures and key assets, (5) defending against catastrophic threats, and (6) emergency preparedness and response. A theme of the national strategy is that homeland security is a shared responsibility among these stakeholders, not solely the responsibility of the federal government. In the case of flight and cabin crew member security training, air carriers and TSA both play an important role. Air carriers are responsible for developing and delivering security training programs for their crew members. TSA (and previously FAA) is responsible for developing the guidance and standards that air carriers are to use to design and deliver their security training and for monitoring air carriers' flight and cabin crew member security training programs for compliance with the guidance and standards.<sup>8</sup> If TSA finds an air carrier to be noncompliant with developing and conducting the required flight and cabin crew member security training, TSA has a range of actions it can take, including imposing fines, and in extreme circumstances, force the air carrier to shut down its operations.

The Bureau of Transportation Statistics reported that 105 domestic passenger air carriers were operating in the United States in 2004. Of the

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<sup>7</sup>ATSA created TSA as an agency within the Department of Transportation (DOT). The Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135, signed into law on November 25, 2002, transferred TSA from the DOT to the new Department of Homeland Security. FAA continued to be responsible for overseeing flight and cabin crew members' security training until TSA assumed that responsibility pursuant to ATSA. On or about February 17, 2002, TSA assumed responsibility for flight and cabin crew members' security training. Initially, however, TSA was neither staffed nor organized to meet that responsibility on that date. Accordingly, while TSA "ramped up" its operations FAA's Office of Aviation Security, while being largely absorbed into TSA, continued to assist TSA in its new roles as regulator and overseer.

<sup>8</sup>The flight and cabin crew security training implemented by air carriers pursuant to their security programs, the corresponding guidance and standards, and the related oversight discussed in this report are the responsibility of TSA, and not of FAA, which is responsible for approved training programs required under 14 C.F.R. part 121.

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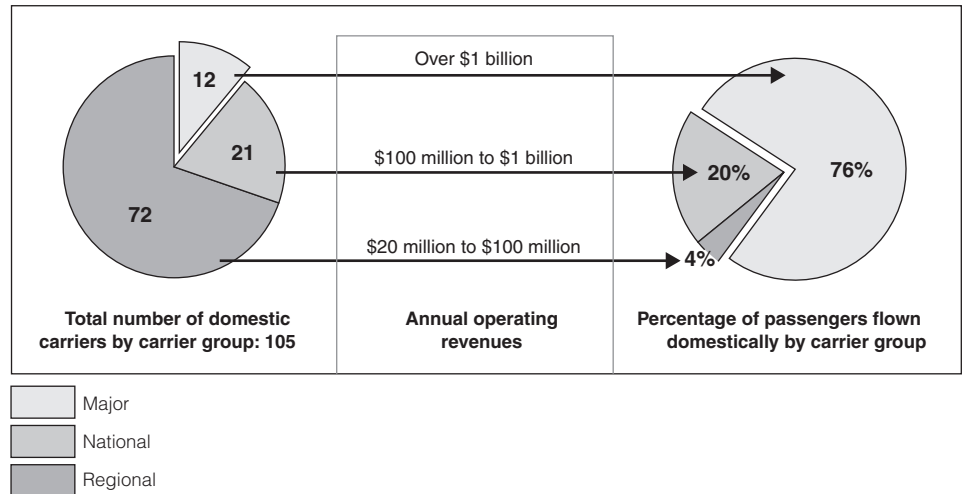
105 air carriers, 12 (11 percent) are major air carriers that carried over 76 percent of the passengers in 2004. With a few exceptions for small aircraft, every commercial flight in the United States has at least two flight crew members and one cabin crew member onboard. These crew members are viewed as the last line of defense in what TSA describes as its layered security system, which includes perimeter security (e.g., airport security fencing), 100 percent passenger and checked baggage screening, hardened flight deck doors, armed federal air marshals, and armed pilots.<sup>9</sup> Figure 1 provides the number of domestic air carriers by carrier group (major, national, and regional) and the percentage of passengers flown domestically by carrier group during fiscal year 2004.<sup>10</sup>

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<sup>9</sup>Pilots (commercial, charter, and all cargo aircraft) who volunteer to participate in the Federal Flight Deck Officers Program are trained and armed to protect the aircraft cockpit. The pilots are deputized as federal flight deck officers.

<sup>10</sup>The Bureau of Transportation Statistics defines major carriers as those with over \$1 billion in annual operating revenues, national carriers as those with \$100 million to \$1 billion in annual operating revenues, and regional (large and medium air carriers) as those with up to \$100 million in annual operating revenues.

**Figure 1: Number of Domestic Air Carriers by Carrier Group and Percentage of Passengers Flown Domestically by Carrier Group**



Source: GAO analysis of Bureau of Transportation Statistics data.

Federal guidance for air carriers to use to develop their flight and cabin crew security training programs has been in place for over 20 years. FAA developed the crew member security training guidance, referred to as Common Strategy I, in the early 1980's in response to numerous hijacking incidents in the late 1970's. Common Strategy I generally instructed air carriers to develop training programs that called for flight and cabin crew members to cooperate with threatening passengers or hijackers and slow compliance with their demands. Based on this guidance, FAA also developed corresponding security training standards that set forth the requirements for flight and cabin crew member security training. Air carriers were required to incorporate the guidance and standards into their security training programs. FAA principal security inspectors and principal operations inspectors were responsible for monitoring air carriers' compliance with the security training standards. The nature of the terrorist attacks on September 11, 2001, however, demonstrated that the philosophy of Common Strategy I—to cooperate with hijackers—was flawed as it presumed that hijackers would not use aircraft as weapons of mass destruction.

Following the events of September 11, 2001, section 107 of ATSA required FAA, in consultation with TSA and other stakeholders, to develop detailed guidance for flight and cabin crew security training programs within 60 days after the enactment of the act. FAA developed and issued security

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training guidance, in accordance with the requirements of ATSA, on January 19, 2002. In February 2002, TSA assumed responsibility for monitoring air carriers' security training for United States passenger air carriers and the air carrier security inspections function was transferred from FAA to TSA.<sup>11</sup>

Following the enactment of ATSA, the President signed into law two acts that amended the flight and cabin crew training requirements codified at title 49 of the U.S. Code, section 44918—the Homeland Security Act of 2002 and Vision 100. The Homeland Security Act, enacted on November 25, 2002, amended the law by, among other things, mandating that, if TSA updated training guidance, it must issue a rule to include elements of self-defense in the training programs.<sup>12</sup> Vision 100, subsequently enacted on December 12, 2003, amended the flight and cabin crew security training law in its entirety to require that

- air carriers providing scheduled passenger air transportation carry out a training program that addresses the 10 elements listed in table 1;
- TSA approve the air carrier's training programs;
- TSA, in consultation with FAA, monitor air carrier training programs and periodically review an air carrier's training program to ensure the program is adequately preparing crew members for potential threat conditions;
- TSA, in consultation with FAA, order air carriers to modify training programs to reflect new or different security threats; and
- TSA develop and provide an advanced voluntary self-defense training program to provide both classroom and effective hands-on training in, at least, the six training elements listed in table 2.

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<sup>11</sup>TSA currently oversees about 84 air carriers. Bureau of Transportation Statistics data show that there were 105 commercial passenger air carriers in fiscal year 2004. TSA officials stated that this difference of 21 air carriers may be due to air carriers merging or going out of business.

<sup>12</sup>TSA, however, took no action pursuant to § 1403 of the Homeland Security Act. TSA maintained the standards prescribed by ATSA until the passage of Vision 100, which prompted TSA to revise crew member security training guidance and standards.



Table 1 lists the minimum training elements required by law, as enacted by ATSA and as amended by Vision 100, for basic crew member security training.

**Table 1: List of Basic Crew Member Security Training Elements Required By Law**

<b>Legislative requirements for crew member security training</b>	<b>ATSA</b>	<b>Vision 100</b>
Determination of the seriousness of any occurrence	•	•
Crew communication and coordination	•	•
Appropriate responses to defend oneself	•	•
Use of protective devices assigned to crew members	•	•
Psychology of terrorists to cope with hijacker behavior and passenger responses	•	•
(Live) situational training exercises regarding various threat conditions	•	•
Flight deck procedures or aircraft maneuvers to defend the aircraft	•	•
Recognizing suspicious activities		•
The proper commands to give passengers and attackers		•
The proper conduct of a cabin search, including explosive device recognition		•

Source: ATSA and Vision 100.

Table 2 lists the training elements that TSA must include in an advanced voluntary self-defense training program for flight and cabin crew members under the law, as amended by Vision 100.

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**Table 2: List of Advanced Voluntary Crew Member Self-Defense Training Elements Required By Law**

**Legislative requirements for crew member security training**

Deterring a passenger who might present a threat

Advanced control, striking, and restraint techniques

Training to defend oneself against edged or contact weapons

Methods to subdue and restrain an attacker

Use of available items aboard the aircraft for self-defense

Appropriate and effective responses to defend oneself including the use of force against an attacker

Source: Vision 100.

Over the years, our work on best practices in training has found that generally high-performing organizations follow certain key steps in developing and measuring the effectiveness of training programs.<sup>13</sup> These steps include

- **planning**—developing a strategic approach that establishes priorities and leverages investments in training to achieve agency results and identify the competencies—commonly referred to as knowledge, skills, abilities, and behaviors—needed to achieve organizational missions and goals, and measure the extent to which their employees possess these competencies;
- **design and development**—identifying specific initiatives that the agency will use, along with other strategies, to include individual and organizational performance;
- **implementation**—ensuring effective and efficient delivery of training opportunities in an environment that supports learning and change; and
- **evaluation**—assessing the extent to which training efforts contribute to improved performance and results.

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<sup>13</sup>[GAO-04-546G](#) and GAO, *Human Capital: Selected Agencies' Experiences and Lessons Learned in Designing Training and Development Program*, [GAO-04-291](#) (Washington, D.C.: January 30, 2004).

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## TSA Has Enhanced Guidance and Standards for Flight and Cabin Crew Security Training with Input from Stakeholders, but Better Planning Is Needed

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### TSA Enhanced Flight and Cabin Crew Member Security Training Guidance and Standards with Input from Stakeholders, but Stakeholders Continue to Have Concerns

Building on the legislatively mandated guidance developed by FAA and the corresponding standards, TSA enhanced crew member security training guidance and standards with input from stakeholders in accordance with the law, as amended by Vision 100. TSA policy and training officials stated that they revised the guidance and standards for two main reasons. First, the law required that air carriers include additional training elements in their basic crew member security training programs to prepare flight and cabin crew members for potential threat conditions.<sup>14</sup> Second, TSA determined that the guidance and standards needed to be better organized and to more clearly define security training elements, in part due to feedback from air carriers, flight and cabin crew member labor organizations, and associations representing air carriers.<sup>15</sup> For example, stakeholders we interviewed and our own review found that the organization of the previous security training standards was difficult to follow in that several requirements were addressed in multiple sections of the document rather than focused in a single section. During the summer of 2003 and May 2004, TSA established two internal working groups comprised of representatives of its policy, training, regulatory, and/or legal

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<sup>14</sup>The additional elements that Vision 100 required air carriers to include in their basic crew member security training programs are (1) proper commands to give passenger and attackers, (2) recognizing suspicious activities, and (3) proper conduct of a cabin search, including explosive device recognition.

<sup>15</sup>TSA convened a 2-day working session in the summer of 2003 with representatives from all the associations on a number of topics related to flight and cabin crew security training. Information collected during these sessions, and ultimately the legislative elements set forth in Vision 100, triggered TSA to revise the common strategy and the standards.

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offices. One working group was responsible for revising the security training guidance, and the other working group was responsible for revising the corresponding security training standards—the standards from which air carriers must train their flight and cabin crew members. TSA officials stated that these working groups determined the reasonableness and appropriateness of the security training elements contained in the existing guidance and standards in place at that time and what additional training elements were needed.

During the development of the revised guidance and standards, TSA provided external stakeholders<sup>16</sup> with two opportunities to provide comments. In July 2004, the first comment period, TSA convened a meeting of external stakeholders to present an overview of the draft revised guidance and standards and to provide copies of the documents for their review and comment. TSA initially requested that stakeholders provide comments on the draft revised guidance and standards within 2 weeks. However, in response to stakeholder concerns about the short comment period, TSA extended the comment period for an additional 2 weeks. After consolidating all stakeholder comments, TSA's internal working group reviewed the comments to determine which to incorporate in the guidance and standards. In August 2004, the second comment period, TSA convened additional meetings with external stakeholders—one meeting with air carrier associations and another with crew member labor organizations—to review each of the stakeholders' comments and to discuss changes made to the revised guidance and standards in response to these comments.<sup>17</sup> In September 2004, TSA provided the stakeholders with a 30-day comment period on the revised guidance and standards. After receiving comments and determining which of the suggested changes to include in the revised guidance and standards, TSA issued the finalized guidance and standards to air carriers on January 3, 2005.

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<sup>16</sup>These external stakeholders included representatives of air carriers, associations representing air carriers (Air Transport Association and Regional Airline Association), crew member labor organizations (Association of Flight Attendants and Air Line Pilots Association), and federal agencies, such as the Federal Aviation Administration, Federal Air Marshal Service, the Federal Bureau of Investigation, and the Department of Defense North American Aerospace Defense Command. According to a Federal Air Marshal Service official, Federal Air Marshal Service officials attended meetings at TSA related to the flight and cabin crew security training to ensure that the TSA training was not in conflict with the Federal Air Marshal Service operations.

<sup>17</sup>TSA officials stated that in the past crew member labor organizations had not been provided the opportunity to review and provide comments on the security training standards.

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Stakeholders we interviewed and our own analysis of revisions made to the guidance and standards generally found the revised guidance and standards to be better organized and to provide some additional clarity on security training requirements for crew members. For example, we found that the previous standards only implicitly addressed the requirement for training on the psychology of terrorists and addressed it in multiple sections in the document. In contrast, the revised standards organized information on this requirement in a single section and clearly identified the requirement as “psychology of terrorists.” Additionally, the previous guidance did not define what constitutes life-threatening behavior, whereas the revised guidance provides both a definition of this behavior and examples.

Although TSA made these enhancements, stakeholders we interviewed and stakeholders identified by TSA provided concerns about the reasonableness of applying parts of the guidance and standards to both flight and cabin crew members, the difficulty in implementing some of the standards without additional information or training tools from TSA, and the vagueness of some of the guidance and standards. Our interviews with officials from 19 air carriers and 8 representatives from aviation associations and crew member labor organizations, after the revised guidance and standards were finalized in January 2005, also identified similar concerns. Regarding the applicability of the standards to flight and cabin crew members, officials from 9 of the 19 air carriers that we interviewed stated that some of the training standards remained generalized to both pilots and flight attendants, rather than targeted to their specific job functions in responding to a security threat. For example, TSA requires both pilots and flight attendants to have annual hands-on training on how to use restraining devices. However, 2 of the 19 air carriers we interviewed stated that training pilots annually on how to use restraining devices is not necessary because pilots are trained to stay inside the flight deck at all times, even when an incident occurs in the aircraft cabin. TSA officials stated that all crew members need annual hands-on training on how to use restraining devices because off-duty flight crew members frequently fly, and if an incident occurs in the aircraft cabin, they will know how to use the devices. One crew member labor organization agreed with TSA’s position, stating that incidents could occur in which pilots may need to apply the restraints. Additionally, the crew member labor organization official stated since pilots in command are the security coordinators on flights, they must be familiar with the strategies, tactics, and techniques that flight attendants may use in defense of themselves, the passengers, and the aircraft.

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Additionally, some stakeholders expressed concerns about the difficulty in implementing some of the standards without additional information or training tools from TSA. For example, officials from 12 of the 19 air carriers we interviewed stated that TSA had not provided sufficient training materials or tools to enable them to deliver certain elements of the security training. These air carriers stated that although they requested the additional information or tools, TSA responded that air carriers were responsible for identifying and providing the required tools needed to deliver the security training. A labor union organization official stated that relying on training organizations and air carriers to develop the training materials “perpetuates the disparate quality and breadth of training available throughout the industry, which does little to assure a common strategy approach to securing United States skies.” Additionally, officials from 4 of the 19 air carriers we interviewed expressed concerns that TSA did not take into consideration that some air carriers do not have the expertise and personnel to conduct the annual basic self-defense training. TSA responded that basic self-defense training is legislatively required and the Federal Air Marshal Service, FBI, and other agencies are willing to work with the air carriers on their overall flight and cabin crew security training. TSA officials further stated that the air carriers should have an established line of communication with these agencies, but if the air carriers are seeking a point of contact, TSA would provide agency contact information. According to a Federal Air Marshal Service official, a Federal Air Marshal Service liaison meets periodically with the air carriers and aviation industry associations representing the air carriers and crew members to discuss overall communications including flight and cabin crew training issues.

Furthermore, 9 of 27 stakeholders (air carriers, associations representing air carriers, and crew member labor organizations) we interviewed were concerned about the lack of definition, guidance, and clarity for parts of the revised security training guidance and standards. For example, the crew member security training standards require that crew members demonstrate proficiency in various security training elements, such as the use of protective and restraining devices and proper conduct of a cabin search. However, the standards do not define proficiency. Officials from a crew member labor organization stated that without clear, measurable training objectives for individual air carrier training departments to determine crew member proficiency and training objectives, the likelihood that training quality and content will vary from air carrier to air carrier increases. TSA training officials stated that air carriers, in conjunction with their training departments, are required to develop a method for determining crew member proficiency in the required training elements.

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TSA officials stated that the air carriers developed the training program, not TSA, and are therefore in the best position to define proficiency. TSA officials stated that their training staff's review of the training materials include verifying that there are opportunities built into the training for flight and cabin crew members to demonstrate proficiency in the required elements. TSA officials further stated that air carriers should have the latitude to tailor their desired level of proficiency for the various standards to their individual operations. We found, however, that without standards for proficiency, which commonly serve as criteria for success in training programs, TSA will only be able to document training activity, and not the results of the training, i.e., whether the intended knowledge was in fact transferred to the training participants at a level acceptable to TSA.

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### TSA Has Not Established Strategic Goals or Performance Measures for Crew Member Security Training

TSA has not established strategic goals or performance measures for flight and cabin crew member security training, nor required air carriers to do so. GPRA requires that agencies use outcome-oriented goals and measures that assess results, effects, or impacts of a program or activity compared to its intended purpose. GPRA also requires federal agencies to consult with key stakeholders—those with a direct interest in the success of the program—in developing goals and measures. Strategic goals explain the results that are expected from a program and when to expect those results. These goals should be expressed in a manner that could be used to gauge success in the future. Performance measures (indicators used to gauge performance) are meant to cover key facets of performance and help decision makers assess program accomplishments and improve program performance. With respect to flight and cabin crew security training, strategic goals would represent the key outcomes that TSA expects air carriers to achieve in providing flight and cabin crew member security training, and performance measures would gauge to what extent air carriers are achieving these outcomes.

TSA training officials stated that they decided not to develop strategic goals or performance measures because they view their role in the crew member security training program as purely regulatory—that is, monitoring air carriers' compliance with the training guidance and standards established by TSA. In this regard, TSA is the regulatory agency responsible for determining whether the security training program is adequately preparing flight and cabin crew members for potential threat conditions. TSA training officials also stated that due to the varying nature of the air carriers' training programs, TSA believes that it is the individual air carriers that are responsible for establishing goals and performance measures specific to their security training programs and for using the

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results to make program improvements.<sup>18</sup> However, without overall strategic goals established by TSA in collaboration with air carriers, air carriers do not have a framework from which to develop their individual performance goals and measures. Furthermore, TSA has not explicitly required air carriers to develop performance goals and measures or provided them with guidance and standards for doing so. Without guidance and standards, the 84 individual air carriers may establish inconsistent performance goals and measures. Additionally, the absence of performance goals and measures for flight and cabin crew security training limits the ability of TSA and air carriers to fully assess the accomplishments of the flight and cabin crew member security training and to target program improvements.

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## Recent Progress Made to Strengthen Oversight of Flight and Cabin Crew Member Security Training Program, but Weaknesses Remain

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### TSA Has Recently Taken Steps to Strengthen Oversight Efforts of Air Carriers Security Training

TSA has recently taken steps to improve its oversight of air carriers' crew member security training. One step includes adding staff with training expertise to review air carriers' crew member security training curriculums to determine whether there is evidence that each applicable training standard is being met. When we began our review, TSA's review of air carriers' crew member security training programs was solely the

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<sup>18</sup>In 2004, the House Appropriations Committee, in its report accompanying H.R. 4567—the fiscal year 2005 DHS appropriations bill—directed that TSA expeditiously promulgate basic, performance-based training requirements for flight attendant security training. In May 2005, the House Appropriations Committee's report accompanying H.R. 2360—the fiscal year 2006 DHS appropriations bill—expressed concern with TSA's lack of progress in developing minimum regulatory standards for basic, industrywide flight attendant security training programs and stated that it expects TSA to report on the status of these performance-based training requirements no later than July 16, 2006.



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responsibility of the principal security inspectors.<sup>19</sup> These TSA inspectors were responsible for conducting a regulatory review to determine whether air carriers' crew member security training curriculums met the requirements set forth in the standards. Beginning in January 2005, TSA began using training staff with expertise in designing training programs to review the overall design of the air carriers' crew member security training curriculum, how the information is to be conveyed, the expected setting of the practice environment, and the way in which the information is to be presented—and to ensure that the security training curriculum satisfies the required security training standards. TSA inspectors are responsible for identifying which standards apply to each of the air carriers, based on their knowledge of the air carrier's flight operations, size of aircraft, and presence or absence of international routes. TSA officials stated that between January 2005, when the revised guidance and standards were issued, and August 2, 2005, the training staff were involved in the review of the 71 security training curriculums that had been submitted to TSA.<sup>20</sup>

In January 2005, TSA took another step to strengthen its review of air carriers' flight and cabin crew member security training by developing a standard form for TSA inspectors and training staff to use to conduct and document their reviews of air carriers' security training curriculums. Also, TSA developed an internal memorandum, dated January 5, 2005, that generally describes the review process TSA inspectors and training staff are to use when reviewing air carriers' crew member security training curriculums. The standard form, which lists the required training elements, is used by TSA inspectors to document the requirements stated in the revised security training standards that apply to a particular air carrier, and by the training staff to verify that air carrier's initial and recurrent training plans include the applicable requirements and to document their comments.<sup>21</sup> Prior to the development of this form, there were no documented procedures for how the inspections were to be conducted or a standard form for TSA inspectors to use to document their reviews of air

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<sup>19</sup>For this report, we refer to TSA principal security inspectors as TSA inspectors.

<sup>20</sup>As of August 2, 2005, TSA officials stated that TSA received 73 air carriers' security training curriculums. Of the 73, 71 curriculums were reviewed by the training staff and 63 were approved by the TSA inspectors. Ten security training curriculums remain with the TSA inspectors for modifications.

<sup>21</sup>According to TSA officials, not all of the requirements apply to all air carriers. For example, if an air carrier is not hiring new crew members, the requirements for initial security training would not apply to that air carrier.

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carriers' crew member security training curriculums. Additionally, TSA lacked complete documentation of its reviews of air carriers' security training. Specifically, although TSA officials stated that TSA inspectors reviewed all 84 air carriers' revised security training curriculums in response to January 2002 guidance and the corresponding standards, TSA was only able to provide us documentation related to 11 reviews.<sup>22</sup> The Comptroller General's *Standards for Internal Control in the Federal Government* states that agencies should document all transactions and other significant events and should be able to make this documentation readily available for examination. With the development of a standard form for reviewing air carriers' security training curriculums in January 2005, TSA was able to provide us with documentation for all 18 of the reviews of air carriers' security training curriculums that TSA inspectors and training staff had conducted between January 2005 and April 20, 2005.<sup>23</sup>

Additionally, in January 2005, TSA began requiring air carriers to obtain participant feedback at the end of crew member security training.<sup>24</sup> According to our human capital work,<sup>25</sup> participant feedback can be useful in providing the agency with varied perspectives on the effect of the training. However, TSA training officials stated that they are not certain how, if at all, they will use the participant feedback in conducting oversight of air carriers' crew member security training programs. TSA officials stated that it is the responsibility of the individual air carriers to assess the results of participant feedback and to make changes to improve the security training as necessary. In May 2005, TSA training officials acknowledged that it would be useful for its inspectors to review participant feedback on an annual basis to assess flight and cabin crew members' views of their air carriers' security training programs and to

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<sup>22</sup>Officials from 15 of the 19 air carriers we interviewed reported that their training curriculums developed in response to the January 2002 standards were reviewed and approved by TSA.

<sup>23</sup>TSA officials stated that they had received 18 of the 84 air carriers' security training curriculums as of April 20, 2005.

<sup>24</sup>TSA provided air carriers with a sample form they could use to develop their end of the course participant evaluation. The sample form solicited feedback in a number of areas, such as the appropriateness of the security training course material and design, the instructor's knowledge of the content of the course material, whether training exercises simulate tasks needed to perform the job, and the relevancy of the training to improve knowledge or skills to accomplish crew members' job functions.

<sup>25</sup>[GAO-04-546G](#).

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identify trends within and across air carriers. The official acknowledged that these results could provide TSA inspectors information they could use to prioritize their reviews of air carriers' crew member security training. However, the official stated that reviewing the participant feedback is a resource intensive process that also requires a certain level of expertise and is not feasible for TSA to undertake at this time. Without plans for reviewing participant feedback, TSA is not making use of available information on possible deficiencies in the quality of air carriers' security training programs or identifying best practices that could be shared.

Furthermore, TSA is taking steps to address a staffing shortage among its TSA inspector workforce to enable greater monitoring of air carriers' flight and cabin crew member security training. Specifically, on April 1, 2005, TSA reorganized its inspection staff into a newly created Office of Compliance.<sup>26</sup> TSA officials stated that this reorganization should help address the staffing shortfalls that previously existed. TSA also issued position announcements in an effort to fill vacant inspector positions. TSA officials stated that they had about 23 TSA inspectors onboard when the inspection function transferred from FAA to TSA in February 2002. As of February 2005, TSA had 15 inspectors onboard, 5 of whom were in the position for less than 5 months. Between January 2004 and September 2004, the TSA inspector workforce ranged from about 7 to 14 inspectors. TSA officials stated that a number of these staff subsequently left TSA because of advancement opportunities within the Department of Homeland Security and personal reasons. As part of TSA's monitoring efforts, TSA inspectors periodically visit air carriers to observe classroom delivery of flight and cabin crew member security training and to review air carrier records documenting flight and cabin crew member completion of required security training. TSA officials stated that with the existing inspector workforce, they were only able to conduct observations of about 25 of air carriers' classroom delivery of flight and cabin crew member security training during fiscal year 2004.<sup>27</sup> Although TSA is not required to observe the classroom delivery of all air carriers' flight and cabin crew member security training on an annual basis, TSA officials stated that

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<sup>26</sup>TSA inspectors were previously located in the Aviation Regulatory Inspections Division, which has been merged into the newly established Office of Compliance.

<sup>27</sup>TSA officials also stated that overseeing air carriers' crew member security training is a small function relative to other TSA inspector responsibilities. For example, TSA inspectors spend much of their time responding to air carriers' security incidents such as air carriers' failure to conduct required cabin searches or security situations involving hostile passengers.

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these observations allow them to determine whether security training is being delivered consistent with air carriers' approved security training curriculums and to identify potential problems with the training delivery.

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### TSA Has Not Fully Developed Procedures for Monitoring Air Carriers' Crew Member Security Training

While TSA has taken steps to strengthen its oversight of air carriers' crew member security training, TSA has not fully developed procedures for monitoring this training. TSA is required by law to monitor and periodically review air carriers' security training to ensure that the training is adequately preparing crew members for potential threat conditions. The Comptroller General's *Standards for Internal Control in the Federal Government* calls for controls generally to be designed to assure that ongoing monitoring occurs during the course of normal operations and that transactions and other significant events be documented clearly and the documentation be readily available for examination.<sup>28</sup> We identified weaknesses in TSA's controls in these areas with regard to monitoring and reviewing air carriers' flight and cabin crew security training.

First, although TSA recently developed a standard form for its inspectors and training staff to use in reviewing air carriers' flight and cabin crew member security training, TSA has not developed procedures for completing this form. TSA officials acknowledged that there are no documented procedures or criteria for staff to use to complete the standard form or for determining which standards apply to individual air carriers and whether or not to approve an air carrier's security training curriculum.<sup>29</sup> The lack of written procedures may result in inconsistent assessments of the air carriers' security training curriculums and inconsistent application of the standards to air carriers. Formal procedures for reviewing air carriers' flight and cabin crew security training could provide standardization when TSA inspectors and training staff assess the air carriers' security training curriculum.

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<sup>28</sup>GAO/AIMD-00-21.3.1.

<sup>29</sup>TSA's inspectors generally determine which standards apply to a particular air carrier. If air carriers are not hiring new crew members, then they will not submit an initial security training curriculum but only submit the recurrent security training curriculum to TSA for review and approval. The training staff review the air carriers' security training curriculum to ensure that the curriculum satisfies the security training standards. According to air carrier officials, initial security training is provided to newly hired flight and cabin crew members as well as crew members returning from leave of absence of more than 3 years. Recurrent security training is annual training provided to all flight and cabin crew members.

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Second, TSA does not have documented procedures for conducting and documenting observations of air carriers' classroom delivery of flight and cabin crew member security training. During fiscal year 2004, according to TSA officials, TSA inspectors visited about 25 air carriers to observe crew member security training and review files, such as records documenting crew members' completion of required security training.<sup>30</sup> TSA officials stated that they did not have sufficient resources to visit all 84 air carriers to observe their security training. We requested records documenting TSA inspectors' visits to air carriers to assess the completeness and consistency of these reviews. However, TSA officials stated that they were unable to provide us with the requested documentation. Without written procedures to guide TSA inspectors in observing security training and assessing the results of their observations, its inspectors may not conduct comprehensive and consistent reviews. Additionally, without a mechanism for documenting and maintaining TSA inspectors' reviews of air carriers' security training delivery in a standard format, TSA lacks the ability to track the results of these reviews and identify patterns, including strengths and weaknesses, in training delivery within and across air carriers. In June 2005, a TSA official stated that TSA inspectors will monitor at least one flight and cabin crew member training class per year to ensure the curriculum is being followed. TSA inspectors are to provide the results of the monitoring to the principal operations inspector via memo or email. TSA officials stated that inspections of monitoring crew member security training will be maintained in a database, but TSA has not established a time frame for completing this database or documented procedures for this process.

Additionally, although the law requires TSA to consider complaints from crew members in determining when to review air carriers' flight and cabin crew member security training programs, TSA does not have procedures for considering such complaints. TSA inspection officials stated that they were not aware of any instances in which crew members had complained to TSA about security. However, in the event that TSA does receive complaints from crew members in the future, it is important that TSA have

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<sup>30</sup>TSA relies on air carriers to track flight and cabin crew members' completion of required security training. TSA officials stated that when conducting site visits to observe air carriers' crew member security training, they may, but are not required to, review air carriers' records of crew member training completion, although not required to do so by law. However, officials stated that air carriers are accountable for their crew members' completion of required security training. All 19 air carriers we interviewed stated that they maintain information on their flight and cabin crew members' security training completion using either training records and/or a database to track the information electronically.

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established and documented procedures to inform its inspectors of how to consider the complaints in reviewing air carriers' security training programs. TSA officials stated that complaints from flight and cabin crew members will be directed to their Office of Transportation Security Policy for review and all decisions regarding flight and cabin crew member security training program modifications or policy changes will be evaluated and disseminated by this office. The officials also stated that if the complaints involve the training delivery process, the TSA inspectors may be required to increase the frequency of on-site inspections based upon an evaluation of the seriousness of the complaints that are received.

TSA officials stated that they plan to develop a handbook for its inspectors and guidance for its training staff to use in monitoring and reviewing air carriers' flight and cabin crew member security training to help provide assurance that standardized monitoring occurs. However, TSA has not established a time frame for completing these efforts.

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## TSA Developed and Implemented Crew Member Self-Defense Training, but Has Not Established Performance Measures or Evaluated Training Effectiveness

In December 2004, as required by law, TSA implemented an advanced voluntary crew member self-defense training program for flight and cabin crew members after obtaining stakeholder input.<sup>31</sup> Participation in the voluntary training course has been relatively low, with only 474 flight and cabin crew members (39 percent of total capacity) attending the training during the first 7 months of the program. TSA training officials attributed the low participation to crew members having a difficult time in obtaining 3 consecutive days of leave to enable them to participate in the training. Additionally, although TSA incorporated some stakeholder concerns into the course design, some stakeholders, including individuals identified as experts by TSA and our own analysis identified concerns regarding the training design and delivery, including the training's voluntary nature, the setting's lack of realism, the training's lack of recurrence, and the instructor's lack of knowledge of crew members' actual work environment. TSA has not developed performance measures for the program or established a time frame for evaluating the program's overall effectiveness, including the effectiveness of the training design and delivery.

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<sup>31</sup>TSA refers to this program as Crew Member Self-Defense Training. As with the TSA's basic flight and cabin crew security training program, this advanced voluntary self-defense training program and its related oversight is not the responsibility of FAA.

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## TSA Developed and Implemented Advanced Voluntary Self-Defense Training in Consultation with Stakeholders, but Participation in Training Remains Low

TSA developed and implemented an advanced voluntary self-defense training program for flight and cabin crew members in consultation with key stakeholders by December 12, 2004, as required by law. TSA consulted with law enforcement personnel, security experts with expertise in self-defense training, representatives of air carriers, flight attendants, labor organizations representing flight attendants, terrorism experts, Federal Air Marshal Service officials, and educational institutions offering law enforcement training programs, in developing the self-defense training program and determining how to apply the training elements specified by law.<sup>32</sup> According to TSA officials, in 2002, in anticipation of having to develop a mandatory self-defense training program as required by the Homeland Security Act,<sup>33</sup> TSA established a working group comprised of law enforcement experts, Federal Air Marshals,<sup>34</sup> and other subject matter experts, such as aviation security experts and self-defense/martial arts training experts, to assess what elements should be included in the training. This working group collaborated on the overall program design and delivery, including the program goals and objectives and the course content and delivery method. The working group's efforts were placed on hold in 2003 when TSA was advised that legislation would be enacted to make the training a voluntary program to be provided by TSA, rather than a mandatory training program to be delivered by individual air carriers. After the enactment of Vision 100 in December 2003, TSA continued its efforts to develop an advanced voluntary self-defense training program until the program's official implementation in December 2004, building on the input of the initial working group. The overall goal of the advanced voluntary crew member self-defense training, as defined by TSA, is to enable crew members to develop a higher level of competency in self-defense tactics to prevent or reduce the possibility of injury or death to

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<sup>32</sup>Section 44918, as amended by Vision 100, required TSA to address several training elements in the advanced voluntary crew member self-defense training, including (1) deterring a passenger who might present a threat; (2) advanced control, striking, and restraint techniques; (3) training to defend oneself against edged or contact weapons; (4) methods to subdue and restrain an attacker; (5) use of available items aboard the aircraft for self-defense; and (6) appropriate and effective responses to defend oneself including the use of force against an attacker.

<sup>33</sup>The amendments to § 44918 made by Vision 100 superseded those of the Homeland Security Act, which required TSA, in updating its training guidance, to issue a rule mandating the inclusion of self-defense elements into the training program delivered by air carriers.

<sup>34</sup>According to Federal Air Marshal Service officials, Federal Air Marshal Service officials attended meetings at TSA related to the crew member self-defense training to ensure that the TSA training was not in conflict with the Federal Air Marshal Service procedures.

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one's person or the takeover of an aircraft. TSA also established several objectives for the training, including

- recognize potential threats before an act of violence occurs;
- interpret behaviors that lead to potential hostile acts;
- conclude appropriate courses of action crew members must take to avert hostile actions intended to injure crew members or passengers or to take over an aircraft; and
- apply appropriate individual self-protection measures and self-defense tactics to prevent or reduce the possibility of injury or death to one's person or the takeover of an aircraft.

Prior to implementing the voluntary training in December 2004, TSA piloted the prototype advanced voluntary self-defense training in August and September 2004 in five cities with major airline hubs and refined the training based on comments from participants.<sup>35</sup> The participants provided positive feedback in four areas, including (1) the repetitive moves taught throughout the course made the self-defense tactics easy to learn; (2) the training prepared them mentally and physically to defend themselves and provided a good foundation in self-defense; (3) the small class size and instructor to student ratio of 1 to 8 was conducive to a productive learning environment;<sup>36</sup> and (4) the location of the training facility and lodging was well received. TSA also received feedback on changes that could be made to enhance the training. Table 3 provides a summary of the stakeholders' concerns on TSA's prototype advanced voluntary self-defense training and actions taken by TSA in response to the concerns.

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<sup>35</sup>The prototype training was held in Alexandria, Virginia; Wilmington, California; Fort Worth, Texas; Miami, Florida; and Chicago, Illinois. Crew member self-defense training in Chicago was cancelled due to low participation. TSA used a training contractor to deliver the training and provide the training facilities.

<sup>36</sup>The classes are limited to 24 volunteer crew members per site to ensure an instructor to student ratio of 1 to 8.



**Table 3: Summary of Stakeholders' Concerns on TSA's Prototype Advanced Voluntary Self-Defense Training and Actions Taken by TSA in Response to the Concerns**

<b>Comments</b>	<b>Action taken by TSA in response to stakeholder concerns</b>
Training course was too long.	Decreased the number of training days from 4 to 3.
Too much lecture time.	Increased the amount of hands-on training from about 70 percent to 85 percent of the total course time.
Lack of aircraft cabin or cockpit to promote realistic training scenarios.	Encouraged instructors to attempt to simulate the aircraft cabin through creative means, such as creating an aisle using chairs and having participants perform the tactics within the confines of the chairs.
Some instructors were not knowledgeable in aviation terminology, and aircraft environment, or the airline industry.	Advised the contractor to consider hiring instructors with flight attendant and pilot experience.
Lack of communication in getting the notice out about the class scheduling.	Committed to providing more advance notice in announcing the official training.
Lack of information on recurrent training.	Although TSA has not ruled out recurrent training in the future, TSA is currently not planning to conduct such training because the law only requires TSA to provide the advanced voluntary crew member self-defense training. Under the basic flight and cabin crew member security training program, air carriers are to provide instructions on basic defensive techniques.
Crew members' exposure to potential liability if a crew member hurts someone when using techniques taught in the self-defense training to address an incident onboard an aircraft.	TSA advises crew members participating in the advanced voluntary crew member self-defense training program of the liability protection offered by 49 U.S.C. § 44903(k), which shields individuals, including crew members, from liability in the event they take action to defend themselves or others based upon a reasonable belief that an act of criminal violence or aircraft piracy was occurring or about to occur on board the aircraft.

Source: GAO analysis of interviews with stakeholders.

As of June 2005, a total of 474 crew members had participated in the training in 51 classes. During the initial deployment of the advanced voluntary crew member self-defense training in December 2004, participation was only about 14 percent of the total capacity being utilized, and about 38 percent of total enrolled participants actually attended the training course. Participation increased in January through March 2005, but declined in April through June 2005, with only 23 percent of total capacity utilized in June 2005. TSA plans to offer 46 additional advanced voluntary self-defense training courses during the remainder of fiscal year 2005 in 10 cities.<sup>37</sup> According to TSA officials, TSA estimated that

<sup>37</sup>The ten cities include Alexandria, Virginia; Miami, Florida; Chicago, Illinois; Fort Worth, Texas; Wilmington, California; Broomall, Pennsylvania; Decatur/Clarkston, Georgia; San Francisco, California; Aurora, Colorado; and Tempe, Arizona. TSA officials stated that they selected the cities in which to deliver the training based on whether there was a major airline hub within or nearby the city. Appendix II provides information on TSA actual and planned deployment of advanced voluntary crew member self-defense training from December 2004 through September 2005.

approximately 21,700 crew members will participate in the training, based on information obtained from air carrier associations and crew member labor organizations. Table 4 provides information on flight and cabin crew member participation in the advanced voluntary self-defense training from December 2004 through June 2005.<sup>38</sup>

**Table 4: Crew Member Participation in Advanced Voluntary Crew Member Self-Defense Training from December 2004 through June 2005**

Month	Number of classes in which training took place	Class capacity	Number enrolled	Percentage of capacity enrolled	Number attended	Percentage of enrolled attended	Percentage of total capacity attended
December 2004	4	96	34	35%	13	38%	14%
January 2005	8	192	115	60	75	65	39
February 2005	10	240	159	66	144	91	60
March 2005	10	240	135	56	123	91	51
April 2005	7	168	63	38	49	78	29
May 2005	8	192	61	32	48	79	25
June 2005	4	96	41	43	22	54	23
<b>Total</b>	<b>51</b>	<b>1224</b>	<b>608</b>	<b>50</b>	<b>474</b>	<b>78</b>	<b>39</b>

Source: GAO analysis of TSA data.

TSA officials stated that the low participation rate in December 2004 was largely due to the short advance notice they provided stakeholders regarding the training. TSA announced the availability of the December 2004 training courses 6 days before the training was to take place. This short notice significantly restricted the ability of flight and cabin crew members to participate in the training because they generally submit their scheduling bids 30 days prior to their work schedule.<sup>39</sup> TSA attributed the short notice provided to the length of time it took to reallocate funds from other TSA programs to enable implementation of the advanced voluntary

<sup>38</sup>Section 44918, as amended by Vision 100, requires that TSA develop and deliver an advanced voluntary crew member self-defense program to all flight and cabin crew members. TSA officials defined voluntary as not only allowing crew member to choose whether they want to attend the training, but also allowing them to observe and not participate in the hands-on portion of the training.

<sup>39</sup>Scheduling bids are tentative crew member flight schedules, leave, and vacation times.

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self-defense training program.<sup>40</sup> TSA provided crew members with more than 30 days notice for the remaining sessions. However, TSA training officials stated that participation continued to remain low in January 2005 due to crew members calling in sick, crew members being called for flight duty at the last moment, and inclement weather. TSA training officials stated that although they projected that crew member participation would increase over time, crew member participation decreased in June 2005 due to crew members having a difficult time obtaining 3 consecutive days of leave to attend training. TSA training officials also stated that based on their experience with the Federal Flight Deck Officer training program, crew members' ability to obtain leave for the purpose of attending training may be associated with seasonal variances, with low participation usually occurring during the spring and summer months. Stakeholders, including air carriers and crew member labor organizations, attributed the low participation to crew members having to attend the training on their own time and pay the cost of travel, lodging, and meals. TSA training officials stated that they were continuing to gather information from flight and cabin crew members through the training contractor in an effort to identify the causes for the low participation and, ultimately, to try to address these causes.

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### Stakeholders Identified Concerns about the Self-Defense Training Design and Delivery

Stakeholders, including individuals that TSA identified as subject matter experts, and our own analysis identified concerns with the design and delivery of the advanced voluntary crew member self-defense training.<sup>41</sup> These concerns include the training's voluntary nature, the setting's lack of realism, the training's lack of recurrence, and the instructor's lack of knowledge of crew members' actual work environment. These same concerns were identified by stakeholders in response to the prototype self-defense training. As previously stated, our prior human capital work has found that in implementing a training program, an agency should ensure

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<sup>40</sup>Congress has not appropriated funds for the advanced voluntary crew member self-defense training program. In fiscal year 2004, TSA reallocated \$500,000 from other training programs to support the development of advanced voluntary crew member self-defense training. In fiscal year 2005, TSA reallocated \$2 million from other programs to support the delivery of this training. The Senate Appropriations Committee Report, which accompanied H.R. 2360—the fiscal year 2006 DHS appropriations bill, as passed by the Senate—would provide \$3 million for voluntary flight crew training.

<sup>41</sup>We interviewed 33 stakeholders regarding TSA's advanced voluntary self-defense training program, including individuals TSA identified as subject matter experts and representatives of air carriers, air carrier associations, crew member labor organizations, and four federal agencies.

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that implementation involves effective and efficient delivery of training—that is, the training should be conducted in a setting that approximates the participants’ working conditions and taught by individuals who are knowledgeable about the subject matter and work environment.

In the case of the advanced voluntary self-defense training program, 13 of the 33 stakeholders expressed concerns about the voluntary nature of the training and stated that the training should be mandatory. Six of these 13 stakeholders stated that the program’s voluntary nature is inconsistent with TSA’s revised security training guidance that seeks to establish a common strategy that would enable individuals involved in an incident onboard an aircraft to know what others involved will be thinking and doing. These same stakeholders stated that because the training is not mandatory, if some crew members have had the self-defense training while others have not, a breakdown in communication could occur. TSA training officials stated that because the security training standards require all crew members to receive training on how to communicate and coordinate during a disturbance, they are not concerned about the voluntary nature of the self-defense training program.

Additionally, 14 of the 33 stakeholders expressed concerns about the lack of a realistic training setting during the delivery of advanced voluntary crew member self-defense training. The self-defense techniques are taught in an open-space setting, unlike the narrow aisles crew members have to work within on an actual aircraft. In the two training sessions we observed in two different cities, participants had to be constantly reminded by the instructors of the restricted training space because participants repeatedly made defensive moves, such as spins and wide kicks, which could not be performed inside an aircraft cabin. Our prior human capital work has found that for learning to be successful, the training environment—training facility and equipment—should be favorable to successful learning.<sup>42</sup> TSA officials stated they examined the possibility of purchasing aircraft simulators for the self-defense training and found that it would cost TSA about \$100,000 per simulator. Officials stated that they have advised the instructors to try to create a setting, using chairs, tape, or other means, to simulate the narrow aisles on an aircraft. We informed TSA that in the two training sessions we attended, instructors did not use these techniques. TSA officials stated that they would follow up with the instructors to ensure they use these techniques.

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<sup>42</sup>GAO-04-546G.

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Fifteen of the 33 stakeholders also expressed concerns about the lack of recurrent self-defense training given that self-defense skills are difficult to sustain if not consistently practiced over time. Stakeholders stated that a 3-day, one-time self-defense training course would not enable crew members to develop proficiency in self-defense. TSA officials responsible for developing the advanced voluntary training program stated that the self-defense training is not intended to make participants proficient in self-defense. Rather, the training is intended to enable crew members to develop a higher level of competency in self-defense tactics by extending their knowledge and skills in the use of self-defense techniques and improvised weapons.<sup>43</sup> TSA officials also stated that the key benefit of the training is a change in the mindset of participants that enables a greater awareness of threat conditions onboard an aircraft and in their daily lives. Additionally, they stated that it is the responsibility of the individual participants to practice the various self-defense techniques they were taught. Furthermore, they stated that although TSA is not currently offering a recurrent training program, it has not ruled out the possibility of recurrent training in the future. Eleven of the 33 stakeholders also expressed concerns that the self-defense training could give participants a false sense of security. For example, two stakeholders stated that the false sense of security lies in the participants who take the course once and expect to be skilled and proficient using the self-defense techniques without realizing that they may not be capable of following through when an incident occurs.

Finally, 6 of the 33 stakeholders, including subject matter experts and crew member labor organizations, identified concerns about the lack of knowledge instructors had about the crew members' actual working environment. While some stakeholders commended the instructors for their technical knowledge of crew members' actual work environment, others expressed concerns that some instructors lacked technical knowledge and expertise of the aviation industry. For example, a training participant we interviewed stated that the instructor did not understand how safety devices onboard an aircraft operate. The instructor suggested inflating an emergency raft while inflight to protect the flight deck. However, according to the training participant, inflating an emergency raft in flight could injure or kill passengers and crew members. Our prior human capital work found that the use of instructors who are

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<sup>43</sup>TSA defines improvised weapons as items commonly found aboard an aircraft, such as coffee pots, beverage carts, wine bottles, and fire extinguishers.

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knowledgeable of the subject matter and experienced in aviation industry issues can help provide assurance that instructors can effectively transfer these skills and knowledge to others. TSA officials stated that they advised the training contractor to hire instructors with law enforcement, martial arts/self-defense, and aviation backgrounds. Additionally, TSA provided the instructors with training on aviation terminology so instructors could better communicate with the students throughout the course.

TSA officials stated that they were aware of the stakeholder concerns regarding the self-defense training course. The officials stated that their ability to address these concerns is limited by funding constraints and competing priorities. TSA officials further stated that they will continue to work with the contractor that is delivering the training to obtain any information that would be beneficial to the design and implementation of the training program.

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### TSA Has Not Established Performance Measures or a Time Frame for Evaluating Training Effectiveness

TSA has not yet developed performance measures for the advanced voluntary crew member self-defense training program or established a time frame for evaluating the program's overall effectiveness. Our prior human capital work on best practices in training has found that generally, high-performing organizations evaluate the effectiveness of their training programs and use the results to target performance improvements.<sup>44</sup> In February 2005, TSA began conducting end-of-course evaluations—participant feedback—of the training and is planning to assess these evaluations to ensure the training is consistently achieving results over time. Additionally, TSA will use the results to modify the training, if appropriate. Although these evaluations should enable TSA to assess participants' views on the training facilities, materials, and instructors, they will not enable TSA to determine whether the training increased the participants' knowledge and skills. TSA officials stated that they recognize the importance of developing performance measures and evaluating the effectiveness of the program to ensure that it is consistently achieving the goals and target performance improvements. Although TSA plans to undertake these efforts, it has not established time frames for doing so. TSA officials stated that the numerous internal process improvements currently under way in TSA that compete for time and resources will affect how soon the agency can establish performance measures and conduct an evaluation of the training program. Without performance measures and an

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<sup>44</sup>[GAO-04-546G](#) and [GAO-04-291](#).

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evaluation of the program's overall effectiveness, TSA will not have meaningful information with which to determine whether the training program is actually enabling crew members to develop a higher level of competency in self-defense tactics—the intended goal of the training program.

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## Conclusions

It has been less than 4 years since TSA assumed responsibility for aviation security. During this period, TSA implemented numerous initiatives to strengthen the various layers of security in commercial aviation. These efforts have largely focused on passenger and checked-baggage screening—among the first lines of defense in preventing terrorist attacks on commercial aircraft. TSA has recently taken steps to ensure that flight and cabin crew members—the last line of defense—are prepared to handle potential threat conditions onboard commercial aircraft. The revised guidance and standards TSA developed for air carriers to follow in developing and delivering their flight and cabin crew member security training is a positive step forward in strengthening security onboard commercial aircraft. However, guidance and standards alone do not provide assurances that the training delivered by air carriers is achieving TSA's intended results. TSA views its role in flight and cabin crew member security training as regulatory, and that air carriers are responsible for measuring the success of their individual training programs. We agree that air carriers have responsibility for assessing the effectiveness of their training programs. However, we believe that overall responsibility for ensuring that flight and cabin crew members are prepared to respond to terrorist threats must be shared between the air carriers and TSA. In supporting this partnership, TSA should establish strategic goals for the flight and cabin crew security training program so that air carriers can develop their security programs, and measure the effectiveness of these programs, based on desired results, or goals, clearly defined by TSA. Without strategic goals to inform air carriers of what is expected from their training programs, and in the absence of guidance and standards to help ensure that air carriers establish consistent performance goals and measures, it will be difficult for TSA and the air carriers to gauge the success of training programs over time and to determine how to direct improvement efforts most effectively.

Additionally, while we are encouraged by the recent steps TSA has taken to improve its monitoring and review of air carriers' security training programs, without enhanced controls, such as written procedures for TSA staff to follow in conducting and documenting their reviews, TSA lacks reasonable assurance that its monitoring and review efforts will be

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conducted in a consistent and complete manner. Furthermore, a key source of information on the effectiveness of air carriers' security training is participant feedback on the training. TSA's recent requirement that air carriers obtain written feedback from flight and cabin crew members at the end of security training is a step in the right direction. However, without a process in place for considering this information during its oversight efforts, TSA is not effectively utilizing available information that could assist it in prioritizing and focusing its monitoring and review activities.

Through developing and implementing the advanced voluntary self-defense training program, TSA took another step forward in its efforts to prepare flight and cabin crew members to handle potential threat conditions onboard commercial aircraft. However, TSA has not yet established performance measures or a timeframe for evaluating the effectiveness of the training program, including the training design and delivery. Congress enacted the Government Performance and Results Act of 1993 to focus the federal government on achieving results and providing objective, results-oriented information to improve congressional decision making. Without performance measures or a method for evaluating the effectiveness of the training, TSA may not have information with which to systematically assess the program's strengths, weaknesses, and performance. Performance measures and an evaluation of the program's effectiveness can assist TSA in focusing its improvement efforts and provide Congress with information to assess the impact of an advanced voluntary self-defense training program.

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## Recommendations

To help provide TSA management with reasonable assurance that its security training guidance and standards for flight and cabin crew members are preparing crew members for potential threat conditions, and to enable TSA and air carriers to assess the accomplishments of the security training and target program improvements, we recommend that the Secretary of the Department of Homeland Security direct the Assistant Secretary, Transportation Security Administration, to take the following three actions:

- establish strategic goals for the flight and cabin crew member security training program, in collaboration with air carriers, and communicate these goals to air carriers to explain the results that are expected from the training;



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- develop guidance and standards for air carriers to use in establishing performance goals and measures for their individual flight and cabin crew member security training programs to help ensure consistency in the development of goals and measures; and
  - review air carriers' goals and measures as part of its monitoring efforts to help ensure that they are linked to strategic goals established by TSA and to assess whether the training programs are achieving their intended results.

To strengthen TSA's internal controls and help ensure that air carriers are complying with TSA's guidance and standards, we also recommend that the Assistant Secretary, Transportation Security Administration, establish a time frame for finalizing written procedures for monitoring and reviewing air carriers' flight and cabin crew security training. These procedures should address the process for completing flight and cabin crew member curriculum review forms, determining which standards apply to individual air carriers and whether or not to approve an air carrier's training curriculum, conducting and documenting observations of air carriers' classroom delivery of security training, reviewing air carriers' security training goals and measures, and considering security related complaints from flight and cabin crew members. As part of its efforts to develop written procedures, TSA should examine ways to incorporate participant feedback into its monitoring and review efforts.

In addition, to help ensure that the advanced voluntary crew member self-defense training is achieving its intended results, we recommend that the Assistant Secretary, Transportation Security Administration, establish performance measures for the advanced voluntary crew member self-defense training program and a time frame for evaluating the effectiveness of the training, including the effectiveness of the training design and delivery.

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## Agency Comments and Our Evaluation

We provided a draft of this report to DHS for review and comment. On August 29, 2005, we received written comments on the draft report, which are reproduced in full in appendix III. DHS generally concurred with the findings and recommendations in the report, and agreed that efforts to implement our recommendations are critical to a successful flight and cabin crew member security training program. With regard to our recommendations that TSA establish strategic goals for the flight and cabin crew member security training program and develop guidance and standards for air carriers to use in establishing performance goals and

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measures for their individual flight and cabin crew member security training programs, DHS stated that TSA has begun efforts to establish strategic goals for the program and, air carriers would benefit from additional guidance—that is, guidance in addition to the flight and cabin crew security training standards—to use in establishing performance goals and measures for their individual flight and cabin crew security training programs. While TSA has established standards for air carriers’ to use in developing their flight and cabin crew security training, these standards do not include strategic goals for the training nor provide any guidance for establishing performance goals and measures. In addition, at the time of our review, TSA had not begun developing strategic goals for flight and cabin crew security training. Therefore, we cannot assess the extent to which the goals TSA is currently developing satisfy our recommendation. With respect to our recommendation that TSA establish a time frame for finalizing written procedures for monitoring and reviewing air carriers’ flight and cabin crew security training, DHS stated that TSA is in the process of developing a monitoring plan, to the extent that resources permit, and a handbook for reviewing air carriers’ flight and cabin crew member security training programs. DHS further stated that the handbook is currently under development and will be completed and ready for implementation in fiscal year 2006. Finally, regarding our recommendation that TSA establish performance measures for the advanced voluntary crew member self-defense training program and a time frame for evaluating the effectiveness of the training, DHS stated that TSA is working with OMB to establish performance measures for use in OMB’s Performance Assessment Rating Tool for flight security training and will finalize these measures using fiscal year 2005 data as the baseline. According to DHS, these measures will provide TSA with information that can be used in evaluating the effectiveness of the advanced voluntary crew member self-defense training. DHS also stated that TSA has begun to reach out to stakeholders to obtain feedback on this training. TSA’s successful completion of these ongoing and planned activities should address the concerns we raised in this report. We also provided relevant sections of this report to FAA, FBI, and DOD for their review, and incorporated their technical comments into the report as appropriate.

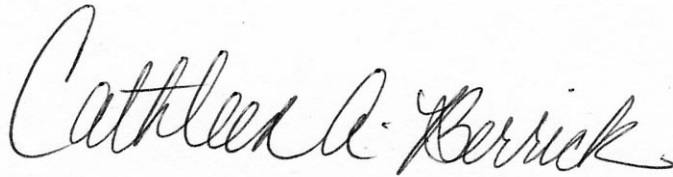
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As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 2 days from the date of this report. At that time, we will send copies of this report to the Secretary of the Department of Homeland Security and the Administrator of the Transportation Security Administration and interested congressional committees. We will also make copies available to others

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upon request. In addition, the report will be made available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-8777 or [berrickc@gao.gov](mailto:berrickc@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Cathleen A. Berrick". The signature is written in a cursive style with a large initial 'C' and a long, sweeping tail on the 'k'.

Cathleen A. Berrick  
Director, Homeland Security and  
Justice Issues

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# Appendix I: Objectives, Scope, and Methodology

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To determine the progress TSA has made in developing and monitoring flight and cabin crew security training, we examined TSA's efforts to develop guidance and standards for air carriers' flight and cabin crew security training, monitor air carriers' compliance with the guidance and standards, and develop and deliver advanced voluntary self-defense training for crew members. Specifically, this report addresses the following questions: (1) What actions has TSA taken to develop guidance and standards for flight and cabin crew security training and to measure the effectiveness of the training? (2) How does TSA ensure domestic air carriers comply with required training guidance and standards? (3) What efforts has TSA taken to develop, implement, and measure the effectiveness of advanced voluntary self-defense training for flight and cabin crew members?

To determine the actions TSA has taken to develop guidance and standards for flight and cabin crew security training and to measure the effectiveness of the training as well as how TSA ensures domestic air carriers comply with required training guidance and standards, we obtained and analyzed relevant legislation, guidance, and standards developed by TSA and FAA, and TSA records documenting its reviews of air carriers' security training programs. We reviewed the security training guidance and standards to determine whether they contained the statutory requirements for flight and cabin crew security training of 49 U.S.C. § 44918, as established by the Aviation and Transportation Security Act, and as amended by the Homeland Security Act of 2002 and Vision 100—Century of Aviation Reauthorization Act. We also interviewed TSA training, policy, and inspections officials to identify their reasons for revising the guidance and standards and the process they used to revise these documents and ensure air carriers' compliance with the guidance and standards. Additionally, we compared TSA's process for monitoring and reviewing air carrier compliance with flight and cabin crew security training guidance and standards to standards for internal control in the federal government. To assess stakeholder involvement in the development of the guidance and standards and identify any stakeholder concerns, we interviewed officials from the FAA, FBI, FAMS, DOD, crew member labor organizations, and associations representing air carriers. At eight domestic air carriers we visited, we interviewed air carrier officials to obtain their views on the security training guidance and standards and TSA's efforts to ensure air carriers' compliance with the guidance and standards and to observe the flight and cabin crew initial or recurrent (refresher) security training. We selected these domestic air carriers based on whether they were currently offering initial and/or recurrent security training and on the size of the air carrier in an effort to include a mixture

of various domestic air carriers and air carriers of varying sizes. The size of an air carrier is based on the annual operating revenues and the number of revenue passenger boardings. Finally, we conducted phone interviews with representatives of 11 additional domestic air carriers—which we selected using the same criteria we used to select the 8 air carriers to visit—to obtain their views on the flight and cabin crew member guidance and standards and TSA’s monitoring of air carriers’ compliance with these standards. Because we selected a nonprobability sample of domestic air carriers, the information we obtained from these interviews and visits cannot be generalized to all domestic air carriers.

To determine the efforts TSA has taken to develop, implement, and measure the effectiveness of advanced voluntary self-defense training for flight and cabin crew members, we obtained and analyzed relevant legislation, TSA’s course training manual for the self-defense training, and feedback provided by flight and cabin crew members who participated in the prototype training. We also interviewed TSA training officials responsible for designing and implementing the voluntary advanced crew member self-defense training program. Additionally, we observed the final training in two cities. Furthermore, we interviewed relevant stakeholders, including representatives of air carriers; labor organizations representing flight attendants and pilots as well as individual flight attendants and pilots; aviation industry associations representing air carriers; individuals identified as subject matter experts or self-defense training experts; and federal officials at the FBI, FAMS, and FAA to determine whether TSA consulted them when developing the crew member self-defense training. We identified subject matter experts or self-defense training experts based on recommendations from TSA and crew member labor organizations. We also interviewed representatives of the 19 domestic air carriers mentioned above to obtain their views on the design and delivery of the advanced voluntary crew member self-defense training. We assessed the extent to which TSA incorporated stakeholder input into the training program, and the basis for TSA’s decisions on which stakeholder input to incorporate into the training. Finally, we assessed TSA’s efforts to develop the training programs relative to our guidance for assessing training and development efforts in the federal government.

We conducted our work from June 2004 through August 2005 in accordance with generally accepted government auditing standards.

# Appendix II: TSA's Deployment of an Advanced Voluntary Crew Member Self-Defense Training from December 2004 through September 2005, as of July 2005

Training location	December 2004	2005								
		January	February	March	April	May	June	July	August	September
Alexandria, Virginia	•	•	•	•	•	•	°	°	•	•
Miami, Florida	•	•	•	•	•	•	°	•	•	•
Chicago, Illinois	°	•	•	•	•	•	•	°	•	•
Fort Worth, Texas	•	•	•	•	•	•	•	•	•	•
Wilmington, California	•	•	•	•	°	°	°	°	•	•
Aurora, Colorado		•	•	•	•	•	•	•	•	•
Broomall, Pennsylvania		°	•	•	°	°	°	°	•	No class currently scheduled
Decatur/Clarkston, Georgia		•	•	•	°	•	°	•	•	•
San Francisco, California		•	•	•	•	•	•	•	•	•
Tempe, Arizona				•	•	•	•	•	•	•

Source: GAO analysis of TSA data.

Note: c = cancelled class. Crew member self-defense training was cancelled due to low participation.

# Appendix III: Comments from the Department of Homeland Security

U.S. Department of Homeland Security  
Washington, DC 20528



**Homeland  
Security**

August 26, 2005

Ms. Cathleen A. Berrick  
Director, Homeland Security & Justice Issues  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, D.C. 20548

Dear Ms. Berrick:

Thank you for the opportunity to comment on draft report GAO-05-781SU, *Aviation Security: Flight and Cabin Crew Member Security Training Strengthened, but Better Planning and Internal Controls Needed*. The Department of Homeland Security (DHS) appreciates the work done to identify areas for improvement in the Transportation Security Administration's (TSA's) review of flight and cabin crew security training. We generally concur with the report and its recommendations and appreciate the discussion of challenges, and related on-going and planned work designed to fully meet our responsibilities.

The report acknowledges the substantial progress TSA has made in reviewing the cabin crew security training plans of numerous air carriers, in addition to developing and delivering a voluntary crew member self-defense training program. However, there are areas within the report about which DHS would like to comment.

DHS agrees that efforts to implement the U.S. Government Accountability Office's five recommendations are critical to a successful flight and cabin crew security program. Strategic goals and objectives provide the framework guiding the actions that make up the flight and cabin crew member security training program. TSA has already begun efforts to establish strategic goals for this program.

While Appendix XIII of the Aircraft Operator Standard Security Program (AOSSP) outlines the standards for the program, DHS concurs that air carriers would benefit from additional guidance to use in establishing performance goals and measures for their individual flight and cabin crew security training programs.

The TSA Office of Compliance is in the process of developing a monitoring plan for new and revised Air Carrier Basic Crew Member Security Programs, to the extent that resources permit. A Principal Security Inspector's (PSI) handbook, currently under

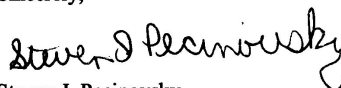
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development, will define specific objectives, required paperwork, PSI assessment protocols, and guidance for curricula reviews. It is anticipated that the handbook will be completed and ready for implementation commencing in FY 2006.

With regard to voluntary crew member self-defense training, TSA's Office of Workforce Performance and Training is working in concert with the Office of Management and Budget to establish performance measures for use in the Performance Assessment Rating Tool (PART) for Flight Security Training. The program is currently finalizing its performance measures and will use FY 2005 data as the baseline for those measures. These measures will provide the program with information that can be used in evaluating the effectiveness of the crew member self-defense training. Additionally, TSA has begun efforts to reach out to stakeholders for feedback. Combined with the compilation of data from Level 1 evaluations, these two efforts are significant first steps in gathering valuable information concerning effectiveness, design, and delivery.

In summary, DHS appreciates your review of the flight and cabin crew member security training program and thanks you for the thorough analysis and discussion that comprises this report. We continue to be cognizant of the areas upon which we can improve.

Sincerely,



Steven J. Pecinovsky  
Director  
Departmental GAO/OIG Liaison Office



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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Cathleen A. Berrick (202) 512-8777

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## Acknowledgements

In addition to the contact named above, Katherine Davis, Kimberly Gianopoulos, Sally Gilley, Stan Kostyla, Tom Lombardi, Gary Malavenda, Maria Strudwick, Carol Willett, and Su Jin Yon made key contributions to this report.

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