REGULATORY EVALUATION, REGULATORY FLEXIBILITY ANALYSIS, TRADE IMPACT ASSESSMENT, AND UNFUNDED MANDATES DETERMINATION

NOTICE OF PROPOSED RULEMAKING

LARGE AIRCRAFT SECURITY PROGRAM
(49 CFR Parts 1540, 1542, 1544, and 1550)

Regulatory and Economic Analysis
Transportation Security Administration
Department of Homeland Security
Arlington, VA 22202

July 31, 2008

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LIST OF ABREVIATIONS

AOSC – Aircraft Operator Security Coordinator

AOSSP – Aircraft Operator Standard Security Program

ASP – Airport Security Program

ATSA – Aviation and Transportation Security Act

CFR – Code of Federal Regulations

CHRC – Criminal History Records Check

DHS – U.S. Department of Homeland Security

EMT – Emergency Medical Technician

FAMs – Federal Air Marshals

FAA – Federal Aviation Administration

FACAOSSP – Full All-Cargo Aircraft Operator Standard Security Program

FISMA – Federal Information Security Management Act

GA – General Aviation

LASP – Large Aircraft Security Program

LEO – Law Enforcement Officer

MTOW – Maximum Certificated Take-Off Weight

PPSSP – Partial Program Standard Security Program

PCSSP – Private Charter Standard Security Program

SSI – Sensitive Security Information

STA – Security Threat Assessment

TSA – Transportation Security Administration

TFSSP – Twelve-Five Standard Security Program

TFSSP-AC – All-Cargo Twelve-Five Standard Security Program

EXECUTIVE SUMMARY

ECONOMIC IMPACTS

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to propose or adopt a regulation only if the agency makes a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. § 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and where appropriate, as the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation).

With respect to these analyses, TSA provides the following conclusions and summary information:

(1) TSA has determined that this is an economically significant rule within the definition of Executive Order (EO) 12866, as estimated annual costs or benefits exceed $100 million in any year.

(2) As a normal practice, we provide the Initial Regulatory Flexibility Analysis (IRFA) to the public but withhold the final conclusion as required by the RFA until after we

receive public comments and publish the Final Regulatory Flexibility Analysis (FRFA). The IRFA reflects substantial gaps in data where TSA was unable to identify either impacted entities or revenues for those that are businesses. TSA has provided the analysis based upon available data and requests public comment on all aspects of the analysis. As a result, TSA makes no preliminary finding as to whether there is or is not a significant impact on a substantial number of small businesses.

(3) The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. TSA has assessed the potential effect of this notice of proposed rulemaking and has determined this rule would not have an adverse impact on international trade.

(4) The regulatory evaluation provides the required written analysis of Unfunded Mandates. The proposed rule is likely to result in the expenditure by the private sector of over $100 million or in any one year (adjusted for inflation), and therefore meets the threshold of an Unfunded Mandate as defined by the Unfunded Mandates Reform Act (UMRA).

Figure 1: OMB A-4 ACCOUNTING STATEMENT

(Numbers in $ millions, 2006 constant)

OMB #: **Agency/Program Office:** TSA
Rule Title: Large Aircraft Security Program **Date:** 09/19/2007
RIN#: 1652-AA53

Category	***Primary Estimate***	***Minimum Estimate***	***Maximum Estimate***	***Source Citation (RIA, preamble, etc.)***
BENEFITS				
Monetized Benefits	None	N/A	N/A	RIA
Annualized quantified, but unmonetized, benefits	None	N/A	N/A	RIA
Unquantified Benefits	• Improved aviation security by expanding security programs to certain airports and all flight operations in large aircraft. • Improved security by reducing the number of entities to which TSA distributes the TSA No Fly list. • Improved governance through standardization of large aircraft security programs.			RIA
COSTS				
Annualized monetized costs (discount rate in parenthesis)	$194.1 (7%) $195.7 (3%) $196.9 (0%)	$122.3 (7%) $123.2 (3%) $123.9 (0%)	$268.0 (7%) $270.3 (3%) $272.1 (0%)	RIA
Annualized quantified, but unmonetized, costs				RIA
Qualitative (unquantified) costs				RIA
TRANSFERS				
Annualized monetized transfers: "on budget"	None	None	None	RIA
From whom to whom?	None	None	None	None
Annualized monetized transfers: "off-budget"	None	None	None	RIA
From whom to whom?	None	None	None	None
Miscellaneous Analyses/Category	***Effects***			***Source Citation (RIA, preamble, etc.)***
Effects on State, local, and/or tribal governments	None			RIA
Effects on small businesses	No determination			RIA
Effects on wages	None			None
Effects on growth	None			None

Summary of the Proposed Rule

The Transportation Security Administration (TSA) proposes to amend current aviation transportation security regulations to enhance the security of general aviation by expanding the scope of current requirements and by adding new requirements for certain large aircraft operators and airports. The main objectives of the proposed rule are to merge the Partial, Private Charter, and Twelve-Five Standard Security Programs into a Large Aircraft Standard Security Program (LASP); to apply this LASP to general aviation operators using aircraft with a maximum certificated takeoff weight (MTOW) over 12,500 pounds ("large aircraft"); and, to enhance the security of these operations. The LASP would have a core component based largely on the current Twelve-Five Security Program which would apply to all operators using large aircraft, and two additional components which would incorporate requirements specific to the Private Charter and Twelve-Five All-Cargo Security Programs.

A key component of the proposed rule is the application of matching of passenger information against the No Fly and Selectee portions of the consolidated terrorist watch list maintained by the Federal government ("watch list"). In order to enable this matching and reduce the number of individuals who have access to the sensitive information on the watch list, the rule proposes a process whereby third parties may apply to TSA to become approved watch list service providers. Aircraft operators would be required to submit passenger information to these service providers for comparison to the watch list. If the watch list service provider were to subsequently determine that a passenger was a match to the No Fly portion of the list, the proposed rule would require the aircraft operator to prohibit that passenger from boarding the aircraft.

In order to assure compliance with the LASP, the rule proposes a process whereby third parties may apply to TSA to become approved auditors of large aircraft security programs. Aircraft operators would be required to contract with these TSA-approved auditors in order to demonstrate their compliance with the requirements of the LASP and TSA regulations. Auditors would review aircraft operators' compliance with their security programs and TSA regulations and provide the results of their audit to the aircraft operator and to TSA. Third parties may be both auditors and watch list service providers. TSA would conduct inspections of aircraft operators based on a combination of audit findings and random sampling.

Finally, the proposed rule would require a partial airport security program for airports designated by the Secretary of Transportation as "reliever airports" and non-federalized airports regularly serving scheduled or public charter operations in large aircraft. A non-federalized airport is an airport that is not subject to TSA passenger screening requirements and therefore does not have TSA or contract personnel on site for the purpose of passenger screening.

Benefits

The proposed rule would yield benefits in the areas of security and quality governance. The security and governance benefits are four-fold. First, the rule would enhance security by expanding the mandatory use of security measures to certain operators of large aircraft that are not currently required to have a security plan. These measures would deter malicious individuals from perpetrating acts that might compromise transportation or national security by using large aircraft for these purposes. Second, it would harmonize, as appropriate, security measures used by a single operator in its various operations and between different operators. Third, the new periodic audits of security programs would augment TSA's efforts to ensure that large aircraft operators are in compliance with their security programs. Finally, it would consolidate the

regulatory framework for large aircraft operators that currently operate under a variety of security programs, thus simplifying the regulations and allowing for better governance. When taken together, the security-related benefits would act as part of the larger benefits yielded by the Transportation Security Administration's layered security approach.

At this time, TSA cannot quantify these benefits; however, TSA has included a rough "break-even" analysis which indicates the tradeoffs between program cost and program benefits (in the form of impact on baseline risk of a significant aviation-related terror attack) that would be required for the Large Aircraft Security Program to be a cost beneficial undertaking.

Costs

The following summarizes the estimated costs of this rulemaking by general category of who pays. A summary table provides an overview of the cost items and a brief description of cost elements. Both in this summary and the economic evaluation, descriptive language is used to try and relate the consequences of the regulation. Although the regulatory evaluation attempts to mirror the terms and wording of the regulation, **no attempt is made to precisely replicate the regulatory language and readers are cautioned that the actual regulatory text, not the text of the evaluation, is binding**. Throughout the evaluation rounding in displayed values may result in minor differences in displayed totals.

Aircraft operators, airport operators, and the Transportation Security Administration would incur costs to comply with the requirements of the proposed Large Aircraft Security Program rule. TSA estimated the total 10-year present value cost of the program would be $1.4 billion, discounted at 7%. Aircraft operator costs comprise 85% of all estimated expenses. This is due to the large number of newly regulated aircraft operators and the anticipated time security coordinators would spend on their duties.

TSA estimated that there are 9,835 aircraft operators that would be subject to this rule, and of these TSA estimated that 9,061 general aviation aircraft operators use aircraft with a maximum takeoff weight exceeding 12,500 pounds that are not required to operate under any existing TSA security programs and would thus be subject to the proposed rule. The remaining 774 aircraft operators are currently subject to one or more existing TSA rule, and an important purpose and advantage of the current rule is to unify the coverage of a set of diverse rules. The presentation of costs in this regulatory evaluation is organized to reflect the fact that some operators are currently subject to TSA security program requirements under existing rules ("existing operators") and others will be newly covered by this rule ("new operators"). . Costs to these newly regulated aircraft operators represent 84% of total estimated costs, with security coordinator duties and training making up 90% of those new aircraft operator costs. Security coordinator duties and training for these operators are estimated to cost $1.0 billion over 10 years, discounted at 7%. The following figure provides the total 10-year costs as well as annualized costs at the 0%, 7%, and 3% discount rates for the principal populations affected by the proposed rule.

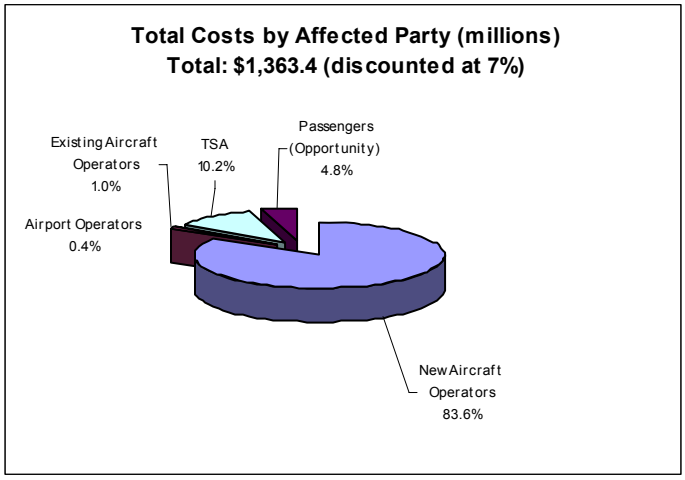
Figure 2: Total and Annualized Costs by Affected Entity (Millions of $)

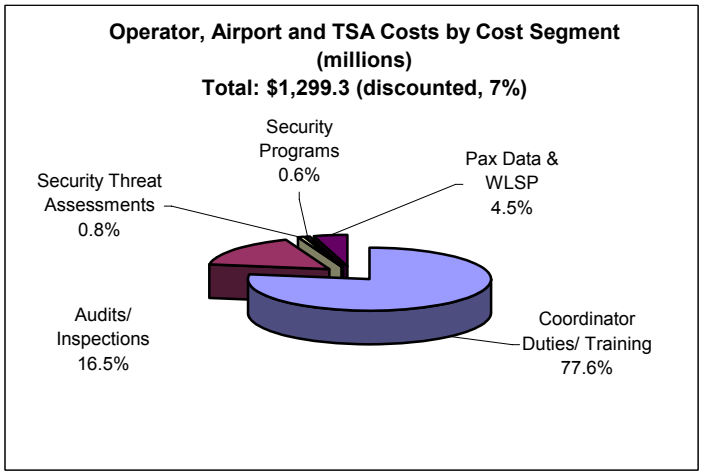
	10-Year Total Costs			Annualized Costs		
Affected Entity	0%	3%	7%	0%	3%	7%
New Aircraft Operators	$1,655.8	$1,402.3	$1,143.5	$165.6	$164.4	$162.8
Existing Aircraft Operators	$19.6	$16.7	$13.6	$2.0	$2.0	$1.9
Airport Operators	$7.5	$6.5	$5.5	$0.8	$0.8	$0.8
TSA	$194.4	$165.9	$136.6	$19.4	$19.4	$19.5
Passengers (Opportunity)	$91.9	$78.2	$64.1	$9.2	$9.2	$9.1
Total, Primary	**$1,969.3**	**$1,669.5**	**$1,363.4**	**$196.9**	**$195.7**	**$194.1**
Total, High	**$2,720.7**	**$2,305.9**	**$1,882.3**	**$272.1**	**$270.3**	**$268.0**
Total, Low	**$1,239.1**	**$1,051.2**	**$859.2**	**$123.9**	**$123.2**	**$122.3**

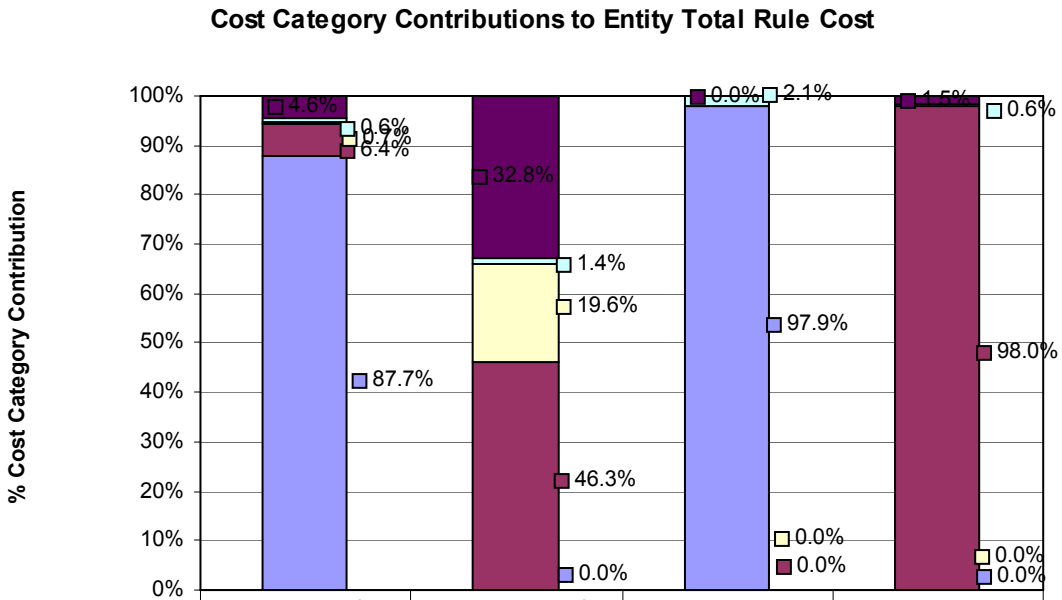
Given several areas of uncertainty in the cost estimates, TSA estimates of the total cost of the rule range from $859 million to $1.9 billion, discounted at 7%. In addition to the estimated

compliance cost, TSA was unable to model some requirements, such as aircraft operator expenses to collect and submit passenger information for watch list matching. TSA is requesting detailed comments to enable quantification of this impact for new and existing operators. The figure below displays the cost segments of the proposed rule grouped into four major cost categories as well as the percentage of the total costs they comprise for each of the four major affected populations: newly regulated aircraft operators, currently regulated aircraft operators, airports, and TSA.

Figure 3: Total Costs by Major Cost Categories and Proportion of Each Population's Costs







	New Aircraft Operators	Existing Aircraft Operators	Airport Operators	TSA
Pax Data & WLSP	4.6%	32.8%	0.0%	1.5%
Security Programs	0.6%	1.4%	2.1%	0.6%
Security Threat Assessments	0.7%	19.6%	0.0%	0.0%
Audits/ Inspections	6.4%	46.3%	0.0%	98.0%
Coordinator Duties/ Training	87.7%	0.0%	97.9%	0.0%

TSA estimated covered aircraft operators would expend $1.1 billion over 10 years to comply with the proposed Large Aircraft Security Program, discounted at 7%. All covered aircraft operators would incur costs to develop and submit security programs and profiles. Newly regulated aircraft operators would be required to designate security coordinators who would perform a variety of security-related duties and complete annual security training. These aircraft operators also would be required to ensure that their flight crewmembers successfully undergo security threat assessments (STA) conducted by TSA. All aircraft operators would need to control access to any weapons and check property in the cabin for possible stowaways.

Further, aircraft operators would be required to submit names of passengers aboard their flights to TSA-approved service providers for purposes of matching names against terrorist watch lists. Finally aircraft operators would contract with TSA-approved auditors to undergo biennial reviews demonstrating compliance with their security programs.

This rule would also require a partial airport security program for non-federalized airports regularly serving large aircraft in scheduled or public charter operations and airports designated by the Secretary of Transportation as "Reliever Airports." TSA has determined these airports frequently serve as a base for aircraft operators covered by the Large Aircraft Security Program. Covered airports would be required to develop and submit security programs to TSA and comply with program requirements. This would entail designation of airport security coordinators and completion of attendant training. TSA estimated airport operators would expend $5.5 million over 10 years, discounted at 7%.

In order to implement and oversee this new security program regime, TSA would expend monies to conduct outreach to covered aircraft and airport operators and process security programs and profiles, enforce compliance with the proposed requirements, and enroll auditors and watch list service providers. TSA estimated its 10-year costs to implement the proposed regulation would range from $133.5 million to $139.8 million, discounted at 7%, with a primary estimate of $136.6 million.

Finally, entities wishing to participate as auditors or watch list service providers would incur voluntary costs to apply to TSA for authorization to provide those services. These service entities would likely pass their enrollment expenses to subscribing aircraft operators; thus, in the regulatory evaluation TSA assesses the costs directly to the affected aircraft operators. To avoid double-counting, the analysis does not provide a separate estimate of auditor and watch list

service provider enrollment costs. However, TSA has included a description of the enrollment process and anticipated unit costs within the discussion of TSA's costs to process auditor and watch list service provider applications.

INTRODUCTION AND BACKGROUND

On September 11, 2001, several terrorist attacks were made against the United States that resulted in catastrophic human casualties and property damage. As part of its response to those attacks, Congress passed the Aviation and Transportation Security Act[1] (ATSA), thereby establishing the Transportation Security Administration (TSA) and charging it with the responsibility of securing all of the nation's transportation modes and related infrastructures. Under ATSA, TSA's responsibilities include assessing threats to transportation, developing policies, strategies, and plans for dealing with threats to transportation security, and developing, implementing, and enforcing security-related regulations and requirements.

To date, the government's focus with regard to aviation security generally has been on air carriers and commercial aircraft operators, which hold out to the public to offer transportation for compensation or hire. As vulnerabilities and risks for air carriers and commercial operators have been reduced or mitigated, terrorists may perceive that general aviation (GA) aircraft are more vulnerable and may view them as attractive targets. If hijacked and used as a missile, these aircraft would be capable of inflicting significant damage. With few exceptions, TSA generally does not currently require security programs for general aviation aircraft operators.

As a result, TSA is proposing to require security programs for all operators, both commercial and private, using aircraft having a maximum certificated takeoff weight greater than 12,500 pounds ("large aircraft"). To accomplish this, TSA is proposing to revise part 1544 of Title 49 in the Code of Federal Regulations (CFR), which governs all TSA domestic aircraft operator security programs, by combining certain existing aircraft operator security programs

[1] Aviation Transportation Security Act of 2001, Pub. L. no. 107-71, 115 Stat 597 (2001).

into a standard Large Aircraft Security Program and expanding the applicability to all operations in large aircraft, regardless of the nature of the operation.

Based on its expertise in aviation security, TSA has determined that aircraft operator security programs are more effective when paired with corresponding security programs for the airports that serve those aircraft. Accordingly, TSA has determined that airports identified by the Secretary of Transportation as "reliever airports" frequently serve large aircraft operators and is thus proposing that these airports have a partial airport security program. TSA is also proposing to require the partial airport security program for non-federalized airports that regularly serve scheduled or public charter operations in large aircraft. The ensuing paragraphs provide a brief summary of TSA's existing security programs and a summary of the proposed rule.

Regulatory History

Under its regulatory mandate, and in accordance with ATSA requirements to ensure the adequacy of security screening of certain airport, air carrier, and aircraft employees, as well as air passengers, cargo, property, and baggage, TSA issued the following aircraft and airport operator security program regulations:

49 CFR part 1544 (Aircraft Operators)

- Aircraft Operator Standard Security Program (AOSSP)[2]
- Full All-Cargo Aircraft Operator Standard Security Program (FACAOSSP)[3]
- Private Charter Standard Security Program (PCSSP)[4]
- Partial Program Standard Security Program (PPSSP)[5]
- Twelve-Five Standard Security Program (TFSSP)[6]
- All-Cargo Twelve-Five Standard Security Program (TFSSP-AC)[7]

[2] "Civil Aviation Security Rules, Final Rule." Federal Register 67 (February 22, 2002): 8339-8384.
[3] "Air Cargo Security Requirements, Final Rule." Federal Register 71 (May 26, 2006): 30477-30517.
[4] "Aviation Security: Private Charter Security Rules, Final Rule." Federal Register 67 (31 December 2002): 79881-79887.
[5] "Civil Aviation Security Rules, Final Rule." Federal Register 67 (February 22, 2002): 8339-8384.
[6] "Security Programs for Aircraft 12,500 Pounds or More, Final Rule." Federal Register 67 (February 22, 2002): 8205-8210.
[7] "Air Cargo Security Requirements, Final Rule." Federal Register 71 (May 26, 2006): 30477-30517.

- Limited Program[8]

49 CFR part 1542 (Airport Operators)

- Airport Security Program (ASP)[9]
- Supporting Airport Security Program[10]
- Partial Airport Security Program[11]

One commonality among all of these security programs, both aircraft and airport operator, is their applicability to operations for compensation or hire using "large aircraft," those having a maximum certificated takeoff weight (MTOW) greater than 12,500 pounds. Beyond this similarity, these programs can be generally divided into two main categories: security programs for operators providing scheduled service (AOSSP, FACAOSSP) and security programs for operators providing a mix of scheduled and private or on-demand service (PCSSP, PPSSSP, TFSSP, TFSSP-AC). Because TSA views aviation security as a unit, airport operator security programs are linked to the types of aircraft operations they serve. Thus, airports regularly serving AOSSP operators are required to have an ASP, airports regularly serving PCSSP operators must have a supporting airport security program, and airports regularly serving PPSSP operators must have a partial airport security program. The following paragraphs provide a brief summary of these security programs and the types of operators to which they apply.

Aircraft Operator Security Programs

The AOSSP is the standard security program for full program operators. A full program operation (as defined in 49 CFR part 1544.101) is: a scheduled passenger or public charter passenger operation with an aircraft having a passenger seating configuration of 61 or more seats; or a scheduled passenger or public charter passenger operation with an aircraft having a

[8] "Civil Aviation Security Rules, Final Rule." Federal Register 67 (February 22, 2002): 8339-8384.
[9] Ibid.
[10] Ibid.
[11] Ibid.

passenger seating configuration of 60 or fewer seats when passengers are enplaned from or deplaned into a sterile area. Most aircraft operators meeting these criteria are large commercial airlines offering regularly scheduled passenger service between fixed locations.

The FACAOSSP applies to aircraft operators using aircraft with a MTOW of more than 45,500 kg (100,309.3 pounds) that are carrying cargo and authorized persons (but no passengers). Aircraft operators subject to the FACAOSSP are similar to AOSSP operators in that they advertise to the public regularly scheduled service between fixed locations; however, these operators carry cargo instead of passengers. Companies such as DHL, FedEx, and UPS would be examples of FACAOSSP aircraft operators.

The PCSSP, first issued in June of 2002, and amended on December 31, 2002, applies to privately chartered aircraft (aircraft hired by, and for, one specific group of people) having a MTOW greater than 45,500 kg (100,309.3 pounds); or a passenger seating configuration of 61 or more seats; or, that enplane from or deplane into a sterile area. To be considered a private charter, the charterer must have engaged the total passenger capacity of the aircraft, invited all of the passengers, borne all of the costs of the charter, and must not have advertised to the public in any way to solicit passengers.

Additionally, the PCSSP applies to chartered flights where the total passenger capacity of the aircraft is used for the purpose of government civilian or military air travel conducted under contract with the government of the U.S. or the government of a foreign country; however, the rule exempts government charters from the screening requirement, unless they enplane from or deplane into a sterile area. TSA estimated that approximately 77 operators, utilizing 385 aircraft, were conducting operations solely or primarily under the PCSSP at the time of writing.

The PPSSP, issued on February 22, 2002, applies to scheduled passenger or public charter passenger operations using aircraft with seating configurations of 31 or more, but 60 or fewer seats that do not enplane from or deplane into a sterile area; and to scheduled passenger or public charter passenger operations using aircraft with seating configurations of 60 or fewer seats engaged in operations to, from, or outside the United States that do not enplane from or deplane into a sterile area.

The TFSSP, issued on February 22, 2002, applies to operations using aircraft with a maximum takeoff weight (MTOW) of 12,500 pounds or more; in scheduled or charter service; carrying passengers or cargo or both; and not presently required to have either a full or partial security program. Many of these operators offer on-demand passenger service and are frequently referred to as "air taxis." TFSSP operators may also transport cargo or use their aircraft for private operations. Some may even offer limited scheduled service between smaller airports which are not required to have a TSA security program.

The requirements of the PPSSP are identical to those of the TFSSP, with the exception that the PPSSP requires operators to participate in airport operator-sponsored exercises of airport contingency plans. TSA estimated that approximately 649 operators, utilizing 4,543 large aircraft, were conducting operations either solely or primarily under the TFSSP or PPSSP at the time of writing. (Within the text of the regulatory evaluation, Twelve-Five and Partial Program operators may be referred to collectively as TFSSP operators due to the extremely small number of Partial Program operators, the similarities between the two groups, and the fact that they would be merged under the proposed regulation).

TSA requires operators meeting the applicability criteria for the TFSSP but conducting all-cargo operations to meet the requirements of the TFSSP-AC, which has additional procedures

for the acceptance and screening of cargo and screening of authorized persons. At the time of writing, TSA estimated that approximately 48 operators, utilizing 960 aircraft, were conducting operations either solely or primarily under the TFSSP-AC.

Finally, Limited Programs are those security programs other than the security programs identified above that TSA may approve after receiving a request by an aircraft operator holding a certificate under 14 CFR part 119. Limited Program operators must adopt and carry out a security program that meets the applicable requirements of 1544.103(c), selected provisions of subparts C,D, and E of §1544.103, and the provisions of §1544.305. TSA has authorized very few Limited security programs.

Of all these aircraft operator security programs, the TFSSP forms the "base" security program in that it embodies the minimum requirements from 49 CFR part 1544 that TSA has determined an aircraft operator needs to meet in order to have an acceptable level of security. The other programs progressively build upon those requirements, with the AOSSP and the FACAOSSP being the most robust security programs.

Airport Operator Security Programs

The ASP, transferred from the FAA to TSA in 2002, is implemented by each airport operator regularly serving operations of an AOSSP aircraft operator or a foreign air carrier described in §1546.101(a). Each regulated airport must establish and implement a security program that includes a description of secured areas, each activity or entity on or adjacent to a secured area that affects security, measures used to perform the access control functions required under §1542.201(b)(1), and procedures to control movement within the secured area, including identification media required under § 1542.201(b)(3).

The supporting airport security program applies to airports regularly serving operations of those aircraft operators or foreign air carriers described in §1544.101(a)(2) or (f), or §1546.101(b) or (c). This means the supporting airport security program applies to airports primarily serving private charter operators and scheduled passenger or public charter passenger operations with an aircraft having a passenger seating configuration of 60 or fewer seats, when passengers are enplaned from or deplaned into a sterile area. The supporting airport security program directs airport operators to designate and train airport security coordinators, establish procedures for public advisories and incident management, provide law enforcement personnel to support the security program, and develop an airport contingency plan.

The partial airport security program applies to airports regularly serving operations of those aircraft operators or foreign air carriers described in 49 CFR §1544.101(b) or §1546.101(d), which corresponds to aircraft operators operating under a PPSSP. The partial airport security program is identical to the supporting airport security program, with the exception that TSA does not require an airport contingency plan for airports under the partial airport security program.

Summary of the Proposed Regulation

As identified in the Regulatory History section above, the applicability of each of these security programs presently is linked to a combination of factors, including the size, seating configuration, and type of operation in which an aircraft is engaged. Regardless of the specific nature of the operation, however, whether scheduled commercial service or private charter, nearly all aircraft operators currently regulated by TSA under 49 CFR part 1544 engage in "common carriage."[12] Common carriage means any operation for compensation or hire where

[12] TSA does require a TFSSP or PCSSP for certain aircraft conducting operations under the FAA's 14 CFR part 125. While part 125 operators engage in noncommon carriage, their operations exhibit traits of common carriage.

the operator holds itself out as willing to furnish transportation to any member of the public seeking the services offered. TSA does not currently regulate operators engaged in "noncommon, or private, carriage." Noncommon carriage does not involve offering or holding out by the operator through advertising or any other means. Noncommon carriage includes the following:

- Carriage of operator's own employees or property
- Carriage of participating members of a club
- Carriage of persons and property which is only incidental to the operator's primary business
- Carriage of persons or property for compensation or hire under a contractual business arrangement that did not result from the operator's holding out or offering. In this situation, the customer seeks out an operator to perform the desired service and enters into an exclusive mutual agreement; the operator does not seek out the customer.

This leads to a situation where an operator regulated by TSA may operate the same large aircraft both with and without a security program, depending on whether the aircraft is being used for common or noncommon carriage. For example, a large jet would be required to operate under a TSA security program while flying from a GA facility in Dallas to a GA facility in San Diego because it was operating as a charter for a college sports team. That same jet, however, could then immediately pick up its corporate owners and fly to a GA facility in Chicago. This second flight would be exempt from the requirement to have a security program because the aircraft was no longer conducting service for compensation or hire.

TSA has thus determined that while there is greater risk associated with certain types of operations in large aircraft, such as scheduled commercial service, all large aircraft should be required to operate under a security program at all times. Consequently, TSA is proposing a new rule, the "Large Aircraft Security Program" or LASP, that would both combine the standard security programs governing large aircraft in scheduled, on-demand, or private charter operations

(PCSSP, PPSSP, TFSSP, TFSSP-AC) and expand the coverage to include almost all noncommon carriage operations in large aircraft, which would include both corporate and private operations.

TSA has determined the proposed regulation would primarily affect two new categories of operators. The first and largest group would be operators using aircraft exclusively for personal or business purposes. They are currently regulated by the FAA under 14 CFR part 91 and are referred to throughout this analysis simply as "Part 91 operators." Contrary to operators currently holding TSA security programs, these operators do not hire their aircraft out to others. TSA had considerable difficulty determining how many operators currently conduct operations under Part 91, as no centralized data source currently exists. Based on communication with industry associations, TSA subject matter experts estimated approximately 9,000 Part 91 operators would be subject to the proposed requirements of the Large Aircraft Security Program.

The second group is comprised of aircraft operators that use large aircraft able to carry 6,000 pounds or more of payload capacity and 20 or more passenger seats to provide transport services for a limited number of clients. These operators provide their services in accordance with long-term contracts negotiated directly with clients, typically no more than 3 or 4, and are regulated by the FAA under 14 CFR part 125. TSA refers to these aircraft operators throughout the analysis as "Part 125 operators." Because Part 125 operators provide services to other companies, their operations appear to be similar to those of aircraft operators currently required to hold TSA security programs, and in some cases Part 125 operators have implemented TSA security programs due to the nature of their operations. By definition, however, Part 125 operators provide noncommon carriage. As is the case for Part 91 operators, very little comprehensive information exists on the number of Part 125 operators. Industry experts

estimated there are approximately 100 aircraft operators regularly conducting operations under Part 125. TSA has estimated that 39 of these Part 125 operators currently have a TSA security program, while 61 would be newly regulated under the proposed rule. TSA welcomes comments on both its Part 91 and Part 125 population estimates.

By extending security program requirements to previously unregulated segments of GA, the proposed LASP would help mitigate the risk that "large aircraft" could be commandeered by terrorists for use as weapons. To achieve this risk reduction, TSA analyzed the existing security programs to determine which security measures have been effective and would be appropriate for inclusion in the proposed LASP.

TSA has proposed that the basic LASP be modeled on the TFSSP, with separate components containing additional requirements for aircraft operators that meet the criteria for PCSSP operators or TFSSP-AC operators. Based on its review, TSA has also determined additional requirements are necessary in order to reduce the number of aircraft operators having access to the watch list and to enable the Agency to effectively oversee the substantial increase in the number of security programs resulting from the inclusion of GA operators.

Thus, the proposed rule would require, among other things, that all large aircraft operators match passenger names against the watch list through a TSA-approved watch list service provider; contract with TSA-approved auditors to demonstrate compliance with their security programs and TSA regulations; designate Aircraft Operator, Ground, and In-Flight Security Coordinators and train Ground and In-Flight Security Coordinators; complete security threat assessments on flight crewmembers; ensure that weapons and explosives are inaccessible to passengers; ensure that law enforcement personnel are available to respond to incidents as

needed; and, allow law enforcement officers (LEOs) to carry their weapons onboard an aircraft (provided applicable regulatory requirements are followed).

Since aircraft operators currently operating under TSA security programs already comply with some of these requirements, Figure 4 presents each of the proposed requirements and indicates for each type of covered aircraft operator whether the requirement is currently required and would continue, is a new requirement, or is not applicable.

Figure 4: Proposed Changes to the Existing Regulatory Framework

Description of Proposed LASP Requirement	**Scheduled or Charter Operations Required to Have a Twelve-Five Program**	**All-Cargo Operations Required to Have a Twelve-Five Program**	**Private Charters Required to Have a Private Charter Program**	**Scheduled or Charter Operations in Aircraft with 31-60 Seats Required to Have a Partial Program**	***Large Aircraft Operators Not Currently Required to Have a Security Program***
Acceptance & screening of individuals and accessible property (§1544.201)	Does not apply	Does not apply	Currently applies and would continue	Does not apply	*Does not apply*
Persons and property onboard an all-cargo aircraft (§1544.202)	Does not apply	Currently applies and would continue	Does not apply	Does not apply	*Does not apply*
Acceptance and screening of cargo (§1544.205)	Does not apply	Currently applies and would continue	Does not apply	Does not apply	*Does not apply*
Persons and property on board a large aircraft (§1544.206)	New requirement	Does not apply	New requirement	New requirement	*New requirement*
Screening of individuals and property (§1544.207)	Does not apply	Does not apply	Currently applies and would continue	Does not apply	*Does not apply*
Required to have security coordinators (§1544.215)	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	*New requirement*
Provision of law enforcement personnel at airports serving the aircraft operators (§1544.217)	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	*New requirement*
Carriage of accessible weapons on board aircraft (§1544.219)	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	*New requirement*
Requirement to transport Federal Air Marshals (FAMs) (§1544.223)	Currently applies; would be modified	Currently applies; would be modified	New requirement	Currently applies; would be modified	*New requirement*
Provide for security of aircraft and facilities (§1544.225)	New requirement	New requirement	Currently applies and would continue	New requirement	*New requirement*
Security training for security coordinators and crew (§1544.233)	New requirement	New requirement	Currently applies and would continue	New requirement	*New requirement*

Description of Proposed LASP Requirement	**Scheduled or Charter Operations Required to Have a Twelve-Five Program**	**All-Cargo Operations Required to Have a Twelve-Five Program**	**Private Charters Required to Have a Private Charter Program**	**Scheduled or Charter Operations in Aircraft with 31-60 Seats Required to Have a Partial Program**	***Large Aircraft Operators Not Currently Required to Have a Security Program***
Training Program - Individual security-related duties (§1544.235)	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	*New requirement*
Program to permit passengers to provide volunteer emergency services (§1544.241)	New requirement	New requirement	New requirement	New requirement	*New requirement*
Required to undergo third-party audits (§1544.243)	New requirement	New requirement	New requirement	New requirement	*New requirement*
Required to send flight manifest to approved vendor for watch list matching of passengers (§1544.245)	New requirement	New requirement	New requirement	New requirement	*New requirement*
Security threat assessment with criminal history records check for flight crew (Part 1544, subpart G)	New requirement	New requirement	New requirement	New requirement	*New requirement*
Develop and implement contingency plan in response to threats (§1544.301(a)&(b))	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	*New requirement*
Bomb and hijacking threats (§1544.303)	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	Currently applies and would continue	*New requirement*
Comply with security directives and information circulars (§1544.305)	*Currently applies and would continue*	*Currently applies and would continue*	*Currently applies and would continue*	*Currently applies and would continue*	*New requirement*

Besides modifying and consolidating large GA aircraft security requirements, the proposed rule would require the following airports to establish and implement the standards and procedures of the partial airport security program:

- Each airport regularly serving large aircraft covered by the LASP engaged in scheduled or public charter operations.
- Each reliever airport that the Secretary of Transportation designates to relieve congestion at a commercial service airport, as defined in 49 U.S.C. 47102.

Many airports that serve scheduled passenger aircraft operations have either an ASP or supporting airport security program. The proposed rule would require airports that do not already operate under one of these programs to adopt the partial airport security program if they regularly serve large aircraft engaged in scheduled or public charter operations. TSA has identified approximately 42 airports we believe would be affected by this proposal.

Reliever airports, described in the second bullet, would be newly regulated by TSA under the proposed rule. These are general aviation airports identified by the Secretary of Transportation as being capable of relieving traffic at commercial service airports.[13] As a result, these airports are frequently located near metropolitan areas and are capable of handling large aircraft operations. Based on FAA data, TSA determined there are a total of 276 reliever airports, of which 3 already hold a TSA security program.

Together, the Cost of Compliance section below identifies costs for 315 airports to comply with the proposed rule.

[13] Many commercial service airports already operate under a TSA security program.

PUBLIC COMMENTS RELATED TO ECONOMIC ISSUES

TSA is here responding to economic comments received in response to the May 2002 Twelve-Five and Private Charter interim final rules. These responses were included in the regulatory evaluations accompanying the December 2002 interim final rules. Those regulatory evaluations were not released to the public, however, because the documents contained sensitive security information (SSI). TSA has determined the comments and responses do not contain SSI and has reproduced them in this document for public release. The responses to these comments would also be applicable to operators affected by the proposed LASP.

Three commenters addressed affordability of compliance with the Twelve-Five final rule. One commenter that has a two-person flight department said that it could not afford to hire additional staff. Another asked that the pilot-in-command (PIC) be allowed to serve as the GSC as well as the ISC. A third commenter said that compliance with the Twelve-Five final rule would cost $34,000.

The TSA response in the Twelve-Five final rule was that the rule does not require affected operators to hire new employees to meet the requirement to have an AOSC, GSC, or ISC. The same person may serve in two or all three of these roles; however, that person may not serve in more than two of those roles for any given flight.

Three commenters addressed the restrictions of carriage of weapons onboard aircraft affected by the Twelve-Five rule. Two asked for a definition of an "appropriate container" for carriage of weapons and to clarify whether bodyguards for VIP passengers would be allowed to carry weapons while in flight. Another asked if the practice of separating weapons from passengers in flight would be an acceptable means of compliance.

The TSA response under the Twelve-Five final rule was that the security program states that a "locked baggage storage area that is inaccessible to passengers during flight may be considered an appropriate container." A weapon that is separated from the passenger, stored in an appropriate container, and remains inaccessible to passengers during the flight is in compliance. Alternately, if the aircraft does not have an inaccessible cargo hold where the weapon may be placed, the use of a trigger guard would also be considered in compliance as long as the key remained under the direct control of the In-flight Security Coordinator for the duration of the flight. In these instances, the weapon is considered inaccessible to the persons on board.

BENEFITS

The proposed rule would yield two main security benefits. First, it would expand the mandatory use of security measures to certain operators of large aircraft that are not currently required to have security programs. These measures would deter malicious individuals from perpetrating acts that might compromise transportation or national security by using large aircraft for these purposes. Second, it would standardize, as appropriate, security measures used by a single operator in its various operations and between different operators. These benefits are derived from standardization of watch list matching, expanding mandatory security operations to all large aircraft operators, and, finally, by requiring all covered large aircraft operators to maintain security programs.

The proposed rulemaking also yields two other benefits. The proposed rule would bring all security programs for large aircraft not covered by an AOSSP under one general regulatory framework. This can provide for better governance of and for stakeholders. The rule would also ensure comprehensive oversight of security programs where it may not exist today. This would ensure that operators' security programs are not unintentionally deficient.

Finally, TSA has included a rough "break-even" analysis which indicates the tradeoffs between program cost and program benefits (in the form of impact on baseline risk of a significant aviation-related terror attack) that would be required for the Large Aircraft Security Program to be a cost beneficial undertaking.

Watch List Matching

The proposed rule would increase aviation security through two changes in the area of watch list matching. The rule would expand passenger matching against watch lists and would reduce the number of non-governmental entities that have direct access to the Federal watch lists.

The proposed rule would expand watch list matching of passengers to large aircraft not already covered by a TFSSP, PPSSP or PCSSP. Individuals on the terrorist watch list pose a threat to security when flying on large aircraft. Weaponization of large aircraft poses a security risk, which can be mitigated in part by preventing individuals known to pose a security risk from flying on large aircraft. The expanded watch list matching would help to ensure that individuals who are known to pose a security risk do not fly on large aircraft.

The proposed rule would also reduce the number of non-governmental entities that have direct access to Federal watch lists. Currently, 774 aircraft operators with a Twelve-Five or Private Charter Program check passenger information against the No Fly List, which is sensitive security information.[14] The current method of matching against the No Fly List requires that each of these operators have direct access to the No Fly List. The proposed rule would require all operators covered under the LASP rule to use TSA-approved watch list service provider. At this time, TSA is projecting a range of approximately 10 to 30 approved providers, substantially less than 774. This consolidation benefits security in two ways. First, reducing the distribution of the list also reduces the opportunity for the list to be compromised. Second, consolidation of watch list matching operations would also assist in greater standardization of matching methods. Consolidated operations would facilitate the discovery of best practices and may assist in the discovery of inconsistencies in the matching process. Together, these two changes in watch list matching methods would enhance security.

[14] Sensitive security information (SSI) is controlled under 49 CFR parts 15 and 1520.

Expanding Security Operations

The proposed rule would continue to govern the security operations of current TFSSP, PCSSP, and PPSSP operators but it would expand those requirements to all flights by those operators, regardless of purpose, and the rest of the large GA aircraft industry as well. Expanding security requirements to all large GA aircraft operations would reduce vulnerabilities in those segments of the industry that are currently unregulated but nevertheless may have just as much potential risk as the currently regulated parts of the industry. Finally, the rule would require all covered aircraft operators to engage in activities that would enhance aviation security and / or safety.

Under the proposed rule, large aircraft operators would be required to:

- Transmit passenger information to watch list service provider for watch list matching;
- check property in the cabin for possible stowaways;
- ensure that non-LEO passengers do not have access to weapons onboard the aircraft;
- fly with FAMs onboard as directed by TSA;
- secure the aircraft and related facilities;
- run STAs on flight crew;
- provide security training for security coordinators and crew;
- comply with security directives and information circulars;
- Adopt/implement security program;
- Be subject to independent third-party audits of compliance with their security programs; and,
- Appoint security coordinators.

Performing the above security operations would help reduce the probability and impacts of aviation security incidents involving large aircraft.

Expanding Security Programs

The expansion of security programs would require most large aircraft operators to:

- appoint security coordinators;
- establish training programs for individual security-related duties;

- establish programs to permit passengers to provide volunteer emergency services;
- develop and implement contingency plans in response to threats; and,
- participate in airport contingency plans.

Aircraft operators' inclusion of each of the above in their security programs would enhance their ability to respond to potential and actual security incidents involving large aircraft in the future.

Consolidation of Regulatory Regimen

The proposed rule would combine several similar regulatory programs into a consolidated regulatory framework. Generally, consolidated regulatory regimens are preferable to disparate regulations, each of which may have pieces affecting any given sub-sector of an industry. Meanwhile, the new regulatory framework would continue to foster customization of security programs based upon the type of operation as before and thus avoids a "one-size fits all" scheme. These concepts foster better governance. This single-face approach to regulation of similar populations would enhance government responsiveness to all stakeholders.

Security Program Oversight

The proposed regulation would require audits of operators' compliance with their security programs for large aircraft operators. This would help the government identify operators that are not in compliance with their security programs. While large aircraft operators would be required to maintain security programs, due to TSA resource constraints, those programs might not be subject to periodic review as frequent as that proposed under the audit requirement. The proposed audit requirement would help to ensure that all security programs meet the requirements of the regulation.

Break-even Analysis

A break-even analysis for a rulemaking such as the Large Aircraft Security Program is aimed at framing the relationships between the effects of the rulemaking (in increasing domestic security and reducing the risk of terror attack), the cost of implementing the rule, and the baseline risks of domestic terror attacks which would be improved by the rulemaking. Ideally, the quantification and monetization of the beneficial security effects of this regulation would involve two steps. First, TSA would estimate the reduction in the probability of a successful terrorist attack resulting from implementation of the regulation and the consequences of the avoided event (collectively, the risk associated with a potential terrorist attack). Then TSA would identify individuals' willingness to pay for this incremental risk reduction and multiply it by the population experiencing the benefit. Both of these steps, however, rely on key data that are not available for this rule.

In light of these limitations, TSA conducted a "break-even" analysis to determine what reduction of overall risk of a terror attack and resulting reduction in the expected losses for the nation due to a terror attack would be necessary in order for the expected benefits of the rule to exceed the costs. Because the types of attacks that would be prevented by this regulation vary widely in their intensity and effects, depending both on the intent of those undertaking the attack and their effectiveness in completing it, TSA considered four example attack scenarios and the monetized losses associated with each. Similar break-even analyses have been undertaken in support of other DHS rules, and TSA has coordinated the current analysis with these earlier ones, with the aim of maintaining consistency in DHS analyses and results. In the case of the LASP proposed rule, some of the types of terror attacks that might be undertaken using aircraft operated by those covered under the proposed rule are similar to those that were considered by

U.S. Customs and Border Protection (CBP), and this similarity has informed the current analysis and examples. For one scenario, however, TSA has relied on DHS research into the effects of successful delivery of a weapon of mass destruction (WMD) by an aircraft of the type affected by the proposed rule. The conclusions of this DHS research are consistent with results from existing academic and think tank research into similar issues.

In order to compare the losses associated with each scenario to the cost of the proposed rule, TSA converted casualties into a monetary total. TSA used the Value of a Statistical Life (VSL) of $5.8 million that is used by the Department of Transportation (DOT), and which was recently revised to reflect current academic and other research into this quantity.[15] The VSL represents the sum of individuals' willingness to pay to avoid an incremental risk of death; it is based on studies of the value individuals place on small changes in risk, and therefore does not place a value on an actual individual life. Similarly, based on the same DOT guidance, TSA valued moderate injuries at 1.55 percent of the VSL and severe injuries at 18.75 percent of the VSL. *TSA emphasizes that the VSL is a statistical value placed on the sum of small changes in risk for regulatory comparison, and does not suggest that the actual value of a particular individual's life can be stated in dollar terms.*

The following paragraphs present a description of the three scenarios considered by TSA with corresponding estimates of their monetary consequences. These scenarios make up a wide range of possible consequences, which reflects the varied opportunities for attack and targeting that may exist for those intent on doing the nation harm. In order to compare direct costs to direct benefits, TSA only presents the direct economic losses estimated to ensue from the attack

[15] U.S. Department of Transportation memorandum, *Treatment of the Economic Value of a Statistical Life in Departmental Analyses.* Office of the Secretary of Transportation, February 5, 2008.

scenarios and has omitted economic "ripple effects" and economic transfers from its calculations.

Scenario 1 contemplates a situation where a large aircraft is used as a missile to attack an unpopulated or lightly populated area, resulting in minimal loss of life, moderate injuries and destruction of the aircraft. Of the scenarios considered, this is the most restrained in its level of envisioned harm. It is assumed that a loss of 3 lives occurs, along with 10 moderate injuries and the complete hull loss of the aircraft. Using the DOT VSL of $5.8 million, the monetary estimate associated with the loss of life is $17.4 million. Again using DOT guidance, moderate injuries to those affected are valued at 1.55% of the VSL, or $89,900. To estimate the value of the lost aircraft, TSA used $9.3 million, which is the 2008 average market value of a General Aviation jet aircraft weighing between 12,500 and 65,000 pounds.[16] Taken together, the monetary consequence of this scenario totals $32 million, or $0.032 billion.

Scenario 2 also contemplates a situation where a large aircraft is used as a missile to attack a populated area, resulting in significantly greater loss of life and injuries, and destruction of the aircraft. It is assumed that a loss of 250 lives occurs, along with 250 severe injuries and the complete hull loss of the aircraft. Using the DOT VSL of $5.8 million, the monetary estimate associated with the loss of life is $1.45 billion. Again using DOT guidance, severe injuries to those affected are valued at between 1.55% and 18.75% of the VSL, or between $90,000 and $1.1 million. This range implies a value of the lost injuries in this scenario of between $67.5 million and $816 million. Because we used the lower value of the injury valuation range in the first scenario, however, we will use only the upper value of the injury

[16] Federal Aviation Administration. 2007. Economic Values for FAA Investment and Regulatory Decisions, A Guide. Prepared by GRA, Inc. December 31, 2004 (updated). Table 5-7. This table reports 2003 value estimates, and the 2003 estimate of $7.2 million was brought to the 2008 value of $9.3 million using the FAA recommended method described in the document in Section 9.6 (page 9-9), which relies on the BLS producer price index series for civil aircraft, available in the producer price index values for commodities at http://stats.bls.gov/ppi/home.htm .

valuation range to monetize this scenario. To estimate the value of the lost aircraft, TSA used $9.3 million, which is the 2008 average market value of a General Aviation jet aircraft weighing between 12,500 and 65,000 pounds. Taken together, the monetary consequence of this scenario totals $1.73 billion. The level of damage in this type of scenario is consistent with the scenarios considered for the CBP APIS Final Rule analysis, although the current analysis also includes a component of severe injuries.[17]

Scenario 3 contemplates a situation where a large aircraft is used as a missile to carry out a direct attack on a building in a densely populated urban area. Because of these locational details, a successful attack would result in much more severe consequences, including significantly increased loss of life and widespread real property damage, compared to Scenario 1. For valuation purposes for this scenario, TSA assumes 3,000 fatalities, valued at $17.4 billion using the DOT VSL of $5.8 million. To maintain consistency with existing DHS analyses, in particular the APIS analysis,[18] TSA assumes property losses totaling $21.8 billion; this total is motivated by comparison to the City of New York Comptroller's estimate of direct losses to the city due to the September 11 attacks.[19] However, TSA also assumes that 9,000 severe injuries would also result from such an attack. These severe injuries, valued at 18.75% of the VSL based on the DOT guidance, have a monetary valuation of $9.79 billion. Finally, based on the FAA estimate of aircraft value, losses in Scenario 3 include $9.3 million due to complete hull loss of the aircraft used in the attack. The scenario elements aggregate to a total consequence of $49.0 billion.

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[17] Regulatory Assessment & Final Regulatory Flexibility Analysis for the Final Rule, *Passenger Manifests for commercial Aircraft Arriving in and Departing from the United States; Passenger and Crew Manifests for Commercial Vessels Departing from the United States.* Table 12, page 35.
[18] Regulatory Assessment & Final Regulatory Flexibility Analysis for the Final Rule, *Passenger Manifests for commercial Aircraft Arriving in and Departing from the United States; Passenger and Crew Manifests for Commercial Vessels Departing from the United States.* Table 13, page 36.
[19] Thompson, Jr., William C. Comptroller, City of New York. "One Year Later: The Fiscal Impact of 9/11 on New York City." September 4, 2002.

Finally, **Scenario 4** contemplates a catastrophic situation in which a large aircraft is used to deliver a nuclear or biohazard device to an urban center. The costs associated with a scenario such as this have been examined by DHS in detail for a nuclear device.[20] This research concludes that the consequences of such an event would be immense, with a wide range of uncertainty. For the present analysis, TSA is using a value of $1 trillion for the direct consequences of an attack of this severity. This value falls in the midrange of the values developed in the DHS research, and is consistent with results obtained from a review of academic and think tank research into the consequences of nuclear and bioterror attacks on urban areas. The value of $1 trillion results from loss of life in an attacked urban area in the hundreds of thousands and enormous loss of property and other productive assets.

Figure 5 reports the impacts and monetary consequences identified for each of these scenarios. TSA compared the extent of monetary consequence from a successful attack with the cost of the proposed LASP. The annual risk reductions required for the proposed rule to break even under each of the three scenarios are presented in Figure 6. In this analysis the comparison is made between the estimated scenario consequence and the annualized LASP cost of $194.1 million (based on a 7% discount rate); the "required risk reduction" for breakeven is simply the ratio between this annualized program cost and the scenario consequence total. As shown, depending on the attack scenario, underlying baseline risk of terror attack would have to be reduced less than 1 percent (Scenarios 3 and 4) to 11.2 percent (Scenario 2) in order for the rule to break even. Preventing the impact envisioned in Scenario 1 is not sufficient to offset the LASP program costs even if the risk of a Scenario 1 outcome in a given year were a certainty (baseline likelihood of a Scenario 1 event equal to 100%) and the risk was eliminated entirely (100 percent risk reduction

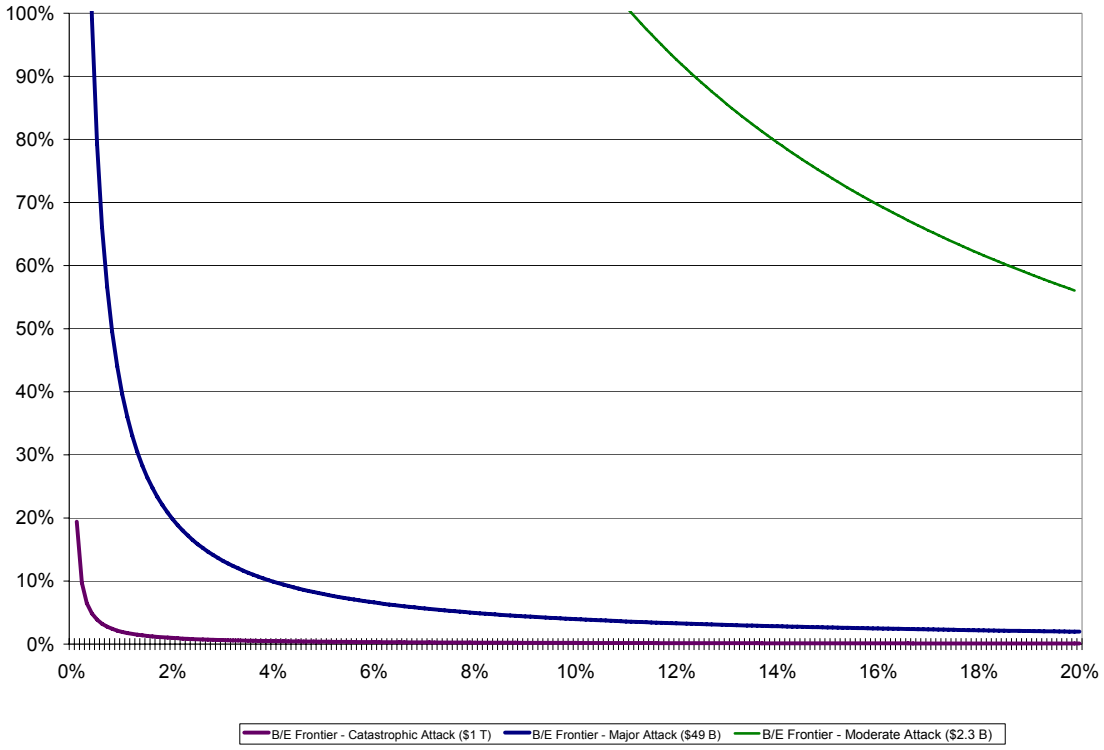
[20] "Economic Consequences of a Nuclear Detonation in an Urban Area" undated DHS draft.

Figure 5: Required Reduction in Annual Risk Necessary (%) for LASP Annualized Costs of $194.1 M (Discounted at 7%) to Equal Expected Benefits, by Attack Scenario

Scenario	Scale	Loss of Life	Valuation at VSL of $5.8 M ($ B)	Hull Loss ($ B)	Property Loss ($ B)	Injuries ($ billion)	Total ($ B)	Required Risk Reduction by LASP
1	Minimal	3	$0.02	$0.009	None	$0.005	$0.03	N/A
2	Moderate	250	$1.45	$0.009	None	$0.27	$1.73	11.2%
3	Major	3000	$17.4	$0.009	$21.8	$9.79	$49.0	0.71%
4	Catastrophic	Large and Variable across Studies					$1,000	0.019%

While the "required risk reduction" due to LASP can be quantified, its units are the absolute risk reduction required. A further consideration is therefore whether the underlying risk of an attack is large enough that such an absolute risk reduction is possible or plausible. The relationship of required risk reduction to underlying baseline risk of attack (which is the risk that would be reduced by an effective LASP program) can be more clearly illustrated graphically using a breakeven frontier. This is especially so because while the amount by which baseline risk must be reduced by LASP if LASP is to be cost-beneficial can be directly calculated as a ratio of program costs to attack consequences, the underlying baseline risk of an attack in any given year is not only highly uncertain, but also variable over time. At any given time, it can be calculated with greater accuracy only through reliance on highly security-sensitive information. Such a break-even frontier graphic is depicted in Figure 6

Figure 6: LASP Breakeven Frontier for Cost Beneficial Reduction of Annual Aviation Terror Attack Risk, by Attack Consequence (Annualized LASP Primary Cost = $194.1 M at 7% Discount Rate)



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In this figure, breakeven curves are shown for three of the attack consequence scenarios. (The Minimal scenario is not depicted in the figure, because the monetary impact of that scenario is exceeded by the annualized cost of the LASP program, meaning that the minimal scenario is not sufficient when considered alone to make the program cost beneficial if the program eliminated all risk of one such attack.) Moving from the northeast corner of the figure in a southwesterly direction, the curves depict the Moderate consequence scenario (Scenario 2), the Major consequence scenario (Scenario 3) and the Catastrophic consequence scenario (Scenario 4). Along the horizontal axis is measured the baseline annual probability or likelihood of a terror

attack involving an aircraft. In the figure, these values run from 0 percent – no chance of such an attack – to 20 percent. The baseline risk could have been extended out to 100 percent (meaning that an annual attack is a certainty), but this would add little information to that already depicted. It is useful to relate program impact to a range of levels for baseline risk (0 to 20 percent, in this figure), because baseline risk may vary over time, as geopolitical and other factors change, and different decision-makers may have individual views on just what value is taken by the baseline risk. Along the vertical axis is the proportionate reduction in baseline risk due to LASP. These values range from 0 percent to 100 percent. A completely ineffective program would not reduce baseline risk at all (taking a 0 percent value on this axis) and a completely effective program, relative to baseline risk, would take a 100 percent value on this axis. If, for example, the baseline risk of an event is judged to be 10 percent, and the proportionate risk reduction provided by the program were 50 percent, then the risk of an event AFTER the program has been deployed would be 5 percent (50 percent of 10 percent). Whether such an outcome is cost beneficial depends, of course, on the program's annualized cost and the impact or consequence of the attack to be deterred or prevented.

For a given breakeven frontier, points along the curve are exactly breakeven with respect to the scenario defining the frontier, in the sense that the program provides a risk reduction that reduces the expected loss due to a successful attack by exactly the cost of the program itself. Points to the northeast of the frontier are cost-beneficial for that scenario in that they indicate that the program provides more than enough annual risk reduction (and reduction in expected loss to terror attack) to cover their annualized costs. Points to the southwest of a frontier are not cost-beneficial with respect to the scenario, since they indicate that the program does not provide enough risk reduction – expressed in the figure as proportionate reduction baseline risk – to

justify the program costs. The break-even frontier presentation is useful as a depiction of the relationship between baseline likelihood of an attack and the extent to which a program reduces that baseline risk because it is precisely that baseline risk that is uncertain or a matter of disagreement for decision-makers. If baseline risk were precisely known, the trade-off comparisons for a range of break-even risk levels provided by the break-even frontier would be extraneous.

As indicated in the figure, for Moderate Attack Consequences, if the underlying baseline risk is 11.2 percent or less, the program cannot be not cost beneficial, since on its own it must reduce baseline risk by 11.2 percent to be cost beneficial. At the other extreme, for the Catastrophic Attack Consequence scenario (and, to a lesser degree, the Major Attack Consequence scenario), the program is cost beneficial for most values of baseline risk, since the impact of such an attack is so sizeable relative to the annualized program cost.

COST OF COMPLIANCE

Aircraft operators, airport operators, and the Transportation Security Administration would incur costs to comply with the requirements of the proposed Large Aircraft Security Program rule. TSA estimated the total 10-year cost of the program at $1.4 billion, discounted at 7%. Using the annualized cost of $194.1 million (at a 7% discount rate), and a range of the average number of flights annually (Figure 7), based on two distinct approaches to annual activity counts which are described below, the annualized total rule cost per flight ranges between $17 and $71 per flight.

Figure 7: Total Annual Estimated Flights by Covered Operators

Year	Annual Flights - ETMS-based Estimate*	Annual Estimated Flights - All Operators**
1	2,118,982	5,382,600
2	2,233,928	11,534,362
3	2,355,696	11,695,843
4	2,484,698	11,859,584
5	2,621,366	12,025,619
6	2,766,159	12,193,977
7	2,919,566	12,364,693
8	3,082,101	12,537,799
9	3,254,313	12,713,328
10	3,436,782	12,891,314
Total	27,273,592	115,199,118
Geo Mean:	2,695,114	11,236,474

* Calculation based on annual IFR flight activity identified in DOT ETMS database and FAA forecast growth rates for GA flight activity.
** Calculation based on annual flight estimates provided by TSA and industry subject matter experts for each of the covered LASP aircraft operator populations.

Aircraft operator costs comprise nearly all of the estimated expense. This is due to the large number of newly regulated aircraft operators and the anticipated time security coordinators would spend on their duties. Given several areas of uncertainty in the cost estimates, the total cost of the rule was estimated to range from $859 million to $1.9 billion, discounted at 7%; with

the primary estimate at $1.4 billion. TSA estimated costs for aircraft operators to utilize WLSP and third party auditing firms as the cost to provide watch list matching services plus overhead and profit and the opportunity costs incurred by passengers newly required to provide personal identity information before traveling. TSA requests detailed comments to enable more precise quantification of this impact, both for new and existing operators.

Figure 8 shows the total estimated cost of the rule by affected population in constant 2006 dollars; total costs are shown discounted at 3% and 7%. The following figures display totals by cost category for each of these affected populations, and the ensuing sections discuss the processes and associated costs underlying these total estimates for each of the affected populations.

Figure 8: Total Cost of the Large Aircraft Security Program (000s)

Year	Aircraft Operators	Airport Operators	TSA	Passenger Opportunity Costs	Total	Total, Discounted 3%	Total, Discounted 7%
1	$113,937.2	$1,566.5	$19,916.1	$8,438.2	$143,857.9	$139,667.9	$134,446.7
2	$168,804.7	$641.2	$19,191.0	$8,904.0	$197,540.9	$186,201.2	$172,539.8
3	$164,354.5	$646.2	$19,956.3	$8,992.1	$193,949.1	$177,490.9	$158,320.2
4	$169,563.0	$651.2	$18,978.5	$9,082.4	$198,275.0	$176,164.8	$151,263.0
5	$168,577.2	$656.2	$19,001.0	$9,174.9	$197,409.3	$170,287.0	$140,750.1
6	$173,732.7	$661.3	$20,023.9	$9,269.8	$203,687.6	$170,585.2	$135,725.7
7	$174,199.2	$666.3	$19,047.1	$9,366.9	$203,279.5	$165,284.8	$126,592.3
8	$179,664.4	$671.4	$19,070.6	$9,466.4	$208,872.8	$164,886.1	$121,565.9
9	$178,997.2	$676.6	$20,094.5	$9,568.2	$209,336.5	$160,439.0	$113,865.2
10	$183,585.4	$681.7	$19,118.7	$9,672.4	$213,058.2	$158,535.3	$108,308.0
Total	**$1,675,415.5**	**$7,518.4**	**$194,397.6**	**$91,935.2**	**$1,969,266.7**	**$1,669,542.1**	**$1,363,376.8**
Low	**$983,456.8**	**$4,438.2**	**$189,938.4**	**$61,290.2**	**$1,239,123.5**	**$1,051,231.7**	**$859,237.4**
High	**$2,373,299.4**	**$10,598.7**	**$198,857.5**	**$137,902.8**	**$2,720,658.4**	**$2,305,920.0**	**$1,882,330.4**

As shown in Figure 9, TSA estimated covered aircraft operators would expend $1.1 billion over 10 years to comply with the proposed Large Aircraft Security Program, discounted at 7%. All covered aircraft operators would incur costs to develop and submit security programs and profiles and ensure that their flight crews successfully undergo STAs conducted by TSA.

Newly regulated aircraft operators would be required to designate security coordinators who would perform a variety of security-related duties and complete annual security training. All aircraft operators would need to control access to any weapons and screen any accessible property in the cabin. Aircraft operators would be required to expend time for requesting and recording personal information from their prospective passengers. Further, aircraft operators would be required to submit names of all persons aboard their flights to TSA-approved service providers for purposes of matching names against terrorist watch lists. In addition, aircraft operators would contract a WLSP to provide watch list matching for passengers. Finally aircraft operators would contract with TSA-approved auditors to undergo biennial reviews demonstrating compliance with their security programs. As the security coordinator duties are the most significant cost of this rulemaking, TSA specifically requests comment on the impacts associated with this requirement.

Figure 9 shows the total estimated 10-year cost of compliance for aircraft operators in constant 2006 dollars, as well as total costs discounted at 3% and 7%.

Figure 9: Total Aircraft Operator Costs of Compliance (000s)

Year	Security Programs & Profiles	Security Coordinator Duties	Security Coordinator Training	Flight Crew STAs	3rd Party Audits	Passenger Data and WLSP	Total	Total, Discounted 3%	Total, Discounted 7%
1	$4,072.7	$82,716.0	$4,430.0	$2,733.7	$10,225.3	$9,759.5	$113,937.2	$107,545.3	$103,525.0
2	3,005.7	139,790.0	5,387.6	2,045.3	11,972.3	$6,603.8	$168,804.7	$155,856.5	$144,421.4
3	99.1	141,747.0	4,034.5	903.6	10,851.2	$6,719.1	$164,354.5	$147,213.7	$131,313.3
4	100.5	143,732.0	4,091.0	891.3	12,291.8	$8,456.4	$169,563.0	$147,523.0	$126,669.9
5	101.9	145,743.0	4,148.2	903.7	10,598.6	$7,081.8	$168,577.2	$142,345.4	$117,655.1
6	103.3	147,784.0	4,206.3	1,971.6	12,325.9	$7,341.6	$173,732.7	$142,486.7	$113,369.2
7	104.8	149,853.0	4,265.2	1,676.6	10,633.2	$7,666.4	$174,199.2	$138,685.7	$106,219.9
8	106.2	151,951.0	4,324.9	1,181.4	12,361.1	$9,739.9	$179,664.4	$138,930.6	$102,429.6
9	107.7	154,078.0	4,385.5	1,186.7	10,668.8	$8,570.6	$178,997.2	$134,342.9	$95,344.5
10	109.2	156,236.0	4,446.9	1,203.0	12,397.2	$9,193.2	$183,585.4	$133,814.3	$91,419.1
Total	**$7,911.1**	**$1,413,630.0**	**$43,719.9**	**$14,696.8**	**$114,325.4**	**$81,132.2**	**$1,675,415.5**	**$1,388,744.2**	**$1,132,367.1**
Low	**$5,237.6**	**$815,556.0**	**$27,376.5**	**$14,637.3**	**$74,157.0**	**$46,492.4**	**$983,456.8**	**$813,038.9**	**$663,228.2**
High	**$10,584.6**	**$2,011,703.0**	**$60,063.3**	**$14,756.4**	**$154,493.8**	**$121,698.3**	**$2,373,299.4**	**$1,964,448.6**	**$1,601,505.1**

Entities wishing to participate as auditors or watch list service providers would incur costs to apply to TSA for authorization to provide those services. Firms providing auditing and watch list services would likely pass their enrollment expenses to subscribing aircraft operators; thus, in this analysis TSA assesses the costs directly to the affected aircraft operators.

Since TSA views security programs as a package, this rule would also require a partial airport security program for airports regularly serving scheduled and public charter operations in large aircraft as well as airports designated by the FAA as "reliever airports." Covered airports would be required to develop and submit security programs to TSA and comply with program requirements. This would entail designation of airport security coordinators and completion of the attendant training. TSA estimated airport operators would expend $5.5 million over 10 years, discounted at 7%. Figure 10 shows the estimated 10-year costs of compliance for airport operators in constant 2006 dollars, as well as total costs discounted at 3% and 7%.

Figure 10: Total Airport Operator Costs of Compliance (000s)

Year	Airport Security Profiles	Security Coordinator Duties	Airport ASC Training	Total	Total, Discounted 3%	Total, Discounted 7%
1	$118.1	$383.8	$1,064.6	$1,566.5	$1,520.8	$1,464.0
2	1.1	386.2	253.9	641.2	$604.4	$560.0
3	1.1	388.7	256.4	646.2	$591.4	$527.5
4	1.1	391.1	259.0	651.2	$578.5	$496.8
5	1.1	393.5	261.6	656.2	$566.0	$467.8
6	1.1	396	264.2	661.3	$553.8	$440.6
7	1.1	398.4	266.8	666.3	$541.8	$414.9
8	1.1	400.8	269.5	671.4	$530.0	$390.7
9	1.1	403.3	272.2	676.6	$518.5	$368.0
10	1.1	405.7	274.9	681.7	$507.2	$346.5
Total	**$128.0**	**$3,947.5**	**$3,442.9**	**$7,518.4**	**$6,512.4**	**$5,477.0**
Low	**$85.0**	**$2,631.8**	**$1,721.4**	**$4,438.2**	**$3,836.9**	**$3,218.4**
High	**$170.9**	**$5,263.5**	**$5,164.3**	**$10,598.7**	**$9,188.1**	**$7,735.6**

In order to implement and oversee this new security program regime, TSA would expend monies to conduct outreach to covered aircraft and airport operators and process security programs and profiles, to enforce compliance with the proposed requirements, and to enroll

auditors and watch list service providers. TSA estimated its 10-year costs to implement the proposed regulation would range from $133.5 million to $139.8 million, discounted at 7%, with a primary estimate of $134.6 million. Figure 11 shows the estimated 10-year costs by category in constant 2006 dollars, as well as total costs discounted at 3% and 7%.

Figure 11: Total TSA Costs of Implementation (000s)

Year	Security Program Review	Enforce Compliance	Auditor Enrollment	Vetter Enrollment	WSLP Firm Audit	Total	Total, Discounted 3%	Total, Discounted 7%
1	$455.6	$19,313.0	$126.9	$20.6		$19,916.1	$19,336.0	$18,613.2
2	291.4	18,863.0	36.3	0.2		$19,191.0	$18,089.4	$16,762.2
3	10.4	18,905.7	40.0	0.2	$1,000.0	$19,956.3	$18,262.8	$16,290.3
4	10.5	18,927.5	40.2	0.2		$18,978.5	$16,862.2	$14,478.6
5	10.7	18,949.7	40.5	0.2		$19,001.0	$16,390.5	$13,547.5
6	10.8	18,972.1	40.7	0.3	$1,000.0	$20,023.9	$16,769.7	$13,342.8
7	11.0	18,994.8	41.0	0.3		$19,047.1	$15,487.0	$11,861.6
8	11.1	19,017.9	41.3	0.3		$19,070.6	$15,054.5	$11,099.3
9	11.3	19,041.3	41.7	0.3	$1,000.0	$20,094.5	$15,400.7	$10,930.1
10	11.4	19,065.0	42.0	0.3		$19,118.7	$14,226.1	$9,719.0
Total	**$834.0**	**$190,050.0**	**$490.6**	**$23.0**	**$3,000.0**	**$194,397.6**	**$163,359.8**	**$134,617.7**
Low	**$631.2**	**$187,299.8**	**$484.9**	**$22.4**	**$1,500.0**	**$189,938.4**	**$162,084.8**	**$133,531.9**
High	**$1,036.9**	**$192,800.2**	**$496.9**	**$23.6**	**$4,500.0**	**$198,857.5**	**$169,673.4**	**$139,757.0**

Entities wishing to participate as auditors or watch list service providers would incur costs to apply to TSA for authorization to provide those services. Firms providing auditing and watch list services would likely pass their enrollment expenses to subscribing aircraft operators; thus, in this analysis TSA assesses the costs directly to the affected aircraft operators.

Finally, passengers on aircraft operations newly covered by the proposed regulation would be required to provide personal information to flight departments or other flight office personnel for matching against watch lists. This process will be slightly time consuming and will therefore impose an opportunity cost on passengers, which is a cost of the proposed rule. Based on the estimated number of passengers in this industry, 30 seconds to provide their information, and a value of time (based on DOT and FAA guidance) of $45.00/hour for business

travel, $31.50/hour for personal travel and a composite or "all purposes" value of $37.20/hour, TSA estimates these 10-year opportunity costs to total $64 million, discounted at 7%. Figure 12 shows the estimated 10-year opportunity costs for these passengers.

Figure 12: Total Passenger Opportunity Costs (000s)

Year	Total Opportunity Costs	Total, Discounted 3%	Total, Discounted 7%
1	$8,438.2	$8,192.4	$7,886.2
2	$8,904.0	$8,392.9	$7,777.1
3	$8,992.1	$8,229.0	$7,340.2
4	$9,082.4	$8,069.6	$6,928.9
5	$9,174.9	$7,914.4	$6,541.6
6	$9,269.8	$7,763.3	$6,176.8
7	$9,366.9	$7,616.2	$5,833.2
8	$9,466.4	$7,472.9	$5,509.5
9	$9,568.2	$7,333.2	$5,204.5
10	$9,672.4	$7,197.2	$4,916.9
Total	**$91,935.2**	**$78,181.0**	**$64,115.0**
Low	**$61,290.2**	**$52,120.6**	**$42,743.3**
High	**$137,902.8**	**$117,271.4**	**$96,172.5**

AIRCRAFT OPERATOR COSTS OF COMPLIANCE

Aircraft operators would incur a variety of costs to comply with the proposed requirements of the LASP. All covered aircraft operators would incur costs to develop or modify security programs and submit profile information to TSA, contract with TSA-approved auditors, and submit passenger information to TSA-approved watch list service providers. Newly regulated aircraft operators would incur additional expenses associated with designating security

coordinators and ensuring they meet specified training requirements, subjecting flight crews to STAs, and controlling access to weapons.

Security Programs and Profiles

Covered aircraft operators would be required to submit a profile containing several pieces of information and to develop and submit a security program for approval by TSA. Examples of the information aircraft operators would submit include the name of the business and any other names under which it does business; the names, addresses, and phone numbers of the owners and officers; and, the designated Aircraft Operator Security Coordinator's (AOSC) contact information. TSA determined this information would be necessary in order to identify all the owners and operators of regulated large aircraft, particularly since less information is available about these operators through other government sources than is the case for commercial operators required by TSA to maintain security programs. Figure 13 presents the estimated 10-year costs for covered aircraft operators to develop and submit security programs and profiles.

Figure 13: Total Aircraft Operator Costs for Security Programs/Profiles (000s)

Year	New Operators	Existing Operators	Total
	a	*b*	*(a + b)*
1	$0.0	$4,072.7	**$4,072.7**
2	196.0	2,809.7	**3,005.7**
3	2.7	96.4	**99.1**
4	2.8	97.7	**100.5**
5	2.8	99.1	**101.9**
6	2.9	100.5	**103.4**
7	2.9	101.9	**104.8**
8	2.9	103.3	**106.2**
9	3.0	104.7	**107.7**
10	3.0	106.2	**109.2**
Total	**$219.0**	**$7,692.2**	**$7,911.2**
Low	**$109.6**	**$5,128.1**	**$5,237.6**
High	**$328.6**	**$10,256.2**	**$10,584.7**

Covered aircraft operators would fill out a form provided by TSA containing basic profile information and return that profile form to TSA. After reviewing the profile, TSA would make

available to the aircraft operator a template Large Aircraft Standard Security Program which the operator would have the option to either accept without modification or use as the basis of developing its own security program. TSA assumed that nearly all covered operators would choose to adopt the template security program. TSA estimated it would take newly regulated aircraft operators between 8 and 16 hours to review the template security program, assemble the requisite profile information, and send the requisite documents to TSA for review. TSA assumed an average of 12 hours for its primary estimate.

Operators currently regulated under any of the security programs the LASP would subsume would likewise be able to accept the template program without modification or request an amendment to their existing security programs. Given the fact that these operators would already be familiar with the core subject matter of the security program and would only need to become familiar with the new requirements, TSA estimated it would take these operators between 2 and 6 hours to review the template security program and submit information to TSA.

TSA would divide the newly regulated population among 5 geographic regions and would not require aircraft operators to submit security program and profile information until their geographic region had been officially implemented. TSA would devote an anticipated four months for implementation activities per region, resulting in 60% of the newly regulated operators being implemented in the first year. The remaining 40% would be covered in the beginning of the second year, followed by a sixth phase incorporating all of the operators already regulated by TSA. Based on information from FAA's 2006 Aerospace Forecast, TSA assumed this population would grow by 1.4% in subsequent years, resulting in new security program and profile submissions.

To calculate costs for covered aircraft operators to review and submit security program and profile information, TSA multiplied the estimated hourly range by the number of affected operators per implementation period and an hourly wage of $62.43. This wage, a weighted average of the fully loaded hourly wages in the National Business Aviation Association (NBAA) 2006 annual salary survey for Aviation Department Managers I (do not fly), Aviation Department Mangers II (do some flying), and Chief Pilots, reflects TSA's estimate of the cost of compensation for AOSCs. TSA chose these occupations based on previous interviews with NBAA in 2002 and input from TSA subject matter experts. Figure 14 presents the estimated 10-year costs in constant 2006 dollars for newly covered aircraft operators to develop and submit security programs and profile information to TSA.

Figure 14: New Aircraft Operator Costs for Security Programs and Profiles (000s)

Year	New Operators	Hourly Compensation	Hours			Total Cost		
			Low	Primary	High	Low	Primary	High
	a	*b*	*c*	*d*	*e*	*(a x b x c)*	*(a x b x d)*	*(a x b x e)*
1	5,437	$62.43	8	12	16	$2,715.1	$4,072.7	$5,430.2
2	3,751	62.43	8	12	16	1,873.2	2,809.7	3,746.3
3	129	62.43	8	12	16	64.2	96.4	128.5
4	130	62.43	8	12	16	65.1	97.7	130.3
5	132	62.43	8	12	16	66.1	99.1	132.1
6	134	62.43	8	12	16	67.0	100.5	134.0
7	136	62.43	8	12	16	67.9	101.9	135.8
8	138	62.43	8	12	16	68.9	103.3	137.7
9	140	62.43	8	12	16	69.8	104.7	139.7
10	142	62.43	8	12	16	70.8	106.2	141.6
Total						**$5,128.1**	**$7,692.2**	**$10,256.2**

Figure 15 presents the estimated 10-year costs in constant 2006 dollars for currently regulated aircraft operators to develop and submit security programs and profile information to TSA.

Figure 15: Existing Aircraft Operator Costs for Security Programs and Profiles (000s of 2006 $)

Year	Existing Operators	Hourly Compensation	Hours			Total Cost		
			Low	Primary	High	Low	Primary	High
	a	*b*	*c*	*d*	*e*	*(a x b x c)*	*(a x b x d)*	*(a x b x e)*
1	0	$62.43	2	4	6	$0.0	$0.0	$0.0
2	785	62.43	2	4	6	98.0	196.0	294.0
3	11	62.43	2	4	6	1.4	2.7	4.1
4	11	62.43	2	4	6	1.4	2.8	4.2
5	11	62.43	2	4	6	1.4	2.8	4.2
6	11	62.43	2	4	6	1.4	2.9	4.3
7	12	62.43	2	4	6	1.5	2.9	4.4
8	12	62.43	2	4	6	1.5	2.9	4.4
9	12	62.43	2	4	6	1.5	3.0	4.5
10	12	62.43	2	4	6	1.5	3.0	4.5
Total	**877**					**$109.6**	**$219.0**	**$328.6**

This rule would label large aircraft security programs as sensitive security information (SSI). TSA regulations governing the use of SSI would require aircraft operators to restrict disclosure of, and access to, their security programs to those with a need-to-know and to destroy them when they are no longer needed. Neither the use of a safe or a crosscut shredder is required; rather, a locked drawer or cabinet is an acceptable means of complying with the requirement to secure SSI, and a normal paper shredder or manual destruction are acceptable means of destroying SSI documents.

TSA requires that SSI be clearly identified with a protective marking at the top and a distribution limitation statement at the bottom of each page. As noted in the regulatory evaluation accompanying the rule establishing TSA's SSI requirements,[21] these protective markings may be applied to electronic documents with just a few keystrokes. It is TSA's expectation that most, if not all, aircraft operator security programs will be created and maintained electronically. If this is not the case, the SSI regulatory evaluation notes that rubber stamps or printable labels are inexpensive and widely available.

[21] 69 FR 28066 (May 18, 2004).

Given these considerations, TSA determined that equipment costs associated with treating aircraft operator security programs as SSI would be insubstantial. Compliance with SSI provisions would likely be the responsibility of the aircraft operator security coordinator (AOSC) and are included in the costs associated with the AOSC's duties discussed below.

Security Coordinator Duties and Training

Newly regulated large aircraft operators would be required to designate Aircraft Operator Security Coordinators (AOSC), Ground Security Coordinators (GSC), and In-Flight Security Coordinators (ISC) and ensure they are properly trained. Each security coordinator position would have unique responsibilities; however, aircraft operator employees could be trained to serve as one or all three of these positions. For example, the pilot-in-command would be required to serve as the ISC, but this individual could also serve as another of the security coordinators for any given flight. The AOSC serves as TSA's primary contact and is responsible for ensuring that the other security coordinators are properly trained. The following discussion details the costs associated with security coordinator duties and training; Figure 16 presents the estimated 10-year costs.

Figure 16: Total Aircraft Operator Costs for Security Coordinators (000s of 2006 $)

Year	Duties a	Initial Training b	Recurring Training c	Total (a + b + c)
1	$82,716.0	$4,430.0	$0.0	$87,146.0
2	139,790.0	3,825.6	1,561.9	145,177.6
3	141,747.0	1,394.8	2,639.6	145,781.5
4	143,732.0	1,414.4	2,676.6	147,823.0
5	145,743.0	1,434.2	2,714.1	149,891.2
6	147,784.0	1,454.3	2,752.1	151,990.3
7	149,853.0	1,474.6	2,790.6	154,118.2
8	151,951.0	1,495.3	2,829.6	156,275.9
9	154,078.0	1,516.2	2,869.3	158,463.5
10	156,236.0	1,537.4	2,909.4	160,682.9
Total	**1,413,630.0**	**19,976.7**	**23,743.2**	**$1,457,349.9**
Low	**$815,556.0**	**$11,119.7**	**$16,256.9**	**$842,932.5**
High	**$2,011,703.0**	**$28,833.8**	**$31,229.5**	**$2,071,766.3**

The principal AOSC or an alternate, if applicable, must be available for contact by TSA 24 hours a day, 7 days a week to ensure the Agency is able to quickly disseminate any intelligence of a threat to a specific aircraft operator or industry segment. The AOSC bears the further responsibility for maintaining any and all records necessary to demonstrate to an auditor or TSA inspector the aircraft operator's compliance with its security program. In addition to these AOSC duties, security coordinators are responsible for the enforcement of policies and procedures relative to the security of the aircraft, including the vetting of crew (where required) and passengers which must be carried out in accordance with the operator's security program. Many of the aircraft operator requirements discussed in the following cost sections fall under the responsibility of the security coordinators.

The most significant costs associated with the proposed rule are those caused by the fulfillment of the security coordinator duties, since these monitoring and verification activities would take place before every flight subject to the new regulation. TSA subject matter experts have estimated that the time security coordinators of newly regulated aircraft operators would spend on their duties would likely average out to approximately 18 minutes per flight. This estimate is based on 6 minutes for a security coordinator to verify all passenger information had been provided to the aircraft operator's watch list service provider and, if necessary, to collect and submit information for any new passengers. Security coordinators would require an estimated additional 12 minutes to inspect passengers and accessible property prior to boarding of the aircraft. TSA determined security coordinators of aircraft operators already having a TSA security program would not see an incremental increase in the time required to perform their duties.

Since these 18 minutes and the costs associated with them would be incurred for every flight by operators affected by the new rule, the estimate of annual flight operations is central to the cost estimates. As noted above, information and data about the flight operations covered under the new rule can be sketchy, so TSA has used two approaches for estimating these annual flights. The two methods lead to different results, so these approaches will be used to define the low and high estimates for the costs associated with the fulfillment of aircraft operator security coordinator duties. The primary estimate will be the average of the two results.

The first approach relies on data regarding actual flight operations by these operators. The underlying raw data for this effort is the DOT's Enhanced Traffic Management System database (ETMS), which collects records of all in flight interactions between the Instrument Flight Rules radar system providing surveillance in controlled airspace, from which individual flights can be identified by tail number in the database. FAA has used this database along with data on operator fleets and aircraft ownership to identify and categorize annual flight activity across an extensive vector of parameters.[22]

With this FAA database, it is possible to identify nearly all flights by general aviation operators (using FAR Part 91) as well as fractional operators (which operate under FAR Part 91 SubPart K), by aircraft type, aircraft size and engine type. Charter operators flying as non-scheduled Part 135 flights were also categorized. All flights in aircraft 12,501 pounds or greater in FY2007 by these users were identified, creating a FY2007 flight count for operators subject to the new regulation.

To develop estimates for future annual flight activity, the FAA forecasts for growth rates for GA activity by jet (6% a year), turboprop (0.6% a year) and piston (-0.2% a year) were

[22] For a fuller discussion of the database and the flight identification methods used, see the information on database development under "Background" at http://www.faa.gov/regulations_policies/reauthorization/

applied to the FY2007 flight totals (by engine type).[23] In 2007 there were two million such flights, and, using the mix of engine types making those flights and the associated growth rates, TSA estimates there will be 2.1 million such flights in 2008, with continued growth.

Since these duties could be performed by any of the security coordinators, TSA used a wage of $53.59, which is a weighted average of wages from the NBAA Salary Survey reported for occupations that could likely serve as security coordinators.[24] To estimate the annual costs of aircraft operator security coordinator duties using this flight count approach, the cost was calculated by multiplying 18 minutes by the annual flight totals and the annual wage rate of $53.59. Annual cost estimates for the fulfillment of aircraft operator security coordinator duties are reported as part of Figure 17 below.

For the second approach, TSA subject matter experts estimated operators that would be newly regulated by the proposed rule operate an average of 1.5 to 3.7 flights per day. Multiplying the number of flights per day by 365 days per year by the midpoint of this range – 2.6 flights per day -- and the estimated security coordinator time per flight yields an annual total of 284 hours per operator for security coordinator duties. Since these duties could be performed by any of the security coordinators, TSA used a wage of $53.59, which is a weighted average of wages from the NBAA Salary Survey reported for occupations that could likely serve as security coordinators.[25]

[23] FAA Aerospace Forecasts, FY2007 – 2020 (March 2007) http://www.faa.gov/data_statistics/aviation/aerospace_forecasts/2007-2020/

[24] These occupations are: Aviation Department Manager I (does not fly), Aviation Department Manager II (does some flying), Chief Pilot, Senior Captain, Captain, and Copilot.

[25] These occupations are: Aviation Department Manager I (does not fly), Aviation Department Manager II (does some flying), Chief Pilot, Senior Captain, Captain, and Copilot.

For its primary estimate of this major cost component, TSA adopted the average from these two alternative approaches. Figure 17 presents the estimated 10-year costs to newly regulated aircraft operators for security coordinator duties.

Figure 17: New Aircraft Operator Costs for Security Coordinator Duties (000s of 2006 $)

Year	Aircraft Operators	Annual Security Coordinator Hours			Hourly Compensation	Total Cost		
	a	b	c	d	e	(a x b x e)	(a x c x e)	(a x d x e)
1	5,437	164	284	404	$53.59	$47,720.0	$82,716.0	$117,711.0
2	9,188	164	284	404	53.59	80,648.0	139,790.0	198,931.0
3	9,316	164	284	404	53.59	81,778.0	141,747.0	201,717.0
4	9,447	164	284	404	53.59	82,922.0	143,732.0	204,541.0
5	9,579	164	284	404	53.59	84,083.0	145,743.0	207,404.0
6	9,713	164	284	404	53.59	85,260.0	147,784.0	210,308.0
7	9,849	164	284	404	53.59	86,454.0	149,853.0	213,253.0
8	9,987	164	284	404	53.59	87,664.0	151,951.0	216,238.0
9	10,127	164	284	404	53.59	88,891.0	154,078.0	219,265.0
10	10,269	164	284	404	53.59	90,136.0	156,236.0	222,335.0
Total						**$815,556.0**	**$1,413,630.0**	**$2,011,703.0**

Newly regulated aircraft operators would also need to ensure that security coordinators undergo appropriate security training in order to carry out the required functions. The AOSC would ensure GSCs and ISCs receive training. Training would cover topics such as procedures to notify authorities when dealing with suspect items, unauthorized access to the aircraft, threat notification and response, implementation of security directives and other security related topics. Security coordinators would be required to complete both an initial training course and annual recurring training. Based on the experience of operators currently conducting security coordinator training using TSA training module on TSA's WebBoard, TSA estimated initial training courses would average 2 hours each for the GSC and ISC modules. Recurring training would also be comprised of two discrete modules and would average 1 hour each.

Recognizing that some aircraft operators have very small flight departments, TSA currently permits aircraft operator designated security coordinators to be cross-trained to perform

the duties of any of the three security coordinators. A person may not serve as more than two of these security coordinators for a given flight, however. Thus, based on its experience with currently regulated operators, TSA anticipated that all security coordinators of newly regulated aircraft operators would be trained to serve as both the ISC and GSC. Accordingly, all trained security coordinators would complete 4 hours of initial training (2 modules at 2 hours each) and 2 hours of annual recurring training (2 modules at 1 hour each).

The number of ISCs and GSCs aircraft operators would designate would vary based on the size of their flight departments. Some aircraft operators may only have two security coordinators: the AOSC and someone trained to serve as both the ISC and GSC. Larger flight departments, however, may have several security coordinators. Based on its review of the industry, TSA determined that most affected flight departments would be small. Consequently, for the purposes of its estimates, TSA assumed for its low, primary, and high scenarios that aircraft operators would train 1, 2, or 3 individuals, respectively, to serve as ISCs and GSCs. TSA multiplied this range by the number of new operators to arrive at the number of initial ISCs and GSCs requiring training. TSA then applied a growth factor of 1.4% to account for new operators entering the industry and a turnover rate of 15% to reflect movement of employees into and within the industry.

Figure 18 presents the estimated 10-year costs for initial ISC and GSC training.

Figure 18: New Aircraft Operator Costs for Initial Training -- ISCs/GSCs (000s)

Year	GSCs and ISCs Receiving Initial Training			Hours per Training	Hourly Compensation	Total Cost		
	Low	Primary	High			Low	Primary	High
	a	*b*	*c*	*d*	*e*	*(a x d x e)*	*(b x d x e)*	*(c x d x e)*
1	6,252	12,504	18,756	4.0	$53.29	$1,332.6	$2,665.2	$3,997.7
2	5,110	10,221	15,331	4.0	$53.29	1,089.2	2,178.5	3,267.7
3	1,507	3,014	4,520	4.0	$53.29	321.2	642.3	963.5
4	1,528	3,056	4,584	4.0	$53.29	325.7	651.3	977.0
5	1,549	3,099	4,648	4.0	$53.29	330.2	660.4	990.7
6	1,571	3,142	4,713	4.0	$53.29	334.8	669.7	1,004.5
7	1,593	3,186	4,779	4.0	$53.29	339.5	679.1	1,018.6
8	1,615	3,231	4,846	4.0	$53.29	344.3	688.6	1,032.9
9	1,638	3,276	4,914	4.0	$53.29	349.1	698.2	1,047.3
10	1,661	3,322	4,982	4.0	$53.29	354.0	708.0	1,062.0
Total	24,024	48,049	72,073			**$5,120.6**	**$10,241.2**	**$15,361.8**

AOSCs would incur costs to provide the training to GSCs and ISCs. TSA assumed AOSCs would take advantage of group training sessions whenever possible. Thus, during the implementation phase, TSA assumed AOSCs would train initial security coordinators as a group. Subsequent to this first training (Years 1 and 2), AOSCs would have to provide initial training to newly hired GSCs or ISCs individually. TSA projected turnover to begin in Year 1, while growth does not begin until Year 2. Figure 19 presents the estimated 10-year costs for AOSCs to provide initial ISC and GSC training.

Figure 19: New Aircraft Operator Costs for Initial Training – AOSCs (000s of 2006 $)

Year	Initial Group Training	Individual Training (Growth and Turnover)			Hours per Training	Hourly Compen-sation	Total Costs		
		Low	Primary	High			Low	Primary	High
	a	*b*	*c*	*d*	*e*	*f*	*(a + b) x e x f*	*(a + c) x e x f*	*(a + d) x e x f*
1	5,437	815	1,631	2,446	4.00	$62.43	$1,561.2	$1,764.8	$1,968.4
2	3,624	1,486	2,972	4,458	4.00	$62.43	1,276.1	1,647.2	2,018.2
3	0	1,507	3,014	4,520	4.00	$62.43	376.3	752.5	1,128.8
4	0	1,528	3,056	4,584	4.00	$62.43	381.5	763.1	1,144.6
5	0	1,549	3,099	4,648	4.00	$62.43	386.9	773.7	1,160.6
6	0	1,571	3,142	4,713	4.00	$62.43	392.3	784.6	1,176.9
7	0	1,593	3,186	4,779	4.00	$62.43	397.8	795.6	1,193.3
8	0	1,615	3,231	4,846	4.00	$62.43	403.3	806.7	1,210.0
9	0	1,638	3,276	4,914	4.00	$62.43	409.0	818.0	1,227.0
10	0	1,661	3,322	4,982	4.00	$62.43	414.7	829.4	1,244.2
Total	**9,061**	**14,963**	**29,927**	**44,890**			**$5,999.1**	**$9,735.5**	**$13,472.0**

Beginning in Year 2, ISCs and GSCs would need to complete annual recurring training. Figure 20 presents the estimated 10-year costs for recurring ISC and GSC training.

Figure 20: New Aircraft Operator Costs for Recurring Training – ISCs/GSCs (000s of 2006 $)

Year	GSCs and ISCs Receiving Initial Training			Hours per Training	Hourly Compensation	Total Cost		
	Low	Primary	High			Low	Primary	High
	a	*b*	*c*	*d*	*e*	*(a x d x e)*	*(b x d x e)*	*(c x d x e)*
1	0	0	0	2.00	$53.29	$0.0	$0.0	$0.0
2	4,621	9,242	13,863	2.00	$53.29	492.5	985.0	1,477.4
3	7,810	15,619	23,429	2.00	$53.29	832.3	1,664.6	2,496.9
4	7,919	15,838	23,757	2.00	$53.29	843.9	1,687.9	2,531.8
5	8,030	16,060	24,090	2.00	$53.29	855.8	1,711.5	2,567.3
6	8,142	16,285	24,427	2.00	$53.29	867.7	1,735.5	2,603.2
7	8,256	16,513	24,769	2.00	$53.29	879.9	1,759.8	2,639.6
8	8,372	16,744	25,116	2.00	$53.29	892.2	1,784.4	2,676.6
9	8,489	16,978	25,467	2.00	$53.29	904.7	1,809.4	2,714.1
10	8,608	17,216	25,824	2.00	$53.29	917.4	1,834.7	2,752.1
Total	**70,247**	**140,494**	**210,741**			**$7,486.3**	**$14,972.6**	**$22,458.9**

As would be the case for initial training, AOSCs would have to provide recurring training to ISCs and GSCs. To make efficient use of their resources, TSA assumed aircraft operators would have their AOSCs provide recurrent training to their ISCs and GSCs in a group. Thus, regardless of whether an aircraft operator had 1 or 3 GSCs and ISCs, the AOSC would only expend 2 hours of time to provide training. Figure 21 below presents the estimated 10-year costs for AOSCs to provide recurring training.

Figure 21: New Aircraft Operator Costs for Recurring Training – AOSCs (000s of 2006 $)

Year	Training Sessions	Hours per Training	Hourly Compensation	Total Cost
	a	*b*	*c*	*(a x b x c)*
1	0	2.0	$62.43	$0.0
2	4,621	2.0	$62.43	$577.0
3	7,810	2.0	$62.43	$975.1
4	7,919	2.0	$62.43	$988.7
5	8,030	2.0	$62.43	$1,002.6
6	8,142	2.0	$62.43	$1,016.6
7	8,256	2.0	$62.43	$1,030.8
8	8,372	2.0	$62.43	$1,045.3
9	8,489	2.0	$62.43	$1,059.9
10	8,608	2.0	$62.43	$1,074.7
Total	**70,247**			**$8,770.6**

Security Threat Assessments for Flight Crews

Subpart G of part 1544 would require newly regulated aircraft operators to ensure that their flight crews are subject to criminal history records checks (CHRC) and checks against government terrorism watch lists and related databases. TSA refers to these checks collectively as a security threat assessment (STA). Existing operators are currently subject to the CHRC requirement under §1544.230. The proposed rule would remove the requirement that currently regulated operators comply with §1544.230 and would instead require all large aircraft operators to conduct STAs on their flight crews under new part 1544, subpart G.

In addition to this change, TSA is proposing to limit the validity of an STA to 5 years in order to align the valid life of the STA with the duration the FBI has set for the validity of the component CHRC. TSA is also proposing to recover a fee of $74 to process each STA.

As a result, both new and existing operators would incur costs to comply with the proposed requirements. Figure 22 presents the total estimated 10-year cost of compliance for covered aircraft operators.

Figure 22: Total Aircraft Operator Costs for Security Threat Assessments (000s of 2006 $)

Year	New Operators	Existing Operators	Total
	a	*b*	*(a + b)*
1	$2,053.0	$680.7	$2,733.7
2	1,710.0	335.3	2,045.3
3	574.0	329.6	903.6
4	582.0	309.3	891.3
5	590.0	313.7	903.7
6	1,508.0	463.6	1,971.6
7	1,364.0	312.6	1,676.6
8	869.0	312.4	1,181.4
9	881.0	305.7	1,186.7
10	893.0	310.0	1,203.0
Total	**$11,024.0**	**$3,672.8**	**$14,696.8**
Low	**$11,024.0**	**$3,613.3**	**$14,637.3**
High	**$11,024.0**	**$3,732.4**	**$14,756.4**

As stated above, TSA is proposing to collect a fee of $74 to conduct a full STA for each flight crewmember of newly regulated aircraft operators. An explanation of how TSA derived this fee can be found in the rule preamble. In addition to the fee, applicants would experience opportunity costs to complete the STA application process, which requires each flight crewmember to submit fingerprints, along with information such as name, mailing and residential addresses, date and place of birth, Social Security Number (voluntary), immigration status, and other information necessary for TSA to determine whether an applicant has committed a disqualifying crime or may be linked to terrorism. Law enforcement officers would also experience opportunity costs to provide fingerprinting services. TSA has determined in previous analyses that the STA application and fingerprinting processes take about 30 minutes of applicant time and 10 minutes of law enforcement time. Using an average wage rate of $51.40 for aircraft operator flight crews,[26] 30 minutes represents an opportunity cost of $25.70 per STA. Similarly, 10 minutes of law enforcement time at an average wage rate of $26.18[27] results in an opportunity cost of $4.36 per STA. Combined, the total STA unit cost, inclusive of opportunity costs, would be $104.06.

Since TSA did not have estimates of the number of flight crewmembers that would be affected by this requirement, TSA subject matter experts estimated that, on average, Part 91 operators have 2 crewmembers per aircraft and 1.8 aircraft per operator, which, when applied to the 9,000 estimated Part 91 operators, yielded a total of 32,400 crewmembers that would need to complete a STA. Similarly, TSA subject matter experts estimated Part 125 operators also have

[26] The flight crew wage reported here is a weighted average of the following occupations from the 2006 NBAA Salary Survey: Aviation Department Manager II (does some flying), Chief Pilot, Senior Captain, and Copilot.
[27] Using BLS online database hourly wages , the 33-xxxx SOCs were used to estimate a weighted average hourly wage which was then adjusted for benefits by dividing by 0.682 which represents 31.8% of total compensation as benefits from the employer costs data on the DOL website. This fully-loaded 2005 wage was then inflated to 2006 using the Employer Compensation Index. ("May 2005 National Occupational Employment and Wage Estimates, Employment and wage estimates by occupation at the national level are divided into twenty-two tables, one for each SOC major group. National OES estimates by SOC major groups.")

an average of 2 crewmembers per aircraft but utilize 4 aircraft per operator. When applied to the estimated 61 Part 125 operators, this yielded a total of an additional 488 crewmembers requiring STAs during the initial implementation phase.

Once this starting population had been estimated, adjustments had to be made to reflect the anticipated implementation schedule and factors such as growth and turnover within the industry. TSA anticipated it would implement 60% of the population (19,733 crewmembers) in the first year, and the remaining 40% (13,155) in the second. As TSA implemented these identified operators, however, new operators would be entering the industry, and new employees would be hired. To account for growth, TSA adopted the FAA's forecast number of 1.4%. TSA subject matter experts estimated annual employee turnover would average 15%. Based on these inputs and accounting for renewal of STAs after 5 years, TSA estimated a number of STAs that would be processed over the first 10 years of the program. Figure 23 presents these estimates and the associated 10-year costs for newly regulated aircraft operators to conduct STAs on flight crewmembers.

Figure 23: New Aircraft Operator Costs for STAs (000s of 2006 $)

Year	STAs	STA Unit Cost	Total Cost
	a	*b*	*(a x b)*
1	19,733	$104.06	$2,053.0
2	16,433	104.06	1,710.0
3	5,509	104.06	574.0
4	5,586	104.06	582.0
5	5,664	104.06	590.0
6	14,499	104.06	1,508.0
7	13,115	104.06	1,364.0
8	8,349	104.06	869.0
9	8,466	104.06	881.0
10	8,585	104.06	893.0
Total	**105,938**		**$11,024.0**

Existing aircraft operators currently conduct CHRCs on their flight crewmembers by submitting their information and fingerprints through the National Air Transportation

Association (NATA) or the American Association of Airport Executives (AAAE). Aircraft operators choose one of these two entities and pay a fee of approximately $30 to $35. This fee is paid directly to NATA and AAAE, and breaks down into two principal components: $12 for AAAE or NATA to process the applicant's registration and submit the application to the government, and the FBI fee to process the fingerprints and conduct the CHRC. Once completed, there is no TSA renewal requirement.

TSA does not retain any money from the existing fee paid by operators currently regulated under the security programs that would be subsumed by the LASP. In order to accommodate the substantial increase in population and the addition of the check against government watch lists and related databases, TSA is proposing to set up a new STA enrollment process and recover its costs through the proposed fee. TSA would require currently regulated aircraft operators to submit STA rather than CHRC applications for their flight crews and to pay the new fee once the proposed rule became effective.

TSA is also proposing to limit the validity of an STA to 5 years. Flight crewmembers of currently regulated aircraft operators would thus be required to submit a new STA application upon publication of a final rule if their most recent CHRC had been completed 5 or more years prior to the compliance date of the final rule. Flight crewmembers having CHRCs completed within 5 years prior to the compliance date in a final rule would be required to submit a STA application once 5 years had passed since the issuance of their current CHRC.

TSA thus distinguished between flight crewmembers joining the industry due to growth and turnover and those obtaining STAs due to the 5-year renewal requirement in order to estimate compliance costs for existing aircraft operators. Since employees joining the industry due to growth and turnover would already be subject to a CHRC under existing regulations,

assessing the full proposed fee would overestimate the impact of the regulation. To arrive at an adjusted fee, TSA subtracted from the proposed fee the estimated range of fees aircraft operators currently pay for CHRCs, as these costs are included in TSA's proposed fee. This yielded an adjusted fee of $39 to $44 ($74 less the $30 to $35 currently paid by aircraft operators). TSA next omitted the opportunity costs estimated for the newly regulated population, because the information used for checks against government terrorism databases is a subset of the information already collected for CHRCs. These opportunity costs were previously accounted for in the Twelve-Five and Private Charter rulemakings. Thus, TSA estimated existing aircraft operators would incur an incremental unit cost of between $39 and $44 to conduct STAs on newly hired flight crewmembers, adopting the average of $41.50 as its primary estimate. Figure 24 presents the estimated 10-year costs.

Figure 24: Existing Aircraft Operator STA Costs for New Flight Crewmembers (000s of 2006 $)

		STA Unit Cost			Total Cost		
Year	Growth/ Turnover	Low	Primary	High	Low	Primary	High
	a	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
1	2,236	$39.00	$41.50	$44.00	$87.2	$92.8	$98.4
2	2,267	39.00	41.50	44.00	88.4	94.1	99.8
3	2,299	39.00	41.50	44.00	89.7	95.4	101.2
4	2,331	39.00	41.50	44.00	90.9	96.7	102.6
5	2,364	39.00	41.50	44.00	92.2	98.1	104.0
6	2,397	39.00	41.50	44.00	93.5	99.5	105.5
7	2,430	39.00	41.50	44.00	94.8	100.9	106.9
8	2,464	39.00	41.50	44.00	96.1	102.3	108.4
9	2,499	39.00	41.50	44.00	97.5	103.7	110.0
10	2,534	39.00	41.50	44.00	98.8	105.2	111.5
Total	**23,822**				**$929.0**	**$988.6**	**$1,048.1**

TSA applied the unit STA of $104.06 used above for newly regulated operators to estimate the cost for existing operators to comply with the 5-year expiration of existing CHRCs and subsequent STAs. TSA calculated the number of renewals based on input from TSA subject matter experts and data from AAAE. Aircraft operators began conducting CHRCs on flight crews under the Twelve-Five and Private Charter programs beginning in 2003; thus, there would

be a surge of STA applications for existing operator flight crews in the first years of the LASP, and a smaller spike in the 6th year as those STAs expired. TSA based its projections on the assumption of 15% employee turnover and 1.4% industry growth used elsewhere in this evaluation. Figure 25 presents the estimated 10-year costs for existing aircraft operators to comply with the requirement to renew flight crewmembers' STAs after 5 years.

Figure 25: Existing Aircraft Operator STA Costs for Current Flight Crewmembers (000s of 2006 $)

Year	Renewals	STA Unit Cost	Total Cost
	a	*b*	*(a x b)*
1	5,650	$104.06	$587.9
2	2,318	104.06	241.2
3	2,251	104.06	234.2
4	2,043	104.06	212.6
5	2,072	104.06	215.6
6	3,499	104.06	364.1
7	2,035	104.06	211.7
8	2,019	104.06	210.1
9	1,941	104.06	202.0
10	1,968	104.06	204.8
Total	**25,795**		**$2,684.2**

Control Access to Weapons

Section 1544.202 currently applies to operations under the Full and Twelve-Five all-cargo programs (TFSSP-AC, FACAOSSP). Although the TFSSP-AC would be subsumed by the LASP, this section would continue to apply to the same population. Presently, these operators are required to "apply the security measures in its security program for persons who board the aircraft for transportation, and for their property, to prevent or deter the carriage of any unauthorized persons, and any unauthorized weapons, explosives, incendiaries, and other destructive devices, items, or substances."[28] The proposed rule modifies Section 1544.202 by inserting between "unauthorized weapons" the words "or accessible." TSA has determined this requirement would have an insignificant impact, because few passengers are carried aboard such flights and operators are already required to screen them. Further, operators would have a

[28] 49 CFR 1544.202.

variety of means of rendering weapons inaccessible to passengers. For example, operators may place weapons in the cargo hold, if available, or in a locked box the key of which is retained by the ISC for the duration of the flight. TSA estimates these boxes cost about $100 and can be moved between aircraft as needed. Alternatively, trigger locks may be used as long as the key is retained by the ISC for the duration of the flight.

Persons and Property onboard a Large Aircraft

The proposed rule adds a new Section 1544.206, which would require aircraft operators to prevent or deter the carriage of unauthorized persons and property on board a large aircraft. Property, for this section, is defined as any container, cargo, or company material that may be used to hide a stowaway or unauthorized materials such as explosives, incendiaries or other destructive substances or items. If the property is stowed in a cargo hold that would not allow access to the cabin, then that property would be exempted from inspection. TSA is unable to divulge further details about this inspection process because they would be part of the aircraft operator's security program and are therefore SSI. As noted in the discussion of Section 1544.202, aircraft operators using aircraft without a cargo hold may render transported weapons inaccessible by placing them in a locked container under the ISC's control.

While this section would apply to all operations in large aircraft, the requirements of this section would be superseded by those in Sections 1544.202 and 1544.205 for all-cargo operations conducted under proposed 1544.103(d) (the FACAOSSP) or 1544.103(f)(2) (presently, the TFSSP-AC). In the case of operations for compensation or hire in an aircraft having a MTOW exceeding 100,309.3 pounds or having 61 or more passenger seats conducted under proposed 1544.103(f)(1) (presently, the PCSSP), the requirements in this section would be superseded by Section 1544.201. Thus, this section would primarily affect operations of Part 91

operators or those of Part 125 operators carrying company materials in which no waybill is tendered.

Given these considerations, TSA subject matter experts have determined that in most cases affected operators already comply with the anticipated inspection requirements during the normal course of the pre-flight check. Costs associated with this responsibility are thus captured in the security coordinator duties above.

TSA is requesting comments, however, on how it should define "unauthorized weapons." For example, since this section is anticipated to apply principally to private aircraft operators, in the NPRM TSA asks for comments on whether "unauthorized weapons" should be limited to guns and firearms in cases where the aircraft is not being used for compensation or hire, or should apply more broadly to all of the items on TSA's prohibited items list (available at www.tsa.gov). TSA also requests comments on whether different requirements should apply based on the size of the aircraft, such as aircraft over 100,309 pounds (45,500 kg). Final determinations about these definitions may increase or decrease the cost of this requirement on covered aircraft operators.

Acquiring Personal Information from Passengers

Aircraft operators currently gather information about future passengers, and specific data elements that may not currently be collected will be necessary for Watch List Matching purposes under the proposed rule. Acquiring this additional data will impose opportunity costs on potential passengers who much provide this data and on the aircraft operators who must compensate their employees for the time spent collecting this data from passengers.

TSA has estimated the total time incurred by passengers on the aircraft subject to this regulation in the section of this regulatory evaluation devoted to passenger opportunity costs. In that section it is estimated that the collection of additional passenger information requires 30 seconds of additional time. To estimate the cost to aircraft operators of this time expenditure, TSA used an hourly compensation rate of $15.00. This rate of compensation is equal to the

mean compensation rate reported by the Bureau of Labor Statistics for Office and Administrative Support Staff.[29] These aircraft operator costs are reported in Figure 26 and total $35.6 million (undiscounted) over the 10 year period in the primary estimate.

Figure 26: Costs to Aircraft Operators of Acquiring Personal Information from Passengers (000s of 2006 $)

Year	Annual Passengers a	Time to Gather Passenger Data (Hours) b	Cost to Aircraft Operator of Gathering Passenger Data (000s) (b x c)	Hourly Rate	Discounted Costs (7%)	Discounted Costs (3%)
1	30,454,322	211,032	$3,165.5	$15.00	$3,165.5	$3,165.5
2	51,351,704	230,436	$3,456.5	15.00	$3,230.4	$3,355.9
3	51,957,709	232,673	$3,490.1	15.00	$3,048.4	$3,289.8
4	52,575,343	234,969	$3,524.5	15.00	$2,877.1	$3,225.5
5	53,204,733	237,325	$3,559.9	15.00	$2,715.8	$3,162.9
6	53,846,002	239,740	$3,596.1	15.00	$2,564.0	$3,102.0
7	54,499,270	242,215	$3,633.2	15.00	$2,421.0	$3,042.8
8	55,164,658	244,752	$3,671.3	15.00	$2,286.3	$2,985.1
9	55,842,286	247,349	$3,710.2	15.00	$2,159.4	$2,928.9
10	56,532,271	250,008	$3,750.1	15.00	$2,039.8	$2,874.1
Total			**$35,557.5**	**Primary**	**$26,507.6**	**$31,132.4**
			$23,705.0	**Low**	**$17,671.7**	**$20,754.9**
			$53,336.2	**High**	**$39,761.4**	**$46,698.6**

[29] BLS data for this compensation rate can be found at the URL http://www.bls.gov/oes/current/oes430000.htm

Watch List Matching

The proposed regulation would require each aircraft operator to request and obtain certain passenger information from every passenger on each flight operated by the aircraft operator and transmit the information to an entity approved by TSA to conduct watch list matching (watch list service provider). Any changes to the passenger information prior to boarding would be required to be resent to the watch list service provider.

TSA anticipates most, if not all, watch list service providers would offer a continuous vetting service to their subscribers. Aircraft operators choosing to use this option would submit to their watch list service provider a "master passenger list" of all of their regular passengers containing specified information about each one and designating those persons for continuous vetting. The watch list service provider would then continuously match those names against the watch list and would bear the responsibility for notifying the aircraft operator of any potential matches. The aircraft operator would then only submit new passenger information if either the specified information changed for a previously identified passenger or if the aircraft operator needed to transport a passenger not previously identified to the service provider.

The proposed rule specifies that the aircraft operator must obtain the full name of the passenger as it appears on a valid government-issued form of identification. Additionally, the aircraft operator must request and send, if available, the passenger's date of birth, gender, and redress number. The redress number is a unique identifying number provided to individuals who have submitted an approved redress complaint to the Department of Homeland Security's Traveler Redress Inquiry Program.[30] The aircraft operator must also send passport information (passport number, country of issuance, expiration date, gender, place of birth and full name of

[30] TSA chose these data elements based on its experience comparing information with the watch list and to facilitate an anticipated future transition to TSA's pending Secure Flight system. Secure Flight is an advanced computer system designed to conduct automated watch list comparisons.

the passenger) if the operator has that information in its possession. If an aircraft operator does not already have this information, however, it would not be required to request that information from passengers specifically for purposes of watch list matching. In order for an aircraft operator to designate a passenger for continuous vetting, the aircraft operator must acquire all of the requested passenger information, with the exception of the redress number, and have the passenger sign a form consenting to the submission of his or her information for continuous matching.

TSA is seeking comments on whether to require covered aircraft operators to provide a privacy notice to individuals prior to collecting their information for watch list matching purposes. TSA requests comments on how a privacy notice could be provided in light of factors such as feasibility, cost, and the overall effectiveness of providing such notice.

Upon submission of the passenger information by the aircraft operator to the watch list service provider, the provider would inform the aircraft operator of the results of the watch list matching. The operator would not be permitted to allow a passenger aboard an aircraft until the operator received a watch list result from the service provider. If the passenger were cleared to board the aircraft, the operator could then permit the passenger to board. If the passenger is identified as a Selectee, the large aircraft operator may permit the passenger to board the aircraft. However, the aircraft operator would be required to comply with the procedures described in its security program pertaining to passengers identified as Selectees, including screening of the passenger and accessible property, if applicable and if warranted by security. If the watch list service provider were to instruct the operator that a passenger should be denied boarding, however, the operator could not permit the passenger to board, unless explicitly authorized by TSA. In this instance, the watch list service provider might instruct the operator to contact TSA

for further resolution or information regarding the passenger. The watch list service provider may also instruct the aircraft operator to contact TSA if the passenger data provided were insufficient for the service provider to distinguish a passenger from an individual on the watch list. The operator would then contact TSA pursuant to the procedures set forth in its security program.

If the operator were to send updated passenger information to the watch list service provider for a passenger for whom the provider had already transmitted a watch list result, the operator could not permit the passenger to board until the operator received updated instructions from the provider. Any previous instruction regarding the passenger would be void and the operator would be required to comply with any updated instruction from the provider.

Based on discussions with TSA subject matter experts, as well as discussion with several firms currently providing support services for general aviation aircraft operators, TSA has developed a common "profile" for these firms.

Services: Typically, firms providing flight support services to domestic general aviation aircraft operations offer both services directly related to aviation such as, flight plans, fuel stops, scheduling, data hosting and back-up, provision of alternate routings to avoid delays, fixed-base operations, aviation data logistics, and weather services, as well as travel-related services. Additionally, several firms also support currently regulated general aviation aircraft operators by providing the vetting of passengers against the TSA watch lists; in most cases this vetting is done on a continuous basis using highly automated processes. These firms also provide flight support services to international general aviation aircraft operations and typically offer these services in addition to landing clearances, visa requests, and CBP APIS filings. In many cases the operators

and passengers of those operators utilize general aviation for both domestic and international travel.

Customer Focus: In all cases, these firms see themselves as an extension of the aircraft operators' flight department and endeavor to be seen as a full-service provider. In fact, in some cases, these firms are the *de facto* flight departments for a number of operators. Firms often meet specifically articulated customer requirements such as, providing strong privacy protection and data safeguards, as well as holding proprietary information confidential. An example of the former is the personal information of senior corporate executives, while an example of the latter are corporate travel plans which, if made public, could, in combination with other publicly available information, affect market psychology and the value of securities. Corporate security departments are especially concerned with the level of information protection provided by these firms.

Fee Structure: These firms tend to bundle services together in a tiered fashion that allows operators to contract for a full package, choose among a few packages with different service offerings, or a single service. In the majority of instances fees are not dependent upon the number of passengers; firms tend to price their offerings either on per flight fee or monthly fee per aircraft basis. Often aircraft size enters the calculus.

Customer Characteristics: Among the aircraft supported by these firms are those manufactured by Gulfstream, Cessna Aircraft Company, Bombardier, Challenger, Airbus (A-319, A-320, A-340), and Boeing (737, 767). When in general aviation service, large aircraft generally require two crewmembers and carry an average of four to six passengers, while smaller aircraft generally often have only one crewmember and from two and four passengers. The

operators supported by these firms are those that are described under current regulations as 14 CFR Part 91 and Part 125, which include fractional owners, business firms, and private owners.

Business Processes: These firms are typically well-invested in information technology; the aggressive application of these technologies is built into business processes. Maintaining technical sophistication appears to be an overarching business strategy. Most firms can expand processing from 25% to 50%; a few firms have identified the capability to increase capacity higher than this level, however, these are firms that are currently vetting passengers in support of operators required to do so under current regulations. The firms TSA interviewed see IT costs and labor costs as flat and costs for licensing as variable in the relevant range. Several have indicated that this development and implementation could be completed from one to four months; a few have indicated that development and implementation could take one to two weeks as with expansion, these are the same firms currently performing passenger vetting. Many of these firms are publicly traded and have processes in place as a result of Sarbanes-Oxley compliance that are commensurate with their reliance on IT as a fundamental business process.

In light of these characteristics, TSA believes that there are sufficient capabilities in the private sector to fully support the watch list matching envisioned by this rule. The following discussion identified individual components in the cost for these firms to support watch list matching. Ramp-up and operating costs: As discussed above, the TSA review of input from subject matter experts and firms currently providing similar services suggests that these firms are technologically sophisticated with more emphasis on capital-intensive rather than labor-intensive processes. While the firms TSA interviewed believed increased transaction volume could be easily accommodated with little or no cost, TSA has developed a set of costs to stand as a proxy for ramp-up and operating costs.

To provide an overall system estimate for these costs, TSA set the number of firms participating as Watch List Service Providers at a low of 10 firms, a midpoint of 20 firms, and a high of 30 firms. This yields estimated total 10-year undiscounted costs of $45.6 million for the primary estimate.

FISMA-related costs: TSA subject matter estimates have indicated that firms providing watch list matching services would not be subject to FISMA compliance given that they are not operating a system for TSA. Rather, these firms would be maintaining their own systems that utilize the TSA-provided watch lists and performing that service for the aircraft operators. This is not unlike current business relationships that enable the regulated general aviation operators to perform watch list matching. Many operators contract with third parties for this watch list matching. The operator and the service provider enter into a non-disclosure agreement whereby operators allow the service providers to access the watch lists on their behalf. Firms match the operator's flight manifest using software and copies of the lists resident on their internal systems and return passenger status to the operator. Additionally, TSA subject matter experts see the process in place to assure compliance with Sarbanes-Oxley as adequate to the task of evaluating information systems.

For the purposes of this analysis, TSA has elected to include costs for FISMA compliance to maintain visibility of this issue. TSA estimates that the 10-year undiscounted costs to one Watch List Service Provider are $80,000. There would be associated TSA audit costs of $150,000 per Watch List Service Provider, which are reported in Figure 49 below.

Based on research and conclusions reached by subject matter experts, TSA set the number of firms participating as Watch List Service Providers at a low estimate of 10 firms, a of primary estimate of 20 firms, and a high estimate of 30 firms. This yields estimated total 10-year

undiscounted FISMA and audit costs of $4.6 million for the Primary estimate, which includes the service provider FISMA costs reported in and the TSA audit costs reported in Figure 49.

As discussed above, the characteristics of the customer-supplier chain suggests that the importance of confidentiality and privacy is critical feature of the business process; TSA believes that many of the processes (and benchmarks) established by FISMA and Sarbanes-Oxley are already in place for the firms that are the most likely candidates to become third-party Watch List Service Providers.

To estimate the cost incurred by aircraft operators TSA includes an overhead and a profit rate as part of the cost of audits. An overhead rate of 12 percent is applied from OMB Circular A-76 (May 29, 2003) to cover the ongoing operating expenses that an auditor is expected to add. In addition, a profit rate of 10 percent is applied using guidance from the Federal Acquisition Regulation 15.404-4 (2005 Reissue).

The costs for Watch List Service Providers described above are summarized in Figures 26 and 27. TSA has estimated the primary 10 year cost of providing watch list matching by this industry segment at $31.8 million discounted at 7% and a total of $45.6 million undiscounted. For these firms, the key undiscounted cost categories included are ramp-up costs of $63,000 per firm, refresh costs of $124,000 per firm, annual operating costs of $127,000 and a one-time FISMA costs of $80,000.

Figure 27: Initial and Operational Costs for Single Watch List Matching Firm[31]

Year	Ramp-up Costs (000s)	Refresh Costs (000s)	Incremental Operating Costs (000s)	WLSP One-time	Over-head and	Total Single Firm

[31] Labor categories include *BLS, 15-1071 Network and Computer Systems Administrators 2006 wage rate; fully loaded, $52.44 (=$38 x 1.38) and ** BLS, 53-2022 Airfield Operations Specialists 2006 wage rate; fully loaded $71,470=($51,790 x 1.38). In both cases, TSA selected wages at the 75th percentile. The WLSP candidate firms are extremely dependent on technology and the associated labor resources. To retain these labor resources firms would be willing to pay a wage premium.

	Initial Servers	Initial Licenses	Labor* to Install (80 hrs)	Servers	Licenses	Labor** to Install (40 hrs)	1.5 FTE	Other Costs	FISMA costs (000S)	Profit	Costs (000s)
1	$40	$20	$3				$107	$20	$80	$59	$330
2							$109	$20		$28	$157
3							$112	$21		$29	$161
4				$42	$21	$2	$117	$21		$44	$247
5							$123	$21		$32	$176
6							$132	$21		$34	$187
7							$144	$22		$36	$202
8				$44	$22	$2	$158	$22		$55	$303
9							$177	$22		$44	$243
10							$200	$23		$49	$272
Total	$40	$20	$3	$86	$43	$4	$1,379	$213	$80	$411	$2,279

Figure 28: Total Costs for Firms Providing Watch List Matching Services

Year	Total Single Firm Costs (000s)	Total Costs for 20 Firms (Primary) (000s)	3% discount (000s)	7% discount (000s)
1	$330	$6,594	$6,402	$6,163
2	$157	$3,147	$2,967	$2,749
3	$161	$3,229	$2,955	$2,636
4	$247	$4,932	$4,382	$3,763
5	$176	$3,522	$3,038	$2,511
6	$187	$3,745	$3,137	$2,496
7	$202	$4,033	$3,279	$2,512
8	$303	$6,069	$4,791	$3,532
9	$243	$4,860	$3,725	$2,644
10	$272	$5,443	$4,050	$2,767
Total	**$2,279**	**$45,575**	**$38,725**	**$31,771**
	Primary: 20 Firms	**$45,575**	**$38,725**	**$31,771**
	Low: 10 Firms	**$22,787**	**$19,363**	**$15,886**
	High: 30 Firms	**$68,362**	**$58,088**	**$47,657**

The proposed watch list requirement serves the dual purpose of limiting and controlling the distribution of the watch list while providing a regulatory structure for a practice that has already developed in industry.

With respect to the existing aircraft operators, aircraft operators presently subject to TSA security programs must compare passenger names to the No Fly and Selectee Lists portion of the watch list prior to each covered flight. While some operators perform this comparison

manually, TSA subject matter experts have determined that a number of firms that currently provide flight planning and filing services have also adopted the role of the proposed watch list service providers. To the extent that existing aircraft operators are presently utilizing these service providers, the proposed requirement may represent little change. TSA subject matter experts were unable to quantify how these changes might affect currently regulated aircraft operators. To enable TSA to quantify this impact, the Agency requests detailed comments from currently regulated aircraft operators on how the proposed changes to the watch list matching process would impact their operations.

With respect to newly regulated aircraft operators, given that these operators tend to serve a specific set of passengers, and to the degree that they already have established relationships with flight planning firms that might become approved watch list service providers, the costs associated with bundling continuous vetting services together with other flight-related service offerings could be minimal. TSA has included an estimate of 6 minutes per flight in the security coordinator duties above to account for the estimated time necessary for newly regulated operators to collect passenger information and review manifests to ensure information for all passengers has been provided to the service provider and a watch list result received permitting each person to board. To enable TSA to quantify this impact, the Agency requests detailed comments from newly regulated aircraft operators on how the proposed changes to the watch list matching process would impact their operations.

Aircraft operators that provide their own flight planning and filing and do not rely on a third-party for flight-related services, however, may face a different cost structure than operators already subscribing to such services, potentially disadvantaging smaller operators. TSA did not have information on either the number of covered operators that currently do not utilize a flight-

planning service. TSA requests detailed comments from industry, supported by data, to enable the Agency to quantify the impact of this proposal.

TSA also requests comments on how TSA's proposal to require covered aircraft operators to use watch list service providers may affect the prevailing industry structure and prices.

TSA is also aware that certain flights that would be covered by the proposed LASP are also covered by US Customs and Border Protection's (CBP) regulations requiring submission of passenger information to its Advance Passenger Information System (APIS). This system also compares passenger information to government watch lists for specific categories of flights to and from the U.S. Presently, CBP only compares to the watch lists passenger manifests for commercial flights to or from the U.S. [32] CBP has published its own NPRM extending its APIS regulations to private aircraft flying to or from the U.S. [33] Should CBP's proposed rule become final, all private aircraft flying to or from the U.S., regardless of size, would be required to submit their passenger manifests to DHS for comparison to the watch lists.

To avoid process redundancies, DHS would require operators and pilots of private large aircraft that would be subject to both TSA's proposed rule and CBP's proposed private aircraft regulations to submit their passenger manifest to CBP only and not to their watch list service providers. TSA would deem U.S. operators of private large aircraft to be in compliance with the requirements to submit passenger information for watch list matching purposes under this proposed rule for international flights if the pilot submits passenger information required under

[32] 19 CFR 122.1(d) defines "commercial aircraft" as any aircraft transporting passengers and/or cargo for some payment or other consideration, including money or services rendered.
[33] 19 CFR 122.1(h) also defines a private aircraft as any aircraft leaving the United States carrying neither passengers nor cargo in order to lade passengers and/or cargo in a foreign area for commercial purposes; or returning to the United States carrying neither passengers nor cargo in ballast after leaving with passengers and/or cargo for commercial purposes.

the proposed eAPIS regulations. TSA requests comments on the number of operators and flights that would be subject to both the LASP and APIS watch list matching requirements.

Audits of Aircraft Operators

Under the proposed rule, each aircraft operator must contract with an auditor approved by TSA to conduct an audit of the aircraft operator's compliance with its security program.

Each aircraft operator must undergo an initial audit to be conducted within 60 days of the approval of the aircraft operator's security program. Thereafter, each aircraft operator must undergo a subsequent audit within 24 months of the aircraft operator's last audit. Figure 28 presents the estimated 10-year costs for all aircraft operators to complete audits; these costs are discussed further and divided between currently and newly regulated aircraft operators below.

Figure 29: Total Aircraft Operator Costs for Audits (000s of 2006 $)

Year	New Operators	Existing Operators	Total
	a	*b*	*(a + b)*
1	$10,225.3	$0.0	$10,225.3
2	10,225.3	1,746.9	11,972.3
3	10,802.0	49.3	10,851.2
4	10,519.7	1,772.1	12,291.8
5	10,523.8	74.8	10,598.6
6	10,528.0	1,797.9	12,325.9
7	10,532.3	101.0	10,633.2
8	10,536.6	1,824.5	12,361.1
9	10,540.9	127.9	10,668.8
10	10,545.3	1,851.8	12,397.2
Total	**$104,979.3**	**$9,346.2**	**$114,325.4**
Low	**$68,094.7**	**$6,062.4**	**$74,157.0**
High	**$141,863.9**	**$12,629.9**	**$154,493.8**

Auditors would be provided access to all records, equipment, and facilities necessary for the auditor to conduct an audit of the aircraft operator's security program. The audit report would include information about the audit process and the auditor's findings and conclusions of the audit. Both the aircraft operator and TSA would receive a copy of the audit report from the auditor, and the aircraft operator may submit written comments on the report to TSA within 30

days of receiving its copy. The audit report would be an important tool in TSA's compliance program by enabling TSA to evaluate a large aircraft operator's compliance with TSA regulations and its security program and to ascertain if additional TSA action would be required.

Based on similar audits undertaken relative to other federal aviation programs, TSA estimates these cost for these audits to be approximately $1,850 per audit, on average. Currently, audits are performed to review, safety, operations and maintenance. TSA anticipates that many of these firms will offer the "security" audit as part of their offerings to their current customers and, perhaps, where feasible, bundle the security audit with already scheduled audits.

Based on interviews with 3 International Standard for Business Aircraft Operations (IS-BAO) auditors, TSA subject matter experts estimated costs for audits could range from $1,200 to $2,500. The low estimate assumes the security audit would be performed as part of a required FAA safety audit, requiring 8 hours of auditor time at $150 per hour. These are standard rates for ISBAO safety checks that currently apply. The 8 hours includes both the time to review the necessary documents and to write up the audit report. The high estimate assumes the same auditor time and wage rate, but adds on $1,300 to account for auditor travel expenses to make a special visit to the aircraft operator.

To estimate the cost incurred by aircraft operators TSA includes an overhead and a profit rate to the cost of audits. An overhead rate of 12 percent is applied from OMB Circular A-76 (May 29, 2003) to cover the ongoing operating expenses that an auditor is expected to add. In addition, a profit rate of 10 percent is applied using guidance from the Federal Acquisition Regulation 15.404-4 (2005 Reissue). Applying both of these factors to the estimated audit cost of $1,850 increases the cost to aircraft operators to $2,257 per audit.

TSA assumed 50% of newly regulated aircraft operators would have to undergo audits in the first year and the remaining operators would pay for audits in the second year. Audit costs would then recur for each population every 2 years. Figure 29 presents the estimated 10-year cost to newly regulated aircraft operators for TSA audits.

Figure 30: New Aircraft Operator Costs for Audits (000s of 2006 $)

		Cost per Audit			Total		
	Audits	Low	Primary	High	Low	Primary	High
Year	*a*	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
1	4,531	$1,464	$2,257	$3,050	$6,632.7	$10,225.3	$13,818.0
2	4,531	1,464	2,257	3,050	6,632.7	10,225.3	13,818.0
3	4,786	1,464	2,257	3,050	7,006.7	10,802.0	14,597.3
4	4,661	1,464	2,257	3,050	6,823.6	10,519.7	14,215.8
5	4,663	1,464	2,257	3,050	6,826.3	10,523.8	14,221.4
6	4,665	1,464	2,257	3,050	6,829.0	10,528.0	14,227.1
7	4,666	1,464	2,257	3,050	6,831.7	10,532.3	14,232.8
8	4,668	1,464	2,257	3,050	6,834.5	10,536.6	14,238.6
9	4,670	1,464	2,257	3,050	6,837.3	10,540.9	14,244.5
10	4,672	1,464	2,257	3,050	6,840.2	10,545.3	14,250.4
Total	**46,513**				**$68,094.7**	**$104,979.3**	**$141,863.9**

Operators currently operating under a TSA security program would not be implemented until the second year. As above, the proposed rule would require these operators to complete an audit within 60 days of submitting their security program to TSA and then again every 24 months. Figure 30 presents the estimated 10-year costs for currently regulated aircraft operators to undergo audits. Operators in the odd-numbered years are a product of the assumed 1.4% growth within the industry.

Figure 31: Existing Aircraft Operators Costs for Audits (000s of 2006 $)

		Cost per Audit			Total		
	Audits	Low	Primary	High	Low	Primary	High
Year	*a*	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
1	0	$1,464	$2,257	$3,050	$0.0	$0.0	$0.0
2	774	1,464	2,257	3,050	$1,133.1	$1,746.9	$2,360.7
3	22	1,464	2,257	3,050	$31.9	$49.3	$66.6
4	785	1,464	2,257	3,050	$1,149.4	$1,772.1	$2,394.7
5	33	1,464	2,257	3,050	$48.5	$74.8	$101.0
6	797	1,464	2,257	3,050	$1,166.2	$1,797.9	$2,429.6
7	45	1,464	2,257	3,050	$65.5	$101.0	$136.4
8	808	1,464	2,257	3,050	$1,183.5	$1,824.5	$2,465.5
9	57	1,464	2,257	3,050	$83.0	$127.9	$172.9
10	820	1,464	2,257	3,050	$1,201.2	$1,851.8	$2,502.5
Total	**4,141**				**$6,062.4**	**$9,346.2**	**$12,629.9**

As already stated, these costs are based on an assumption that TSA-approved auditors would charge prices comparable to those currently charged by FAA safety inspectors. TSA requests comments on this assumption, however, including comments on how this requirement may affect the prevailing industry structure and prices.

Other Requirements of 49 CFR Part 1544

TSA has determined that the sections identified below would have a *de minimis* impact on covered aircraft operators. These sections correspond to those identified in Figure 4 as "new requirements" and not discussed separately in the aircraft operator costs of compliance. The following paragraphs provide a brief description of each requirement and the basis for TSA's determination. TSA welcomes comments, supported by data, on its assumptions and findings.

Law Enforcement Personnel

This section forms part of the basic TFSSP; it would thus be a new requirement only for newly regulated operators. To meet the requirements of this section, newly regulated aircraft operators would need to establish and maintain procedures for contacting local law enforcement in order to respond to an incident. TSA's regulations governing airports, 49 CFR part 1542, require airports to establish agreements with local law enforcement to respond to such incidents.

Thus, when flying into an airport with a TSA security program, the aircraft operator need only coordinate with the airport security coordinator (ASC) and TSA to meet this requirement. When flying into an airport not having a TSA security program, the aircraft operator may meet this requirement by knowing how to contact local law enforcement. TSA thus determined this section would have a minimal impact on aircraft operators and that the estimated security coordinator duties likely capture any incremental burden.

Carriage of Accessible Weapons

This section forms part of the basic TFSSP; it would thus be a new requirement only for newly regulated operators. This requirement sets forth procedures an aircraft operator must follow in circumstances where a law enforcement officer (LEO) has a need to travel armed aboard an aircraft. Aside from ensuring security coordinators are familiar with the stated procedures, the requirements of this section should not have an impact on covered aircraft operators. TSA has elsewhere estimated costs associated with security coordinator training.

Transportation of Federal Air Marshals

This section forms part of the basic TFSSP; it would thus be a new requirement only for newly regulated operators. This section specifies that a covered aircraft operator must transport Federal Air Marshals upon receiving prior notification from TSA. The Agency does not anticipate this requirement would be invoked in the instance of newly regulated aircraft operators except in exigent circumstances. TSA thus was unable to predict the frequency with which aircraft operators might be affected by this requirement but anticipated that any impact would be minimal.

Security of Aircraft and Facilities

This would be a new requirement for all large aircraft operators, with the exception of those currently operating under the PCSSP. This section would require covered aircraft operators to use the facilities, procedures, and equipment described in their security programs to prevent unauthorized access to areas and aircraft controlled by the aircraft operator. If access to the aircraft were not controlled, the aircraft operator would be required to conduct a full security inspection of the aircraft before placing it into passenger operations. TSA subject matter experts stated this requirement aligns with common industry practice and should not represent a cost impact to aircraft operators.

Volunteer Emergency Services

This section would be a new requirement for all large aircraft operators covered by the proposed rule. The NPRM would also formally add this requirement to the AOSSP and FACAOSSP, though TSA has already implemented the substance of this requirement in the AOSSP. TSA is proposing this requirement in response to Congressional legislation directing the Agency to establish a program limiting liability for qualified LEOs, firefighters, and emergency medical technicians (EMT) who provide their services in an emergency situation. As proposed, aircraft operators would be required to establish a program whereby LEOs, firefighters, and EMTs may present their credentials to the aircraft operator prior to boarding an aircraft and consent to be called upon in case of an emergency. By presenting their credentials and volunteering their services, these three classes of emergency response personnel would be exempted from liability for any damages brought in a Federal or State court arising from their emergency service efforts, except in cases of negligence or willful misconduct. TSA determined that since the requirements of this proposed section are largely procedural, they would likely not

have any substantive impact on an aircraft operator beyond the already estimated time to develop security programs and train aircraft operator security coordinators.

Contingency Plan

This section forms part of the basic TFSSP; it would thus be a new requirement only for newly regulated operators. Operators would be required to adopt a contingency plan as a part of their security programs and put it into effect when directed by TSA. TSA views adoption of a contingency plan as a procedural requirement with minimal cost and determined that any cost associated with formulating and implementing the plan should be included in the estimated cost to develop security programs.

Bomb or Air Piracy Threats

This section forms part of the basic TFSSP; it would thus be a new requirement only for newly regulated operators. This section sets forth specific procedures with which an aircraft operator must comply upon receipt of a specific and credible threat to the security of a flight, an aircraft, or a ground facility. In cases of a threat to a flight, the aircraft operator must immediately notify the GSC, ISC, and appropriate airport operator. The ISC must in turn notify all flight crewmembers. This notification requirement could be accomplished through air traffic control and would not require installation of any special equipment aboard the aircraft.

In cases of threats against an aircraft, the aircraft operator must deplane any passengers and conduct a security inspection of the aircraft. If a credible threat is made against a ground facility at an airport, the aircraft operator must immediately notify the airport operator as well as all other aircraft operators at the threatened facility. The aircraft operator must then conduct a security inspection.

Because the number of threats which would cause this provision to come into force is unpredictable, TSA was not able to estimate a cost for this requirement. We specifically request comment, including data, on this possible impact.

Security Directives and Information Circulars

This section forms part of the basic TFSSP; it would thus be a new requirement only for newly regulated operators. TSA issues Information Circulars to aircraft operators when it receives information of a threat. These notifications provide aircraft operators with relevant security information but do not require operator action. If, however, TSA determines information about a threat requires an immediate operational response, the Agency issues a Security Directive.

Upon receipt of a Security Directive, newly regulated aircraft operators would be required to verbally acknowledge to TSA their receipt of the direction. The section would then require aircraft operators to either implement the procedures contained in the Security Directive within the specified timeframe or propose alternate security measures.

Because both the types of actions that operators would be required to take when TSA notified them of a security threat and the frequency with which such threats would occur are unpredictable, TSA was not able to estimate a cost for this requirement. We specifically request comment, including data, on this possible impact.

AIRPORT OPERATOR COSTS OF COMPLIANCE

Security Programs and Profiles

The proposed rule would require certain categories of airports to develop a partial airport security program and submit a profile. This requirement would apply to airports that do not presently have a security program and which regularly serve scheduled or public charter

operations in large aircraft. TSA estimated 42 airports would fall into this category. The requirement would also apply to GA airports designated by the Secretary of Transportation as reliever airports. TSA estimated this requirement would affect approximately 273 airports. In sum, an estimated 315 airports would be affected.

As would be the case for covered aircraft operators, TSA would make available a template partial airport security program which operators would have the option to either accept without modification or use as the basis of developing their own security program. Requirements of the partial airport security program include: designation of an airport security coordinator and provision of training, establishment of procedures for public advisories and incident management, and coordination with law enforcement personnel to support the security program.

TSA assumed that nearly all covered operators would choose to adopt the template security program. Once an airport operator had reviewed and implemented the security program requirements, it would submit to TSA a form acknowledging its compliance with the stated requirements. This form would also include space for the required profile information. TSA estimated it would take these newly regulated airport operators between 8 and 16 hours to review and implement the template security program and assemble the requisite profile information. TSA adopted an average of 12 hours as its primary estimate.

TSA is also considering requiring airport operators to undertake a risk-based self-assessment of their security programs. TSA would provide the risk-assessment tool and requests comments on whether airport operators should be required to use this tool in developing their security programs. For the purpose of this analysis, TSA assumed that, if provided, use of the

self-assessment tool would be voluntary rather than mandatory and did not factor its use into the time required to develop the security program.

TSA therefore multiplied the hour estimates above by the number of airport operators and a middle management wage rate of $31.24 per hour. TSA assumed an annual turnover rate of 1% resulting from changes in airport characteristics that would subject new airports to these requirements. Figure 31 presents the total 10-year costs to airport operators to review security programs and submit profiles.

Figure 32: Airport Operator Costs to Review Security Programs/ Submit Profiles (2006 $)

Year	Airports	Hourly Compensation	Hours			Total Cost		
			Low	Primary	High	Low	Primary	High
	a	*b*	*c*	*d*	*e*	*(a x b x c)*	*(a x b x d)*	*(a x b x e)*
1	315	$31.24	8	12	16	$78,700	$118,100	$157,400
2	3	31.24	8	12	16	700	1,100	1,500
3	3	31.24	8	12	16	700	1,100	1,500
4	3	31.24	8	12	16	700	1,100	1,500
5	3	31.24	8	12	16	700	1,100	1,500
6	3	31.24	8	12	16	700	1,100	1,500
7	3	31.24	8	12	16	700	1,100	1,500
8	3	31.24	8	12	16	700	1,100	1,500
9	3	31.24	8	12	16	700	1,100	1,500
10	3	31.24	8	12	16	700	1,100	1,500
Total						**$85,000**	**$128,000**	**$170,900**

Airport operators would also be required to protect their security programs as SSI. As discussed above under the aircraft operator security program costs, TSA did not anticipate this requirement would result in substantive incremental costs to regulated entities.

Security Coordinator Duties and Training

TSA regulations require airport security coordinators (ASC) to be available to TSA on a 24-hour basis, 7 days a week. In order to meet this requirement, it is typical for airports to designate between 1 and 3 ASCs. These security coordinators are responsible for coordinating with TSA and ensuring the airport remains in compliance with the airport security program and any TSA Security Directives. The ASC must also establish incident management procedures,

including coordination with local law enforcement, and immediately initiate a response to any identified security threat or breach. Additionally, Section 1542.3(c) stipulates that all ASCs must complete subject matter training in accordance with the airport operator's security program. Figure 32 presents the estimated 10-year costs to airport operators for security coordinator duties and training.

Figure 33: Total Airport Operator Costs for ASC Duties and Training (000s of 2006 $)

Year	Duties	Training Time	Training Fees and Travel	Total
	a	*b*	*c*	*(a + b + c)*
1	$383.8	$409.4	$655.2	$1,448.4
2	386.2	97.6	156.2	640.1
3	388.7	98.6	157.8	645.1
4	391.1	99.6	159.4	650.1
5	393.5	100.6	161.0	655.1
6	396.0	101.6	162.6	660.2
7	398.4	102.6	164.2	665.2
8	400.8	103.6	165.9	670.3
9	403.3	104.7	167.5	675.5
10	405.7	105.7	169.2	680.6
Total	**$3,947.5**	**$1,323.9**	**$2,118.9**	**$7,390.4**
Low	**$2,631.8**	**$662.0**	**$1,059.5**	**$4,353.2**
High	**$5,263.5**	**$1,985.9**	**$3,178.4**	**$10,427.8**

TSA estimated airport security coordinators would spend an average of between 0.5 and 1 hour per week on their duties, adopting 0.75 hours per week as its primary estimate. To calculate costs associated with security coordinator duties, TSA multiplied the anticipated number of airports by the estimated annual hours and the ASC average hourly cost of compensation. Although TSA assumed it would receive a number of new airport security programs each year amounting to 1% of the total number of airports, this would overestimate the number of airports with active security programs because some airports would no longer meet the criteria requiring them to have security programs. To compensate for this fluctuation, TSA assumed the number of airports with active security programs, and thus ASCs on duty, would

grow by 0.5% annually. Figure 33 shows the estimated 10-year costs to airport operators for security coordinator duties.

Figure34: Airport Operator Costs for ASC Duties (000s of 2006 $)

Year	Airports *a*	ASC Hourly Compensation *b*	ASC Annual Duty Hours Low *c*	Primary *d*	High *e*	Total Cost Low *(a x b x c)*	Primary *(a x b x d)*	High *(a x b x e)*
1	315	$31.24	26	39	52	$255.9	$383.8	$511.7
2	317	31.24	26	39	52	257.5	386.2	515.0
3	319	31.24	26	39	52	259.1	388.7	518.2
4	321	31.24	26	39	52	260.7	391.1	521.5
5	323	31.24	26	39	52	262.4	393.5	524.7
6	325	31.24	26	39	52	264.0	396.0	528.0
7	327	31.24	26	39	52	265.6	398.4	531.2
8	329	31.24	26	39	52	267.2	400.8	534.5
9	331	31.24	26	39	52	268.9	403.3	537.7
10	333	31.24	26	39	52	270.5	405.7	541.0
Total						**$2,631.8**	**$3,947.5**	**$5,263.5**

TSA training requirements for airport security coordinators differ from those for aircraft operator security coordinators. ASC training is only offered twice per year by the American Association of Airport Executives (AAAE). This 8-hour training course is taught by professional trainers and requires payment of a $350 registration fee. Since this training is offered at a single location, TSA estimated ASCs would need to expend an additional $450 to cover travel and other incidental expenses. TSA assumed the need to travel to and from the training would effectively add an additional 8 hours to the training.

Figure 34 presents the estimated costs to airport operators for ASC training time. The 8 hours of class time are added to the 8 hours of assumed travel time for a total of 16 hours of compensated ASC time. As stated above, TSA estimated airports would need to train between 1 and 3 ASCs in order to meet the requirements that an ASC be available 24-hours per day. Without more detailed information, TSA adopted the average of 2 for its primary estimate. To calculate costs for ASCs needing training after the initial implementation, TSA used a growth rate of 1%, as noted above, to account for new airports adopting a partial airport security

program. TSA subject matter experts estimated that the turnover rate for ASCs is approximately 30%.

Figure 35: Airport Operator Costs for ASC Training Time (000s of 2006 $)

	ASCs Receiving Training			Hours (Training & Travel)	Hourly Compensation	Total Cost		
	Low	Primary	High			Low	Primary	High
Year	*a*	*b*	*c*	*d*	*e*	*(a x d x e)*	*(b x d x e)*	*(c x d x e)*
1	410	819	1,229	16.0	$31.24	$204.7	$409.4	$614.1
2	98	195	293	16.0	31.24	48.8	97.6	146.4
3	99	197	296	16.0	31.24	49.3	98.6	147.9
4	100	199	299	16.0	31.24	49.8	99.6	149.4
5	101	201	302	16.0	31.24	50.3	100.6	150.9
6	102	203	305	16.0	31.24	50.8	101.6	152.4
7	103	205	308	16.0	31.24	51.3	102.6	153.9
8	104	207	311	16.0	31.24	51.8	103.6	155.4
9	105	209	314	16.0	31.24	52.3	104.7	157.0
10	106	211	317	16.0	31.24	52.9	105.7	158.6
Total	**1,324**	**2,649**	**3,973**			**$662.0**	**$1,323.9**	**$1,985.9**

Figure 35 shows the estimated total costs to airport operators for fees and expenses associated with ASC training.

Figure 36: Airport Operator Costs for ASC Training Fees and Expenses (000s of 2006 $)

	ASCs Receiving Training			Training Fee	Travel Expenses	Total Cost		
	Low	Primary	High			Low	Primary	High
Year	*a*	*b*	*c*	*d*	*e*	*(a x d x e)*	*(b x d x e)*	*(c x d x e)*
1	410	819	1,229	$350.00	$450.00	$327.6	$655.2	$982.8
2	98	195	293	350.00	450.00	78.1	156.2	234.4
3	99	197	296	350.00	450.00	78.9	157.8	236.7
4	100	199	299	350.00	450.00	79.7	159.4	239.1
5	101	201	302	350.00	450.00	80.5	161.0	241.5
6	102	203	305	350.00	450.00	81.3	162.6	243.9
7	103	205	308	350.00	450.00	82.1	164.2	246.3
8	104	207	311	350.00	450.00	82.9	165.9	248.8
9	105	209	314	350.00	450.00	83.8	167.5	251.3
10	106	211	317	350.00	450.00	84.6	169.2	253.8
Total	**1,324**	**2,649**	**3,973**			**$1,059.5**	**$2,118.9**	**$3,178.4**

TSA recognizes that in some cases these airports are owned and maintained by small municipalities, and funds for ASCs to attend training must be provided from the city budget. This may be a burden on some jurisdictions. TSA is thus requesting comments on whether ASCs of airports operating under a partial airport security program should be required to undergo

the same training as ASCs of airports operating under a Supporting or full Airport Security Program, as assumed in TSA's calculations above, or if a shorter or otherwise modified training program would be appropriate.

FEDERAL GOVERNMENT COSTS

In addition to the costs to covered aircraft and airport operators, TSA would incur costs to reach out to covered operators during the implementation stage, to process security programs and profiles submitted by aircraft and airport operators, and to then conduct inspections to ensure that covered operators comply with their security programs. Additionally, TSA would incur costs to process applications from individuals and firms requesting approval to become third party auditors or watch list service providers and then to oversee the approved applicants. Each of these components is discussed in greater detail below. TSA costs to process security programs and profiles and to enforce compliance are segmented according to whether they pertain to aircraft or airport operators.

Processing of Security Programs and Profiles

TSA would incur costs to process and review aircraft and airport operator security programs and profiles. TSA is proposing to phase in operators in 6 phases spanning 24 months. While these costs are not significant, TSA provides a brief description of these in this section in the interest of transparency. The total for this cost segment amounts to approximately $834,000 over a ten year period; discounted at 3% and 7% this amounts to approximately $789,000 and $737,000, respectively.

Figure 37: Total TSA Costs to Process Security Programs/ Profiles (000s of 2006 $)

Year	Aircraft Operators *a*	Airport Operators *b*	Total *(a + b)*
1	$440.3	$15.3	$455.6
2	283.6	7.8	291.4
3	10.1	0.2	10.4
4	10.3	0.2	10.5
5	10.4	0.2	10.7
6	10.6	0.2	10.8
7	10.7	0.2	11.0
8	10.9	0.2	11.1
9	11.0	0.2	11.3
10	11.2	0.2	11.4
Total	**$809.0**	**$25.0**	**$834.0**
Low	**$606.8**	**$23.3**	**$630.1**
High	**$1,011.3**	**$24.3**	**$1,035.6**

Aircraft Operators

TSA would address the processing of the security programs submitted by large aircraft operators using a phased approach. In phases one through five, large aircraft operators which would be newly covered by security regulations would be processed. The phases would be based on dividing the population geographically. Phase six would be comprised of all aircraft operators that were covered under previous security regulations.

A net growth rate of 1.4% was used for the large aircraft operator population, as published by the FAA, to develop costs beyond the initial phase-in period.

Figure 38: TSA Costs to Process Aircraft Operator Security Programs/ Profiles

Year	Initial Contact *A*	Profile Input *b*	Security Program Review *c*	Total Cost *(a + b + c)*
1	$10,738	$171,809	$257,713	$440,260
2	4,035	64,561	215,026	283,622
3	207	3,309	6,618	10,134
4	210	3,356	6,711	10,276
5	213	3,402	6,805	10,420
6	216	3,450	6,900	10,566
7	219	3,498	6,997	10,714
8	222	3,547	7,095	10,864
9	225	3,597	7,194	11,016
10	228	3,647	7,295	11,170
Total	**$16,511**	**$264,177**	**$528,354**	**$809,042**
Low	**$12,383**	**$198,133**	**$396,266**	**$606,782**
High	**$20,639**	**$330,221**	**$660,443**	**$1,011,303**

The low and high estimates are based on assuming differing estimates of the large aircraft operator population applied to the primary estimate of $809,000. The low estimate is based on 75% of the population underlying the primary estimate and amounts to approximately $607,000 while the high estimate is based on 125% of the population underlying the primary estimate and amounts to approximately $1 million.

For analytical purposes, the estimated total cost for the processing of security programs submitted by the operators of large aircraft has been divided into three cost components; these are: initial contact, profile input, and review. Each of these is discussed more fully below.

Initial Contact Process. Beyond the standard notification provided through the Federal Register, TSA intends to provide notification to the community of large aircraft operators through federally maintained web boards, as well as web boards maintained by industry associations. This notification will request all large aircraft operators to provide TSA with operator specific information. The cost for this component has been estimated at approximately $17,000 dollars and does not include the costs associated with the Federal Register.

Profile Input Process. The cost for this component is estimated at $264,000 dollars and covers the cost of reviewing and entering the information provided by the operator. Following the review of these data TSA will notify operators of the dates within which they are to file their security program.

Program Review Process. The cost for this component is estimated at $528,000 dollars and covers the cost of reviewing and approving the security program submitted by each aircraft operator and entering the information provided by the large aircraft operators.

Combining these processes yields a need for an estimated 17,000 hours over 10 years. Figure 38 shows the yearly estimates.

Figure 39: TSA Aircraft Operator Security Program Work Hours and Costs by Cost Segment

	Work Hours				
Year	Initial Contact Process *a*	Profile Input Processing *b*	Security Program Review *c*	Total Work Hours *d = (a + b + c)*	**TSA Total Cost ($47.40 / hour)** *d x $47.40*
1	227	3,624	5,437	9,288	$440,260
2	85	1,362	4,536	5,983	283,622
3	4	70	140	214	10,134
4	4	71	142	217	10,276
5	4	72	144	220	10,420
6	5	73	146	223	10,566
7	5	74	148	226	10,714
8	5	75	150	229	10,864
9	5	76	152	232	11,016
10	5	77	154	236	11,170
Total Hours	**348**	**5,573**	**11,146**	**17,067**	
Total Dollars	**$16,511**	**$264,177**	**$528,354**	**$809,042**	**$809,042**

Airport Operators

TSA would phase in airport operators in a manner similar to aircraft operators, with the exception that there would be only five implementation phases, as there are no existing airport operators that would be required to resubmit security programs under the proposed rule. Figure 39 presents the estimated 10-year costs for TSA to process airport operator security programs

and profiles. TSA assumed a net growth rate of 1% to estimate costs beyond the initial phase-in period.

Figure 40: TSA Costs to Process Airport Operator Security Programs/ Profiles

Year	Initial Contact *a*	Profile Input *b*	Security Program Review *c*	Total Cost *(a + b + c)*
1	$373	$5,973	$8,959	$15,305
2	98	1,568	6,122	7,788
3	5	75	151	231
4	5	76	152	233
5	5	77	154	236
6	5	78	155	238
7	5	78	157	240
8	5	79	159	243
9	5	80	160	245
10	5	81	162	248
Total	**$510**	**$8,165**	**$16,331**	**$25,007**
Low	**$499**	**$7,985**	**$15,971**	**$24,455**
High	**$522**	**$8,349**	**$16,698**	**$25,569**

The low and high estimates are based on assuming different rates for the airport operator growth rate. The low estimate is based on 75% of the growth rate underlying the primary estimate, while the high estimate is based on 125% of the growth rate underlying the primary estimate. As can be seen, these assumptions did not substantially affect the estimated costs.

The description in the preceding section of TSA costs to contact aircraft operators and process security programs and profiles also would apply to airports. Accordingly, Figure 40 presents the estimated work hours and costs for each of these cost segments.

Figure 41: TSA Airport Operator Security Program Work Hours and Costs by Cost Segment

	Work Hours				
Year	Initial Contact Process *a*	Profile Input Processing *b*	Security Program Review *c*	Total Work Hours *d = (a + b + c)*	**TSA Total Cost ($47.40 / hour)** *d x $47.40*
1	7.9	126.0	189.0	322.9	$15,305
2	2.1	33.1	129.2	164.3	7,788
3	0.1	1.6	3.2	4.9	231
4	0.1	1.6	3.2	4.9	233
5	0.1	1.6	3.2	5.0	236
6	0.1	1.6	3.3	5.0	238
7	0.1	1.7	3.3	5.1	240
8	0.1	1.7	3.3	5.1	243
9	0.1	1.7	3.4	5.2	245
10	0.1	1.7	3.4	5.2	248
Total Hours	**10.8**	**172.3**	**344.5**	**527.5**	
Total Dollars	**$510**	**$8,165**	**$16,331**	**$25,007**	**$25,007**

Compliance and Enforcement

TSA would conduct inspections of operators covered by the proposed rule to ensure compliance with their applicable security program. While TSA would use its own inspectors to examine airport operators, the Agency has determined that inspecting covered aircraft operators would exceed the Agency's resources, given the large number and geographic dispersion of these operators. As a result, TSA is proposing that aircraft operators contract with TSA-approved auditors on a biennial basis. Based on these audit reports and random sampling, TSA would then send inspectors to conduct follow-up inspections. The total for this cost segment would amount to approximately $190.0 million over a 10-year period. Discounted at 3% and 7% this total would amount to approximately $162.1 million and $133.5 million, respectively.

Figure 42: Total TSA Costs to Enforce Compliance (000s of 2006 $)

Year	Aircraft Operators *a*	Airport Operators *b*	Total *(a + b)*
1	$1,515.0	$17,798.1	$19,313.0
2	1,515.0	17,348.1	18,863.0
3	1,557.7	17,348.1	18,905.7
4	1,579.5	17,348.1	18,927.5
5	1,601.6	17,348.1	18,949.7
6	1,624.0	17,348.1	18,972.1
7	1,646.8	17,348.1	18,994.8
8	1,669.8	17,348.1	19,017.9
9	1,693.2	17,348.1	19,041.3
10	1,716.9	17,348.1	19,065.0
Total	**$16,119.5**	**$173,930.5**	**$190,050.0**
Low	**$13,369.3**	**$173,930.5**	**$187,299.8**
High	**$18,869.6**	**$173,930.5**	**$192,800.2**

Aircraft Operators

As stated above, due to the large size and geographical locations of the aircraft operator population that would be subject to this proposed rule, TSA is proposing the use of TSA-approved third-party auditors. These TSA-approved third-party auditors would support existing TSA resources, in order to ensure compliance with TSA regulations and the aircraft operator's security program. Auditors would conduct audits of TSA regulated parties and submit their findings in the manner and form prescribed by TSA. Auditors' reports would assist TSA inspectors in the conduct of compliance inspections as necessary. TSA would use the third-party auditors' reports as one tool in establishing inspection and enforcement priorities. TSA would require the auditors to have significant experience in regulatory and/or inspection processes. Figure 42 presents the estimated 10-year costs for TSA to manage the auditing process and conduct inspections of large aircraft operators.

Figure 43: TSA Costs to Enforce Aircraft Operator Compliance (000s of 2006 $)

	Personnel Cost					
	Audit Review	Audit Sampling	Inspection	Return Review	Program Management	Total Cost
Year	*a*	*b*	*c*	*d*	*e*	*(a + b + c + d + e)*
1	$233.1	$430.8	$529.9	$68.7	$252.5	$1,515.0
2	233.1	430.8	529.9	68.7	252.5	1,515.0
3	239.7	442.9	544.8	70.6	259.6	1,557.7
4	243.0	449.1	552.5	71.6	263.2	1,579.5
5	246.4	455.4	560.2	72.6	266.9	1,601.6
6	249.9	461.8	568.0	73.6	270.7	1,624.0
7	253.4	468.3	576.0	74.7	274.5	1,646.8
8	256.9	474.8	584.1	75.7	278.3	1,669.8
9	260.5	481.5	592.2	76.8	282.2	1,693.2
10	264.2	488.2	600.5	77.8	286.2	1,716.9
Total	**$2,480.3**	**$4,583.6**	**$5,638.1**	**$730.9**	**$2,686.6**	**$16,119.5**
Low	**$2,480.3**	**$2,291.8**	**$5,638.1**	**$730.9**	**$2,228.2**	**$13,369.3**
High	**$2,480.3**	**$6,875.4**	**$5,638.1**	**$730.9**	**$3,144.9**	**$18,869.6**

The associated low and high estimates were based on differing levels of the sampling rate used during the audit sampling process (discussed below). The low estimate is based on employing 75% of the sampling rate underlying the primary estimate and amounts to approximately $13.4 million. The high estimate is based on employing 125% of the sampling rate underlying the primary estimate and amounts to approximately $18.9 million.

For analytical purposes, the estimated total cost for the third-party auditing of large aircraft operators has been divided into five cost components; these are: audit review, audit sampling, inspection, return review, and program management. Each of these is discussed more fully below.

Audit Review. As each third-party audit is received TSA analysts will review the submission for completeness and audit findings. This review will essentially establish three groups those audits returned for deficiencies, those audits identified as complete and without findings, and those audits identified as completed and with findings. For the purposes of this analysis, TSA assumes that no audits will be returned as deficient (i.e., 0% rework). The 10-year cost for this component is estimated at $2.5 million.

Audit Sampling. Those audits identified as complete and without findings will be subject to 10% detection sample. These randomly selected audits will be subject to a full inspection by TSA personnel. These post-audit inspections provide TSA with an evaluation of the system's performance while also identify auditors that may require additional training or remediation. The 10-year cost for this component is estimated at $4.6 million.

Inspection. Third-party auditors will have no authority to take enforcement action; all audits reports would be evaluated by TSA, and TSA inspectors would take any appropriate follow-up action. Current TSA inspection experience indicates that approximately 10.8% of inspections lead to at least one finding that merits a second inspection to determine if the finding has been remedied. This proportion was used to develop the cost for this cost component. The 10-year cost for this component is estimated at $5.6 million.

Return Review. Current TSA inspection experience indicates that the proportion of TSA inspections that require a third visitation is 1.4% of all inspections. These inspections require a third inspection to determine if the finding was found unaddressed during the second inspection has been remedied; this proportion was used to develop the cost for this cost component. The 10-year cost for this component is estimated at $731,000.

Program Management. This cost component was set at 20% of program costs and amounted to $2.7 million over the 10-year period.

Figure 44: TSA Aircraft Operator Compliance Work Hours and Costs by Cost Segment (000s of 2006 $)

	Work Hours / (TSA Wage)							
Year	Audit Review ($47.40) *a*	Audit Sampling ($56.18) *b*	Inspection ($56.18) *c*	Return Review ($56.18) *d*	Total *e* = (a + b + c + d)	Personnel Costs *f* = hrs x wage	Program Mgmt. Cost *g*	Total Cost (f + g)
1	4,918	7,668	9,432	1,223	23,240	$1,262.5	$252.5	$1,515.0
2	4,918	7,668	9,432	1,223	23,240	1,262.5	252.5	1,515.0
3	5,056	7,884	9,698	1,257	23,896	1,298.1	259.6	1,557.7
4	5,127	7,995	9,834	1,275	24,230	1,316.2	263.2	1,579.5
5	5,199	8,107	9,972	1,293	24,569	1,334.7	266.9	1,601.6
6	5,271	8,220	10,111	1,311	24,913	1,353.4	270.7	1,624.0
7	5,345	8,335	10,253	1,329	25,262	1,372.3	274.5	1,646.8
8	5,420	8,452	10,396	1,348	25,616	1,391.5	278.3	1,669.8
9	5,496	8,570	10,542	1,367	25,974	1,411.0	282.2	1,693.2
10	5,573	8,690	10,689	1,386	26,338	1,430.8	286.2	1,716.9
Total Hours	**52,323**	**81,588**	**100,359**	**13,010**	**247,280**			
Total Dollars	**$2,480.3**	**$4,583.6**	**$5,638.1**	**$730.9**	**13,432.9**	**$13,432.9**	**$2,686.6**	**$16,119.5**

Airport Operators

TSA would use its own inspectors to evaluate whether airport operators were complying with their security programs. TSA inspectors would visit each airport required to have a security program under the LASP and conduct follow-up inspections, as necessary. In addition to the duty time for inspectors to travel to airport locations and to conduct inspection activities, TSA would incur costs to pay for inspector travel expenses and provide administrative support. Figure 44 presents the total estimated 10-year costs for TSA to evaluate airport operator compliance.

Figure 45: TSA Costs to Enforce Airport Operator Compliance (000s of 2006 $)

Year	Inspections *a*	Program Management *b*	Database Modifications *c*	Total Cost *(a + b + c)*
1	$15,915.6	$1,432.4	$450.0	$17,798.1
2	15,915.6	1,432.4	$0.0	17,348.1
3	15,915.6	1,432.4	$0.0	17,348.1
4	15,915.6	1,432.4	$0.0	17,348.1
5	15,915.6	1,432.4	$0.0	17,348.1
6	15,915.6	1,432.4	$0.0	17,348.1
7	15,915.6	1,432.4	$0.0	17,348.1
8	15,915.6	1,432.4	$0.0	17,348.1
9	15,915.6	1,432.4	$0.0	17,348.1
10	15,915.6	1,432.4	$0.0	17,348.1
Total	**$159,156.5**	**$14,324.1**	**$450.0**	**$173,930.5**

For analytical purposes, the estimated total cost for inspection of airport operators has been divided into two cost components: inspection and program management. Each of these is discussed more fully below.

Inspection. Based on the number of airports that would be covered by the proposed rule and current TSA airport inspection schedules, TSA anticipated it would need to add 154 individuals to its inspection staff in order to satisfactorily inspect each of the 315 airports that would be added under the proposed rule. This would include new inspectors, supervisors, and headquarters support personnel. TSA estimated it would require approximately $15.9 million annually for wages and benefits to maintain these new inspectors. At the time of writing, a detailed inspection program had not yet been specified. TSA will continue to evaluate these estimates as it determines its final inspection program, however, and will publish any revisions and relevant detail in the regulatory evaluation accompanying a final rule.

Program Management. TSA would be responsible for costs in addition to inspector time, including travel expenses such as meals and lodging and provision of administrative supplies and support. TSA assumed this would amount to $1.4 million annually.

Database Modifications. To keep records of airport profiles, inspection reports, and any violations and enforcement actions, TSA would need to make modifications to its existing compliance database. TSA has estimated that these modifications would require an investment of $450,000 in the first year of the program.

Auditor Enrollment

In this cost segment TSA will identify its costs associated with enrolling an individual as an authorized third-party auditor, as well as those costs associated with reviewing and confirming that individual's status as she or he undertakes the biennial recertification process. This section does not include the cost of undertaking the security threat assessment required of all auditors.

While these costs are not significant, TSA provides a brief description of these in this section in the interest of transparency. The total for this costs segment amount to approximately $491,000 over a 10-year period; discounted at 3% and 7% this amounts to approximately $428,000 and $363,000 respectively.

Figure 46: TSA Costs to Enroll Auditors (2006 $)

		Personnel Cost				
Year	Enrollment *a*	Initial Training *b*	Recurring Reapproval. *c*	Total Personnel *d*	Course Development/ Maintenance *e*	Total Cost *(d + e)*
1	$14,221	$12,640	$0	$26,861	$100,000	$126,861
2	711	632	0	1,343	35,000	36,343
3	747	664	3,555	4,965	35,000	39,965
4	784	697	3,733	5,214	35,000	40,214
5	823	732	3,920	5,474	35,000	40,474
6	864	768	4,116	5,748	35,000	40,748
7	908	807	4,321	6,036	35,000	41,036
8	953	847	4,538	6,337	35,000	41,337
9	1,001	889	4,764	6,654	35,000	41,654
10	1,051	934	5,003	6,987	35,000	41,987
Total	**$22,061**	**$19,609**	**$33,949**	**$75,620**	**$415,000**	**$490,620**
Low	**$19,807**	**$17,606**	**$32,469**	**$69,881**	**$415,000**	**$484,881**
High	**$24,541**	**$21,813**	**$35,505**	**$81,860**	**$415,000**	**$496,860**

The low and high estimates are based on assuming differing estimates of the net auditor turn over rate. In the case of the primary estimate, the net auditor turn over rate was assumed to be 5%. The low estimate is based on 75% of the population underlying the primary estimate and amounts to approximately $484,000 while the high estimate is based on 125% of the population underlying the primary estimate and amounts to approximately $496,000.

For analytical purposes, the estimated total cost for the auditor enrollment has been divided into four cost components; these are: enrollment, initial training, recurring reapproval, and training course development and maintenance. Each of these is discussed more fully below.

Enrollment. In this process interested individuals notify the TSA of their intention to request to become a TSA authorized third party auditor. This requires the completion of the application and the subsequent TSA verification of the information provided therein. The 10-year cost for this component is estimated at $22,000.

Initial Training. All TSA authorized third party auditors must participate in an on-line, self-paced training. While the training will be available through TSA-provide web access, the certifying examination must take place in a proctored environment. TSA will establish a schedule for and the location of proctored examinations. For the purposes of this analysis, TSA assumed that there would be a least one proctored examination at each of the 122 major hub airports. The 10-year cost for this component is estimated at $20,000.

Recurring Reapproval. Reapproval is required biennially to remain a TSA-approved third party auditor. Reapproval requires the individual to update her or his application and participate in refresher training. Like the initial training, refresher training will be available through TSA-provide web access, the certifying examination; however, the requirement for a proctored examination is removed and replaced with an on line examination. TSA analysts will

review and verify the information provided during re-application and review the results of the online examination. Additionally, TSA will review the performance of the auditor by evaluating the number of no-finding audits that were subsequently determined to be deficient as a result of the audit sampling process described in the Providing Compliance section of this analysis. The 10-year cost for this component is estimated at $34,000.

Course Development and Maintenance. TSA projects initial cost development at $100,000 with the annual cost of maintenance at $35,000. The 10-year cost for this component is estimated at $415,000.

These costs are exclusive of the security threat assessment costs of $74 per individual. Under the proposed rule, auditors would be required to undergo a successful security threat assessment that would include a check against government terrorism watch lists and related databases as well as a criminal history records check. The cost for this security threat assessment is described in the rule preamble.

Figure 47: TSA Auditor Enrollment Work Hours and Costs by Cost Segment (2006 $)

	Work Hours / (TSA Wage)						
Year	Total Enrollment ($47.40) *a*	Initial Training ($56.18) *b*	Recurring Reapproval ($47.40) *c*	Total *d = (a + b + c)*	Personnel Costs *e = hrs x wage*	Training System Costs *f*	Total Cost *(e + f)*
1	300	225	0	525	$26,861	$100,000	$126,861
2	15	11	0	26	$1,343	35,000	36,343
3	16	12	75	103	$4,965	35,000	39,965
4	17	12	79	108	$5,214	35,000	40,214
5	17	13	83	113	$5,474	35,000	40,474
6	18	14	87	119	$5,748	35,000	40,748
7	19	14	91	125	$6,036	35,000	41,036
8	20	15	96	131	$6,337	35,000	41,337
9	21	16	101	137	$6,654	35,000	41,654
10	22	17	106	144	$6,987	35,000	41,987
Total Hours	**465**	**349**	**716**	**1,531**			
Total Dollars	**$22,061**	**$19,609**	**$33,949**	**$75,620**	**$75,620**	**$415,000**	**$490,620**

Watch List Service Provider Enrollment

Currently, approximately 774 aircraft operators that are required to have a Twelve-Five or Private Charter Standard Security Program under 49 CFR 1544.101, which includes checking passenger information against the No Fly List. They perform the check by obtaining the No Fly List from TSA and comparing their passengers' information against the list. Under this NPRM, the number of aircraft operators that would be required to conduct the watch list matching, which includes both the No Fly and Selectee lists, would increase to approximately 9,061 operators. Providing direct access to the watch list to this greatly expanded population may compromise the security of the list, which contains sensitive security information. To limit the number of entities that have access to the watch list, TSA proposes to require large aircraft operators to submit passenger information to a TSA-approved watch list service provider. This process would also increase efficiency and consistency in the watch list match process among large aircraft operators.

While these costs are not significant, TSA provides a brief description of these in this section in the interest of transparency. The total for this costs segment amount to approximately $23,000 over a 10-year period; discounted at 3% and 7% this amounts to approximately $22,000 and $21,000, respectively.

Figure 48: TSA Costs to Enroll Watch List Service Providers (2006 $)

Year	Firm Costs *a*	Employee Costs *b*	Total Cost *(a + b)*
1	$17,065	$3,555	$20,620
2	43	178	220
3	43	187	229
4	43	196	239
5	43	206	249
6	43	216	259
7	43	227	270
8	43	238	282
9	43	250	294
10	44	263	306
Total	**$17,453**	**$5,515**	**$22,968**
Low	**$17,453**	**$4,952**	**$22,405**
High	**$17,453**	**$6,135**	**$23,588**

The low and high estimates are based on assuming differing estimates of the net watch list service provider employee turn over rate. In the case of the primary estimate, the net watch list service provider employee turnover rate was assumed to be 5%. The low estimate is based on 75% of the population underlying the primary estimate while the high estimate is based on 125% of the population underlying the primary estimate; there is negligible difference between the two estimates.

For analytical purposes, the estimated total cost for the auditor enrollment has been divided into two cost components, these are: firm enrollment and employee enrollment. Each of these is discussed more fully below.

Firm Enrollment. In this process interested firms notify the TSA of their intention to request to become a TSA authorized watch list service provider. This requires the completion of the application and the subsequent TSA review. The application would include the applicant's full name, business address, business phone and business email address. The application must also include a statement and other supporting documentation providing evidence of the applicants' abilities and satisfaction of the required qualifications. Additionally, the applicant would need to demonstrate the ability to receive passenger information from large aircraft

operators and conduct automated watch list matching and continuous vetting of individuals and transmit the watch list matching results to the large aircraft operator.

The system that the applicant would use to perform the necessary transmissions and matching must meet standards to be set forth by TSA and drawn from the National Institute of Standards and Technology's Special Publication #800-53. TSA would choose standards in accordance with its determination that the security categorizations for the Confidentiality, Integrity, and Availability aspects of the systems would be "high," as described in Federal Information Processing Standards Publication 199. Watch list service providers would be required to contract with an independent public accounting firm and undergo an audit within 6 months of commencing operations and annually thereafter to ensure their systems met the specified standards.

The final qualification would be to have the applicant successfully undergo a suitability assessment by TSA, including a determination by TSA that the applicant and its covered employees do not pose a threat to transportation or national security. These costs are exclusive of the security threat assessment costs of $74. Under the proposed rule, employees of watch list service providers would be required to undergo a successful security threat assessment that includes a check against government terrorism watch lists and related databases. The cost for this security threat assessment is described in the rule preamble.

Upon receipt of the application, TSA will review the application and may conduct a site visit of the applicant's place of business to determine whether the applicant satisfies the necessary qualifications. The 10-year cost for this component is estimated at approximately $17,000.

Employee Enrollment. In this process, covered employees of firms applying to become TSA-approved watch list service providers notify the TSA. This requires the completion of the application and the subsequent TSA review. These costs are exclusive of the security threat assessment costs. As stated above, these employees would be required to undergo a check against government terrorism databases, the cost of which is described in the rule preamble. The 10-year cost for this component is estimated at $6,000.

Figure 49: TSA Watch List Service Provider Enrollment Work Hours and Costs by Cost Segment (2006 $)

	Work Hours		
Year	Firm Enrollment *a*	Employee Enrollment *b*	Total Personnel Cost ($47.40 / hour) *(a + b) x $47.40)*
1	360	75	$20,620
2	1	4	220
3	1	4	229
4	1	4	239
5	1	4	249
6	1	5	259
7	1	5	270
8	1	5	282
9	1	5	294
10	1	6	306
Total Hours	**368**	**116**	
Total Dollars	**$17,453**	**$5,515**	**$22,968**

Finally, TSA would incur costs associated with periodic auditing of the firms that provide Watch List Matching services. Estimates for these costs are reported in Figure 49 on a per firm basis. The Primary cost estimate assumes 20 firms providing watch list matching services, with the Low and High estimates based on an assumption of 10 and 30 firms respectively.

Figure 50: TSA Audit Costs for Watch List Matching Service Provider Firms

Year	TSA per-Firm Audit Costs	3% Discount	7% Discount
1			
2			
3	$50,000	$45,757	$40,815
4			
5			
6	$50,000	$41,874	$33,317
7			

8			
9	$50,000	$38,321	$27,197
10			
Total	**$150,000**	**$125,952**	**$101,329**
Primary:	$3,000,000	$2,519,043	$2,026,574
Low:	$1,500,000	$1,259,521	$1,013,287
High:	$4,500,000	$3,778,564	$3,039,861

PASSENGER OPPORTUNITY COST

Passenger opportunity costs derive from two distinct events. The first arises from the requirement for passengers to provide personal information to the aircraft operator preliminary to the watch list matching process. The second results form those instances when the aircraft operator receives a No-fly message from the watch list service provider and the flight is delayed while the aircraft operator attempts to resolve the No-fly status.

Delays due to passenger information submission. The proposed regulation would require each aircraft operator to request and obtain certain passenger information from every passenger on each flight operated by the aircraft operator and transmit the information to an entity approved by TSA to conduct watch list matching (watch list service provider). Any changes to the passenger information prior to boarding would be required to be resent to the watch list service provider.

As stated above, TSA anticipates most, if not all, watch list service providers would offer a continuous vetting service to their subscribers through the use of a "master passenger list" designating those persons for continuous vetting. Changes to this list would be required if the information for a previously identified passenger changed or in the case of a new passenger not previously identified to the service provider.

The proposed rule specifies that the aircraft operator must obtain the full name of the

passenger as it appears on a valid government-issued form of identification. Additionally, the aircraft operator must request and send the passenger's date of birth, gender, and redress number if available. In addition, passport information (passport number, country of issuance, expiration date, gender, place of birth and full name of the passenger) must also be sent if in the possession of the operator; however, the proposed rule does not require an aircraft operator to request that information from passengers. Designation of a passenger for continuous vetting requires that all of the requested passenger information, with the exception of the redress number be provided. Additionally, the passenger would be required to consent, in writing, to the submission of his or her information for continuous matching.

As indicated above, TSA is seeking comments on whether to require covered aircraft operators to provide a privacy notice to individuals prior to collecting their information for watch list matching purposes.

To estimate these opportunity costs arising from the proposed rule, TSA estimated the annual volume of passenger traffic on flights subject to the proposed rule. Relatively little publicly available data exists on these passenger flows, and TSA welcomes comment from the public on the assumptions and methods used to estimate these flows. For the proposed rule, passengers might be carried by operators characterized as non-scheduled Charter operators, business, corporate or fractional General Aviation operators, or personal use General Aviation operators.[34]

[34] In the FAA's periodic survey of General Aviation Activity and Avionics, which provides statistical reporting on a survey of General Aviation (GA) aircraft owners and operators, a number of use categories for GA aircraft are defined and which survey respondents can use to characterize their own activity. Among them are *personal use*, which is flying for personal reasons and explicitly excludes business transportation, *corporate activity*, which involves business transportation using a paid flight crew, and *business activity,* which is business transportation without a paid flight crew. Corporate transportation includes Part 91, Subpart K fractional activity, but fractional operations can be separately identified in the ETMS database of IFR system activity. The most recent (2006) FAA GA Survey can be found at http://www.faa.gov/data_statistics/aviation_data_statistics/general_aviation/CY2006/

TSA assumed that passenger operations by aircraft operators subject to the proposed rule would be conducted under Instrument Flight Rules (IFR), and would thus appear among the controlled flight operations in the DOT's Enhanced Traffic Management System (ETMS) database, which includes flight records for all flights under direct radar control. ETMS flight records from FY2007 have been used by FAA to support a highly detailed database of annual flight activity by specific types of airspace uses. This database was used to identify flight characteristics for over 14,000,000 IFR flights in FY 2007. Among the user groups are Fractional operations, operating under 14 CFR Part 91, Subpart K, non-scheduled Part 135 passenger operations, and General Aviation users used for corporate, business and personal operations. Further analysis of this data, based on aircraft tail numbers in the ETMS flight records, allows these flights to be parsed by aircraft size and engine type.

Aircraft type, engine type, weight and manufacturer-specified seat counts are part of the FAA database used for this analysis, which allowed flights in the user groups of interest to be limited to those in aircraft with MTOW of 12,501 pounds or more. Figure 50 reports FY07 ETMS flights by these user groups, by engine type (except for Fractional users, since virtually all Fractional flights are by jet aircraft). For each user type, the average seat count per aircraft is also shown, based on an average weighted by annual flight counts.

Figure 51: FY2007 ETMS System Activity by GA and Charter Users

Aircraft MTOW 12,501 or more			**Passengers by Load Factor**		
	Avg Seats per Aircraft	07 ETMS Flights	70% Load Factor, Annual Pax	50% Load Factor, Annual Pax	30% Load Factor, Annual Pax
Fractional -- All Engines	9.74	437,750	2,984,729	2,131,949	1,279,169
Charter -- Jets	12.02	468,687	3,941,944	2,815,674	1,689,404
Charter -- Turboprops	19.59	112,055	1,536,379	1,097,414	658,448
Charter -- Piston	23.68	155	2,570	1,836	1,101
Total Charter	13.48	580,897	5,480,892	3,914,923	2,348,954

Corp/Business -- Jets	11.60	792,596	6,437,535	4,598,240	2,758,944
Corp/Business -- Turbo	13.86	86,609	840,393	600,281	360,168
Corp/Business -- Piston	16.95	25	297	212	127
Total Corp/Business	11.83	879,230	7,278,225	5,198,732	3,119,239
Personal -- Jets	11.60	87,022	706,800	504,857	302,914
Personal -- Turbo	13.86	25,446	246,915	176,368	105,821
Personal -- Piston	16.95	130	1,542	1,102	661
Total Personal	12.12	112,598	955,258	682,327	409,396
GRAND TOTAL FY2007		**2,010,475**	**16,699,104**	**11,927,931**	**7,156,759**

As noted above, the seat counts used to develop the group averages reported in Figure 50 are taken from manufacturer specifications. Survey data collected by the National Business Aviation Association (NBAA) suggests that corporate and business users transport an average of 4 passengers per flight.[35] In this analysis, TSA used an average load factor of 50 percent for flights by aircraft operators subject to the proposed regulation, but TSA requests information and comment on this issue from the user community and other interested parties.

For passengers on these flights, opportunity costs will be incurred when it is required that time be spent providing personal information to flight operators. In many cases, passengers will be repeat fliers, and will only need to provide personal information to aircraft operators in response to an initial request. For future flights, operators will rely on continuous vetting, in which passenger information will be continuously matched against watch lists. In other cases, such as charter passengers, personal data will need to be collected for virtually each voyage. In the estimates for opportunity time costs reported below, TSA has taken account of these different information management circumstances, but requests further information and comment on this issue from the user community and interested parties.

Thus, for this analysis, TSA assumes that *for charter users,* each charter passenger must respond to a request for personal information from the aircraft operator prior to each trip in every

[35] NBAA Business Aviation Factbook 2004, pages 12-13.

year of the analysis since every passenger is new passenger. However, for the other user types, TSA assumes that the percentage of passengers require respond to request for information will change over time an since many of these passengers will be repeat passengers. *For Fractional users*, it is assumed that in the first year of the proposed rule, 75% of passenger trips would be taken by a passenger unknown to the operator and, therefore, require a request for personal information. For the remaining 25% of passenger trips in the first year, it is assumed that the passenger has become known to the operator and has already provided personal information, which has been retained in a passenger profile. In subsequent years for fractional operations, these percentages are estimated to be 50% and 50%, taking account of the fact that the population of those owning fractional shares will change and evolve from year to year. Similarly, for *private, business and corporate users*, it is assumed that *in the first year* of the proposed rule, 75% of passenger trips would be taken by a passenger unknown to the operator and, therefore, require a request for personal information. For the remaining 25% of passenger trips in the first year, it is assumed that the passenger has traveled previously in the year and has already provided personal information, which has been retained in a passenger profile. In subsequent years, these percentages are estimated to be 25% first time passengers (or established passengers who must update a personal profile) and 75% established passengers who have a personal information profile available with the operator. It should be reiterated that these percentages represent assumptions which appear to TSA to be reasonable ones, but TSA requests further information on this topic from users and interested parties.

It should be noted that for flights arriving from or departing to international locations, the aircraft operators would already be required to provide passenger information to Customs and Border Patrol for entry into the electronic Advanced Passenger Information System (eAPIS).

It is assumed that passengers who must provide personal information in response to a request from the aircraft operator use 30 seconds on average on this requirement. Passenger trips involving those with a personal information profile already available to aircraft operators are assumed to entail no opportunity cost for passengers in the form of time required to respond to a personal information request.

Travel undertaken using the types of operators who would be covered under the proposed rule may be for either business or personal purposes, and DOT guidance on the value of passenger time reports different values for these purposes. In year 2000 dollars, the value of time for business passengers is set at $45, while the value of time for personal travel is set at $31.50. A composite or "all purposes" value is set at $37.20.[36] In this analysis, the value of time for personal travel purpose is used for personal aircraft users and their passengers. The value of time for business travel purposes is used for passengers of business and corporate aircraft users. The composite value is used for those traveling with fractional or charter operators. Using this valuation approach, the 12.5 million passengers using the regulated operators in the first year would devote 86,911 hours to the provision of personal information for security purposes, at a total opportunity cost of $3.5 million. These hours are the sum of passenger opportunity hours by aircraft type across all aircraft types for one year and are developed according to the following:

Pax opportunity hours for year one, for aircraft type1= Σ {[((total flights) x (50% x pax load factor)) x first time pax%] x hours/pax}

Based on this calculation total pax opportunity hours for the first year are:

pax opportunity hours for the first year = pax opportunity hours in the first year for fractional aircraft all engines + … + pax opportunity hours for the first year for personal aircraft all engines.

[36] FAA, *Economic Values for FAA Regulatory and Investment Decisions: A Guide* , page ES-3. http://www.faa.gov/regulations_policies/policy_guidance/benefit_cost/media/050404%20Critical%20Values%20Dec%2031%20Report%2007Jan05.pdf

Note that calculating these values requires that the FAA forecasting factors be applied to derive the total flights for a given aircraft type in a given year. These calculations use as an input the data for the user classes presented in Figure 49.

TSA assumes that passenger traffic using the operators subject to the proposed rule would grow at the same rate that GA activity grows. According to FAA forecasts, this activity growth will vary by aircraft engine type fleets. GA piston traffic will decline by 0.2% per year over the next decade, while turboprop traffic will increase by 0.6% per year and GA jet traffic, the fastest growing sector, will grow by 6% per year over the next decade.[37] Applying these growth forecasts to the FY07 activity data results in the prospective opportunity cost data presented in Figure 51. Over the 10 years analyzed for the proposed rule, passengers using services provided by the regulated parties would incur $20.0 million in opportunity costs discounted at 7% as a consequence of providing personal information in response to security requirements.

Figure 52: Passenger Opportunity Costs Based on Value of Time Spent Fulfilling Requests for Personal Identity Information

Security Related Passenger Opportunity Costs of Providing Personal Information

Year	Flights	Pax (50%)	Security Information Provision by Pax -- Total Time (Hours)	Opportunity Cost of Passenger Time	*3% Discount*	*7% Discount*
1	2,118,982	12,542,213	86,911	$3,474,713	$3,373,508	$3,247,395
2	2,233,928	13,192,744	59,201	$2,287,252	$2,155,954	$1,997,775
3	2,355,696	13,881,697	62,164	$2,402,147	$2,198,304	$1,960,867
4	2,484,698	14,611,372	65,301	$2,523,801	$2,242,364	$1,925,396
5	2,621,366	15,384,211	68,623	$2,652,620	$2,288,173	$1,891,281
6	2,766,159	16,202,798	72,140	$2,789,033	$2,335,771	$1,858,451
7	2,919,566	17,069,876	75,865	$2,933,495	$2,385,200	$1,826,833
8	3,082,101	17,988,349	79,810	$3,086,487	$2,436,501	$1,796,364
9	3,254,313	18,961,297	83,988	$3,248,521	$2,489,721	$1,766,980

[37] FAA Aerospace Forecasts, FY2007 – 2020 (March 2007)
http://www.faa.gov/data_statistics/aviation/aerospace_forecasts/2007-2020/

10	3,436,782	19,991,986	88,412	$3,420,139	$2,544,904	$1,738,625
Total	27,273,592	159,826,542	742,414	**$28,818,207**	**$24,450,402**	**$20,009,966**
Low				**$19,212,138**	**$16,300,268**	**$13,339,978**
High				**$43,227,311**	**$36,675,603**	**$30,014,950**

Delays due to no-fly messages. The operator would not be permitted to allow a passenger aboard an aircraft until the operator received a watch list result from the service provider. If the passenger were cleared to board the aircraft, the operator could then permit the passenger to board. If the passenger is identified as a Selectee, the large aircraft operator may permit the passenger to board the aircraft according to the procedures described in its security program.

In those instances when the watch list service provider instructs the operator to deny boarding, the operator could not permit the passenger to board. In these cases the operator would contact TSA, pursuant to the procedures set forth in its security program, for resolution; this may include providing additional information.

With respect to selectees, the proposed regulation provides a mechanism to board these passengers without delay. Given that no delay is associated with the selectee status, TSA did not estimate an associated passenger opportunity cost.

With respect to those passengers for whom the operator has received a "no fly" instruction, a potential for delay exists inasmuch as the operator is required to interact with TSA in attempt to resolve the condition. However, the decision to pursue the "no fly" to resolution that concludes with boarding the passenger depends on the type of service an operator is providing.

TSA estimated the passenger opportunity cost associated with the delay caused by this additional interaction between the operator's security coordinator and the passenger to be a ten year total of $10,946 discounted at seven percent. These costs not only represent the cost to the

individual required to interact with the security coordinator but also the crew and passengers of the delayed flight.

Figure 53: Opportunity Costs to Passengers and Crews of No-fly Matches

Year	Costs ($)	3% Discount	7% Discount
1	$1,094.6	$1,062.7	$1,023.0
2	$1,094.6	$1,031.8	$956.1
3	$1,094.6	$1,001.7	$893.5
4	$1,094.6	$972.5	$835.1
5	$1,094.6	$944.2	$780.4
6	$1,094.6	$916.7	$729.4
7	$1,094.6	$890.0	$681.7
8	$1,094.6	$864.1	$637.1
9	$1,094.6	$838.9	$595.4
10	$1,094.6	$814.5	$556.4
Primary Total	$10,946.0	$9,337.2	$7,688.0
Low	$8,209.5	$7,002.9	$5,766.0
High	$13,682.5	$11,671.5	$9,610.0

These costs were developed based on the following methodology. There are three possible outcomes to a "no fly" instruction: 1) the aircraft flies but the passenger is not boarded and substitutes another mode; 2) the aircraft flies but the passenger is not boarded and terminates travel; or 3) the entire flight does not continue. However, the degree to which an aircraft operator will pursue resolution differs by type of operation.

For illustration, examples are provided: Operators of large charter aircraft booked as part of travel packages will pursue resolution to a degree but ultimately, if necessary, refuse boarding to the passenger; most likely that passenger will terminate travel, and the flight continues without the "no fly" passenger. Operators of other GA aircraft will pursue resolution to a greater degree (which will depend upon the type of operation) but ultimately, if necessary, refuse boarding to the passenger. In the instance of a flight with only one passenger, or of a passenger who is the primary reason for the flight, resulting in a "no fly" response, the entire flight would likely not continue.

For the purposes of continuing the analysis TSA has set the length of time for operator-TSA interaction to resolve a no-fly status as a range from 10 to 30 minutes. Placing time values against terms like "to a degree", "to a greater degree" and, "to a significant degree" while informed, still contains some uncertainty. TSA requests comments on this range of values.

The larger issue is how often the no-fly event occurs. For the purposes of continuing the analysis TSA has established frequency estimates for each of the examples described above so that: Operators of large charter aircraft booked as part of travel packages will experience one no-fly event every quarter. Operators of passenger charter aircraft will experience one no-fly event every six months. Operators of fractional aircraft will experience one no-fly event every year. Operators of private aircraft will experience one no-fly event every two years. To be sure, placing a distribution of values for these events while informed, will still be rather arbitrary. TSA requests comments on this range of values. The following table presents the relationships discussed in the narrative.

Figure 54: Transaction Time and Event Frequency by Operator Type

Operator Type	Transaction Time (mins)	No-fly Event Frequency
Large Charter	10	1 per 4 months
Passenger Charter	15	1 per 6 months
Fractional	20	1 per 12 months
Private	30	1 per 24 months

Utilizing these values as well as the DOT composite value of time of $37.20 (as discussed above and referenced in fn. 35) yields an annual estimate of $1,095 per year or $10,946 over ten years, undiscounted.

Figure 55: Annual Opportunity Cost of a No-fly Event

Operator Type	Transaction Time (mins)	No-fly Event Frequency	Average Seats	50% Load Factor	Crew	Total Persons	Total Time (Hrs)	VOT (all purposes)	Annual Occurrences	Total Annual Oppty. Cost
Large Charter	10	1 per 4 mos.	75.0	37.5	4	41.5	6.9	$37.20	3.0	$771.9
Passenger Charter	15	1 per 6 mos.	13.5	6.7	2	8.7	2.2	$37.20	2.0	$162.6
Fractional	20	1 per 12 mos.	9.7	4.9	2	6.9	2.3	$37.20	1.0	$85.2
Private	30	1 per 24 mos.	12.1	6.1	2	8.1	4.0	$37.20	0.5	$75.0
Annual Total										$1,094.6

ALTERNATIVES CONSIDERED

TSA considered four substantive alternatives to the proposed regulation. First, TSA considered using the current method of watch list matching employed by aircraft operators under the TFSSP and PCSSP rules. Second, TSA considered using TSA inspectors to conduct audits instead of TSA approved third party auditors. Third, TSA considered leveraging the Secure Flight program currently under development, which would use a web-based application for transmission of passenger information to the Secure Flight vetting engine. Fourth, TSA evaluated the incremental impact of raising the aircraft weight threshold from 12,500 pounds MTOW to 16,500 pounds MTOW and the incremental impact of lowering the aircraft weight threshold to 10,500 pounds MTOW. This section describes those alternatives relative to the proposed regulation. TSA invites comments on these or other substantive alternatives to the proposed rule.

Watch List Matching

TSA considered requiring all large-aircraft operators to conduct watch list matching as currently done under the Twelve-Five and Private Charter Programs. These aircraft operators currently run their passengers against the No Fly and Selectee List, which they retrieve from TSA. The proposed rule would require aircraft operators to send passenger information to a TSA-approved watch list service provider. The alternative to the proposed rule is to extend the current method of watch list matching under the Twelve-Five and Private Charter Rules to large aircraft operators that are not currently required to have a security program. Operationally, this would require that a total of approximately 9,835 aircraft operators have direct access to the No Fly List and Selectee list from TSA.

TSA has rejected this alternative based on security and cost grounds. First, expanding direct access to the watch list from 750 aircraft operators today to 9,835 under this alternative increases the opportunity for the list to be compromised and would contradict other TSA initiatives to limit distribution of the watch lists in accordance with direction outlined in Homeland Security Presidential Directive-16 and National Security Presidential Directive-47. Additionally, the current TSA system does not provide TSA the ability to actually verify that the watch list vetting is properly conducted. In order to limit the number of entities that have access to the watch list, TSA proposes to require large aircraft operators to submit passenger information to a TSA-approved watch list service provider. The proposal would reduce the number of entities with direct access to the watch list, and improve consistency and accuracy of watch list matching by ensuring compliance with watch list matching standards thus improving security.

As a secondary reason for rejecting this alternative, TSA has identified no cost advantage that aircraft operators would enjoy by maintaining the ability to vet their own passengers. Many aircraft operators discharge their current responsibilities to vet passengers by contracting with third party service providers, and we would expect this practice to be widely adopted even in the absence of this requirement for third party watch-list matching.

TSA Inspectors

TSA considered using TSA inspectors instead of approved third-party auditors to complete the audits proposed in the rule. Under such a scenario, TSA would need to hire new employees to complete the inspections. Each operator would complete a TSA inspection every other year. TSA would conduct all of the inspections. The cost analysis assumes that 10.8% of initial inspections would have issues that could be resolved with a second inspection and 1.4%

would require a third inspection. Each inspection would require 17.8 hours to complete, exclusive of travel time. TSA's hourly cost for inspectors would be $56.18 per hour. On average, inspections would cost $998, not including the cost for travel. Completing a total of 58,700 inspections over ten years would cost an estimated $58.6 million. However, these costs do not include the cost of hiring, training, and managing the TSA inspectors. See Figure 55 for annual detail.

Figure 56: Policy Alternative- Cost of TSA Inspections (000s)

Year	First Inspections (100%)	Second Inspections (10.8%)	Third Inspections (1.4%)	Total Inspections	Total Cost ($998 each)
1	4.92	0.53	0.07	5.52	$5,505.0
2	4.92	0.53	0.07	5.52	$5,505.0
3	5.06	0.55	0.07	5.67	$5,660.2
4	5.13	0.55	0.07	5.75	$5,739.5
5	5.20	0.56	0.07	5.83	$5,819.8
6	5.27	0.57	0.07	5.91	$5,901.3
7	5.35	0.58	0.07	6.00	$5,983.9
8	5.42	0.59	0.08	6.08	$6,067.7
9	5.50	0.59	0.08	6.17	$6,152.7
10	5.57	0.60	0.08	6.25	$6,238.8
Total	**52.32**	**5.65**	**0.73**	**58.71**	**$58,574.0**

Adding the cost for operators to complete third-party audits and for TSA to complete reviews of those audits, the policy in the proposed rule would cost $130.4 million over 10 years. Over the 10-year period, implementing the proposed rule would cost $71.9 million more than the alternative.

Figure 57: Cost Comparison: Proposed and Alternate Policy Options (000s)

Year	Proposed Plan: 3rd Party Auditors *a*	TSA Review *b*	Total *c = (a + b)*	Alternative: TSA Inspectors *d*	Difference *e = (c – d)*
1	$10,225.3	$1,515.00	$11,740.34	$5,505.00	$6,235.34
2	11,972.3	$1,515.00	$13,487.26	$5,505.00	$7,982.26
3	10,851.2	$1,557.70	$12,408.92	$5,660.20	$6,748.72
4	12,291.8	$1,579.50	$13,871.29	$5,739.50	$8,131.79
5	10,598.6	$1,601.60	$12,200.20	$5,819.80	$6,380.40
6	12,325.9	$1,624.00	$13,949.94	$5,901.30	$8,048.64
7	10,633.2	$1,646.80	$12,280.03	$5,983.90	$6,296.13
8	12,361.1	$1,669.80	$14,030.86	$6,067.70	$7,963.16
9	10,668.8	$1,693.20	$12,362.04	$6,152.70	$6,209.34
10	12,397.2	$1,716.90	$14,114.07	$6,238.80	$7,875.27
Total	**$114,325.44**	**$16,119.50**	**$130,444.94**	**$58,574.00**	**$71,871.04**

Evaluating a Different Design

The foregoing analysis evaluated alternatives based on changes to particular elements of the processes underlying the proposed rule; what follows is an evaluation of an alternative that posits a different process for vetting the passengers of general aviation aircraft operators. Specifically, TSA assumes that the automated watchlist matching role filled by the watch list service providers would be met by the Secure Flight program. In the proposed rule, watch list service provider costs account for $45.6 million or 2.8 percent of aircraft operator costs. In terms of total regulatory costs, watch list service provider costs amount to 2.4 percent; the remaining 97.6 percent of the regulatory costs of the proposed rule derives from procedures that would be unchanged by the introduction of Secure Flight into the watch list service provider role. Among these are the costs associated with the security program, training costs, and auditor costs for aircraft operators and airport operators, as well as the government costs associated with these processes.

In the Secure Flight program currently under development, TSA has indicated the use of a web-based application for some transmissions of passenger information to the Secure Flight

vetting engine. Following that reasoning, this alternative is based on a browser interface of web services submission mechanism and proceeds on the expectation that the Secure Flight web application will be deployed as the mechanism by which general aviation aircraft operators will transmit passenger information for vetting against the watch lists. This analysis reflects the early stage of development and cannot, given this early stage, include costs that may be identified as TSA proceeds with system development.

While the design and development of the Secure Flight web-based application is in its early stages, TSA subject matter experts have provided two approaches to extending an already established web-based application to the general aircraft population. These two approaches, in turn, yield two estimates of the incremental costs.

They key difference between these approaches is the assumption made relative to the implementation of LASP. In the first approach the implementation of LASP does not precede the extension of Secure Flight to the general aviation population while in the second; Secure Flight follows the implementation of LASP. Central to this difference is recognition that preparing aircraft operators to transmit passenger information to a vetting agent and receive passenger information from a vetting agent requires a number of tasks to be performed. Among these are, operational instruction (file format, processes and procedures) and testing (beta and operational), as well as customer service and support during the initial implementation period. Furthermore, these tasks, and the associated costs, will be incurred whether performed by the private sector (in the form of WLSPs) or the government sector (in the form of Secure Flight).

The first approach, option-one, would be developed and implemented with the absence of an implemented LASP and would amount to $23.2 million undiscounted over ten years. This approach posits that without an implemented LASP, Secure Flight would be required to establish

a relationship with each of the aircraft operators. TSA would work with aircraft operators to develop the formatting and transmission procedures for not only for the upload of passenger information but also the download of passenger vetting results. These out-reach or ramp-up activities will be borne by the Secure Flight process. The costs associated with these activities are identified in the table below as "airline interface coordinators" and are estimated to amount to amount to $3.0 million.

Figure 58: Option 1 Costs for Providing Watch List Matching Services using Secure Flight

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Development Costs	10,000,000										10,000,000
Implementation Costs											
Initial Servers	100,000										100,000
Airline Interface Coordinators	3,000,000										3,000,000
Total Implementation Costs	3,100,000										3,100,000
Total Development & Implementation	13,100,000										13,100,000
Annual Costs											
Customer Services Agents	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000
Secure Flight Analysts	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,000,000
Hardware Refresh				50,000				50,000			100,000
Total Refresh Costs	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	10,100,000
Total Incremental Costs	14,100,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	23,200,000

Under this option, the costs associated the watch list service providers as proposed in the rule would be removed and in their place these incremental Secure Flight costs would be

substituted. Previously, in the Cost of Compliance section, above, TSA estimated the ten-year, undiscounted costs of providing watch list matching costs at $45.6 million; these would be replaced by the $23.2 million identified in the table above. TSA has not estimated the cost for operators to connect to the Secure Flight web-based application.

The second approach, option-two, would be developed and implemented with the ability to leverage activities associated with a fully implemented LASP and would amount to $11.0 million undiscounted over ten years. This approach posits that an implemented LASP would establish a relationship with each of the aircraft operators during the initial deployment of the watch list service provider process. During this period both TSA and the watch list service providers would work with aircraft operators to develop the formatting and transmission procedures for not only for the upload of passenger information but also the download of passenger vetting results. As a result, Secure Flight would assume a relatively mature process. The costs associated with out-reach or ramp-up activities would have been borne by LASP and not Secure flight, therefore, they are not contained in the table below.

Figure 59: Option 2 Costs for Providing Watch List Matching Services Using Secure Flight Web Based Services

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Development Costs	-										
Implementation Costs											
Initial Servers	100,000										100,000
Airline Interface Coordinators	750,000										750,000
Total Implementation Costs	850,000										850,000
Total Development & Implementation	850,000										850,000
Annual Costs											
Customer Services Agents	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000
Secure Flight Analysts	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,000,000
Hardware Refresh				50,000				50,000			100,000
Total Refresh Costs	1,000,00 0	1,000,000	1,000,00 0	1,050,000	1,000,00 0	1,000,000	1,000,00 0	1,050,000	1,000,00 0	1,000,000	10,100,00 0
Total Incremental Costs	1,850,00 0	1,000,000	1,000,00 0	1,050,000	1,000,00 0	1,000,000	1,000,00 0	1,050,000	1,000,00 0	1,000,000	10,950,00 0

Under this option, the costs associated with the watch list service providers as proposed in the rule would be remain and at some point in time the vetting process would be taken over by

Secure Flight. Assuming the Secure Flight cut-over took place at the end of year five approximately $24.2 million of the $45.6 million undiscounted WLSP costs (those in years six through ten) would be removed and replaced by the undiscounted Secure Flight costs (those in years one through 5) of $5.9 million bringing the ten-year undiscounted total of the "mixed" approach to $27.3.

Figure 60: Cost of Split LASP – Secure Flight Watch List Matching for General Aviation

	Ramp up	Refresh	Operating Costs	FISMA	Profit & Overhead	Total
LASP 10-Year	$1,260,800	$2,663,744	$31,831,790	$1,600,000	$8,218,393	$45,574,727
LASP Years 1-5	1,260,800	1,294,848	13,404,993	1,600,000	3,863,341	21,423,982
LASP Years 6-10	$0	$1,368,896	$18,426,797	$0	$4,355,053	$24,150,746
Sec. Flt. Year 1-10						$10,950,000
Sec. Flt. Year 6-10						$5,050,000
Sec. Flt. Year 1-5						$5,900,000
Total: LASP Year 1-5 plus Sec. Flt. Year 1-5						$27,323,982

TSA has not estimated the cost for operators to connect to the Secure Flight web-based application; however, given the sophistication of the firms currently filling this role, the impact may not be large. TSA is seeking comments specifically on this point.

The forgoing analysis contains several critical assumptions; two among these are key: First, the thorough study required to clearly identify and evaluate the costs of developing a system to support the extension of Secure Flight to the general aviation, including a web-based interface, has not yet been undertaken and as a result there is a significant amount of uncertainty in these estimates. Second, with respect to WLSP costs, the analysis assumes these costs are uniformly distributed over time and ignores the impact of the learning curve on the behavior of costs.

Benefits: The option of extending the Secure Flight program to general aviation may result in security benefits, by lowering the number of non-government entities having access to

the watch-list, and by ensuring a more uniform approach to the screening of general aviation passengers. Although the costs of this option differ very little from the proposed rule, TSA believes these security benefits may eventually be worth pursuing in the future.

Comparison of the First Three Alternatives:

TSA opted for the proposed plan as the more efficient and effective way of applying its limited compliance and enforcement resources towards the objective of increasing security. The use of third-parties would allow TSA to meet its security mission into four important ways.

First, third-party auditors would increase effective TSA oversight by reviewing each aircraft operator's compliance with its security program six months after TSA approves its security program and every two years thereafter.

Second, given the number of large aircraft operators (approximately 10,000), the third-party auditor program would allow TSA to ramp up more quickly thereby obtaining the assessment of all large aircraft operators more quickly relative to a program that relied solely on TSA inspectors, given the associated hiring and training associated with new hires.

Third, the third-party auditor program would allow TSA to focus more of its compliance and enforcement resources on aircraft operators that are experiencing problems with implementing and complying with their security programs.

Fourth, the watch list matching service providers would provide the needed security and do so in a timely fashion. Given the security concerns, TSA believes a reliable mechanism for watch list matching for large aircraft must be operational without undue delay. While the Secure Flight Program would also provide a reliable mechanism, its development is likely to be several years away and it is likely that it would not be available to address this important security need when TSA would be ready to implement the LASP.

This proposal is consistent with current practices in the aviation industry, which frequently rely on the Federal Aviation Administration's designee program. This type of program has been successfully implemented in other related aviation requirements.

Additionally, the GA industry is very familiar with the third party auditor concept as it relates to safety inspections. Many GA operators undergo third party audits each year to comply with customer requirements. The proposal should be easily integrated into most GA operator's existing audit schedules.

Evaluating Different Aircraft Weight Thresholds

As a final alternative, TSA explored whether the requirements should apply to a different low weight threshold. The determination of weight must take into account a number of factors such as the effect on international harmonization, existing policies and programs, and the economic effect on the GA community. Discussed below are three alternatives to the threshold weight issue.

Alternative 1: Lower threshold weight to 10,500 pounds MTOW. This solution will reduce the associated risk and number of unknown aircraft operators by incorporating an additional 3,000-5,000 aircraft into a mandatory security program. This alternative would also include a portion of currently unregulated types of aircraft, including large turboprops and smaller jet aircraft. However, in order to successfully implement this threshold weight, significant modifications to existing security programs that use the current weight threshold would likely be required. Furthermore, this change would require additional international coordination, since TSA would be moving away from the globally accepted International Civil Aviation Organization standards.

TSA estimates the cost impact of option one, in terms of undiscounted annualized dollars would add $23.7 million to the undiscounted annualized cost of the rule as proposed. The costs for option one were developed as follows: TSA assumed that the entire population of additional aircraft operators would be newly regulated. The cost was established for this group based on the new operator costs discussed above, in terms of annualized, undiscounted 10-year costs and dividing by the average new operators over the 10-year period. Assuming *ceteris paribus*, this cost was applied to the number of new operators based on flights to provide an estimate of the incremental costs to extend the rule to this group.

Altrnative 2: Raise threshold weight to 16,000 pounds MTOW. This option would reduce the number of regulated aircraft and parties by approximately 9,000 aircraft which would ultimately decrease the inspection requirements on TSA resources. However, excluding these aircraft would greatly increase the potential risk and could result in higher damage potential. TSA believes that this increased risk and damage potential of aircraft between greater than 12,500 pounds MTOW and 16,000 pounds MTOW are not justified by the reduction in cost. Furthermore, moving away from the common greater than 12,500 pounds MTOW threshold will yield the same concerns discussed in alternative one.

TSA estimates the cost impact of option two, in terms of undiscounted annualized dollars would subtract $26.4 million from the undiscounted annualized cost of the rule as proposed. The costs for option two were developed as follows: TSA assumed that the population of aircraft operators could be described by the mix of new and existing operators as in the population underlying the rule as proposed. The cost for newly regulated operators was established based on the new operator costs discussed above, in terms of annualized, undiscounted 10-year costs and dividing by the average new operators over the 10-year period. The cost for already

regulated operators was established based on the existing operator costs discussed above, in terms of annualized, undiscounted 10-year costs and dividing by the average existing operators over the 10-year period. Assuming *ceteris paribus*, these costs were applied to the number of new operators and existing operators respectively based on flights. These values were summed to provide an estimate of the incremental costs of limiting the rule to this group.

The costs for this analysis were based on those developed for new and existing aircraft operators in the Cost of Compliance section, above; they appear in the table below.

Figure 61: Option 2 Aircraft Operator Cost with Increased Threshold Weight

	in millions of dollars						
	Security Programs & Profiles	Flight Crew STAs	3rd Party Audits	Watch List Service Providers	Security Coordinator Duties	Security Coordinator Training	Subtotal Operator Costs
New Operators	$7.692	$11.024	$104.979	$41.974	$926.243	$43.720	$1,135.633
Existing Operators	0.219	3.673	9.346	3.600	0.000	0.000	16.838
Total	$7.911	$14.697	$114.325	$45.575	$926.243	$43.720	$1,152.471

The TSA costs associated with Security Program Review ($0.834 million), Enforcement and Compliance ($190.05 million), as well as Passenger Opportunity Costs ($28.829 million) were distributed based on the distribution of new and old aircraft operators to yield total costs of $1.306 million. These are the costs associated with aircraft with a MTOW greater than 12,500 pounds.

Figure 62: Option 2 Total Cost with Increased Threshold Weight

	in millions of dollars						
	Aircraft Operators	Distri-bution Key	TSA Costs Security Program Review	TSA Costs Enforcement & Compliance	PAX Opportunity Costs	Subtotal Operator Costs (Table 47)	Total Costs
New Operators	9,061	92.1%	$0.768	$175.093	$26.560	$1,135.633	$1,338.055
Existing Operators	774	7.9%	$0.066	$14.957	$2.269	$16.838	$34.130
Total	9,835		$0.834	$190.050	$28.829	$1,152.471	$1,372.184

These costs were adjusted to reflect the decrease in operators as a result of raising the threshold to 16,000 pounds MTOW, as well as the increase in operators as a result of lowering

the threshold to 10,500 pounds MTOW based on the number of annual flights identified to each grouping.

Figure 63: Sensitivity Analysis of Evaluated MTOW Thresholds

				in millions of dollars			
	Flights	Flights Increment	Factor	Total Costs	Revised Total Cost	Difference	Annualized Undiscounted Total
Over 12.5 K	2,010,475	n/a	n/a	$1,372.184	n/a	n/a	n/a
10.5 K & higher	2,365,837	355,362	117.7%	$1,338.055	$1,574.563	$236.508	$23.7
16.0 K & higher	1,623,220	-387,255	80.7%	$34.130	$1,107.876	-$264.308	-$26.4

Based on the above discussion and analysis, TSA technical experts recommend that the threshold of 12,501 pounds MTOW be retained as the recognized security threshold weight standard for current and future GA security programs and policies. Selecting a lower threshold weight would improve security because more aircraft would be subject to the LASP but would also increase the burden to industry to the point where the burden may not be fully supported by increased security. Selecting a higher threshold weight would lower the burden on the industry because a lower number of aircraft would be subject to the LASP. However, with this higher threshold weight, the proposed LASP would not cover many aircraft that can cause significant damage if used as a missile or to deliver a biological, chemical, or nuclear weapon. TSA believes that mitigating the potential security risk and damage potential of large aircraft 16,000 pounds MTOW or under outweighs the cost difference. Consequently, TSA believes that the weight threshold of greater than 12,500 pounds MTOW is the appropriate balance of risk and burden.

INITIAL REGULATORY FLEXIBILITY ASSESSMENT

The Regulatory Flexibility Act of 1980 (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The RFA covers a wide range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

When issuing a rulemaking, agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA. However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

As part of implementing this Notice of Proposed Rulemaking (NPRM), TSA conducted this Initial Regulatory Flexibility Analysis (IRFA). The IRFA describes the reasons for and objectives of the proposed rule; includes a description and estimate of the number of small entities that would be impacted by the proposed rule; estimates the cost of complying with requirements for small entities; addresses significant alternatives to the rulemaking considered by TSA; and, identifies duplicative, overlapping, and conflicting rules.

REASON FOR THE PROPOSED RULE

The Aviation and Transportation Security Act (ATSA) (Pub. L. 107-71, 115 Stat. 597, Nov. 19, 2001) granted TSA broad statutory authority to take measures to increase the security of civil aviation in the United States. Since the passage of ATSA, TSA has used its authority to implement an array of aviation security programs, focusing mainly on the commercial aviation segment of the industry.

TSA is aware that as vulnerabilities within the air carrier and commercial operator segment of the aviation industry are reduced, general aviation (GA) operations may become more attractive targets. With thousands of operators flying over one hundred thousand aircraft, firms operating in the GA market – including some smaller airports – are largely unregulated with respect to security. Many GA aircraft, however, are of the same size and weight of the commercial operators that TSA regulates, meaning that they potentially and effectively could be used to commit a terrorist act.

Consequently, this portion of the aviation industry may be vulnerable to exploitation by terrorists. Except for limited security requirements for certain classes of GA aircraft, TSA does not currently require security programs for many GA aircraft operators. This presents a security risk.

The proposed rule would mitigate this risk by requiring GA aircraft operators and certain airports to enact an assortment of security measures.

OBJECTIVES OF THE PROPOSED RULE

The objective of the proposed rule is to strengthen the security of civil aviation.

DESCRIPTION AND ESTIMATE OF THE NUMBER OF SMALL ENTITIES

The proposed rule would impact certain firms flying aircraft with a maximum take-off weight greater than 12,500 pounds in the civil aviation market. It would also impact certain publicly- and privately-owned airports. This section of the IRFA attempts to describe and identify all small entities within the aforementioned industries, including those operating under existing security regulations and those that are currently not regulated.

Currently Regulated Aircraft Operators

The proposed rule would affect aircraft operators currently offering services under existing security regulations. Aircraft operators utilizing TSA-required security programs, including the Twelve-Five Standard Security Program (TFSSP), the All Cargo Twelve-Five Standard Security Program (TFSSP-AC), the Partial Program Standard Security Program (PPSSP), and the Private Charter Standard Security Program (PCSSP) would be covered by the proposed rule.

Aircraft operators offering services under the TFSSP and the TFSSP-AC utilize aircraft with a maximum takeoff weight (MTOW) of more than 12,500 pounds; offer scheduled or charter service; carry passengers or cargo or both; and do not operate under a private charter or partial security program.

The PPSSP is used by scheduled passenger or public charter passenger operations using aircraft with seating configurations of 31 or more, but 60 or fewer seats that do not enplane from or deplane into a sterile area, and by scheduled passenger or public charter passenger operations using aircraft with seating configurations of 60 or fewer seats engaged in operations to, from, or outside the United States that do not enplane from or deplane into a sterile area.

The requirements of the PPSSP are identical to those of the TFSSP, with the exception that the PPSSP requires operators to participate in airport operator-sponsored exercises of airport contingency plans. TSA estimated that approximately 649 operators, utilizing 4,540 large aircraft, were conducting operations either solely or primarily under the TFSSP or PPSSP at the time of writing. (Within the text of this IRFA, Twelve-Five and Partial Program operators may be referred to collectively as TFSSP operators due to the extremely small number of Partial Program operators, the similarities between the two groups, and the fact that they would be merged under the proposed regulation).

Conversely, aircraft operators using privately chartered aircraft (aircraft hired by, and for, one specific group of people) having a MTOW greater than 45,500 kg (100,309.3 pounds); or a passenger seating configuration of 61 or more seats; or, that enplane from or deplane into a sterile area, operate under the PCSSP. To be considered a private charter, the charterer must have engaged the total passenger capacity of the aircraft, invited all of the passengers, borne all of the costs of the charter, and must not have advertised to the public, in any way, to solicit passengers.

In conducting research for the Regulatory Evaluation, TSA generated estimates of the number of operators offering services under each security program described above. The estimates are shown in the figure below.

Figure 64: LASP Aircraft Operators Currently Operating Under a TSA Security Program

Existing Security Program or Operating Certificate	Number of Aircraft Operators
Twelve-Five Standard Security Program	649
All Cargo Twelve-Five Standard Security Program	48
Private Charter Standard Security Program	77
Total	**774**

To determine if the firms identified in the figure above qualify as small entities as defined by the RFA and the Small Business Administration (SBA), TSA first attempted to classify each

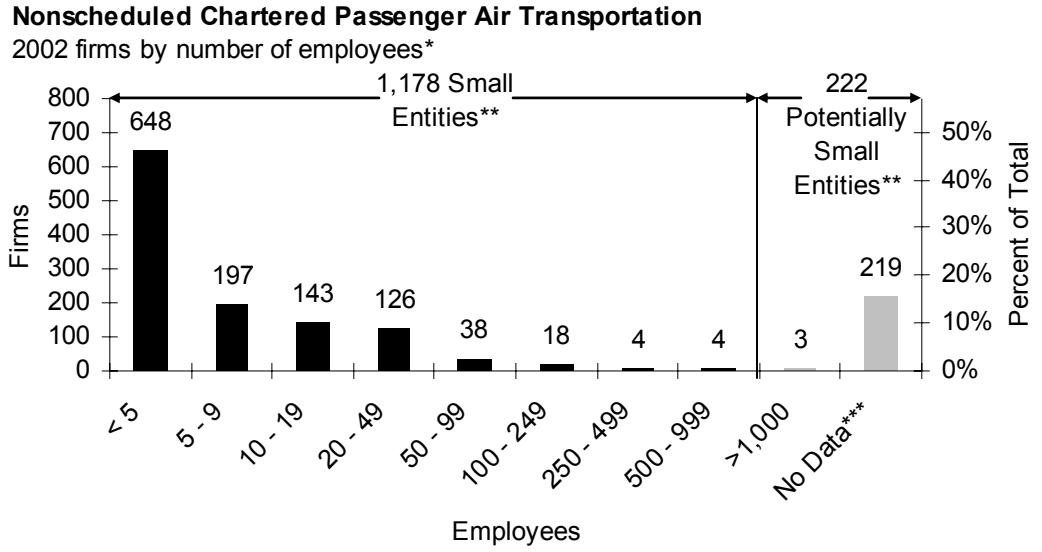
firm using North American Industry Classification System (NAICS) codes maintained by the U.S. Census Bureau. After analyzing the various operators' characteristics and the NAICS codes, TSA determined that the aircraft operators described above would broadly fall into the nonscheduled air transportation market. Firms in NAICS code 481211, Nonscheduled Chartered Passenger Air Transportation, and 481212, Nonscheduled Charter Freight Air Transportation, are classified as large or small based on employee measures. Firms in these markets with less than 1,500 employees are considered small by the SBA.

Unfortunately, TSA could not obtain current, detailed employee data for the respective firms, making it difficult to discern whether the firms are small or large according to standards set by the SBA. In light of the lack of current employee data on these firms, TSA turned to U.S. Census Bureau information to gauge the number of currently regulated entities affected by the proposed rule that may be considered small.

NAICS 481211 – Nonscheduled Chartered Passenger Air Transportation

As stated above, the SBA defines any firm in the Nonscheduled Chartered Passenger Air Transportation industry with less than 1,500 employees as small. Using 2002 data maintained by the U.S. Census Bureau, TSA determined that there are 1,400 firms in the industry, and at least 1,178 of these firms are small entities. The average annual revenue for firms in this industry in 2002 was approximately $3.9 million. The data that TSA accessed from the Census Bureau to make this determination did not have enough detail for the Agency to draw a conclusion on the remaining 222 firms. See the figure below.

Figure 65: NAICS 481211: Estimate of Small Currently Regulated Passenger Aircraft Operators

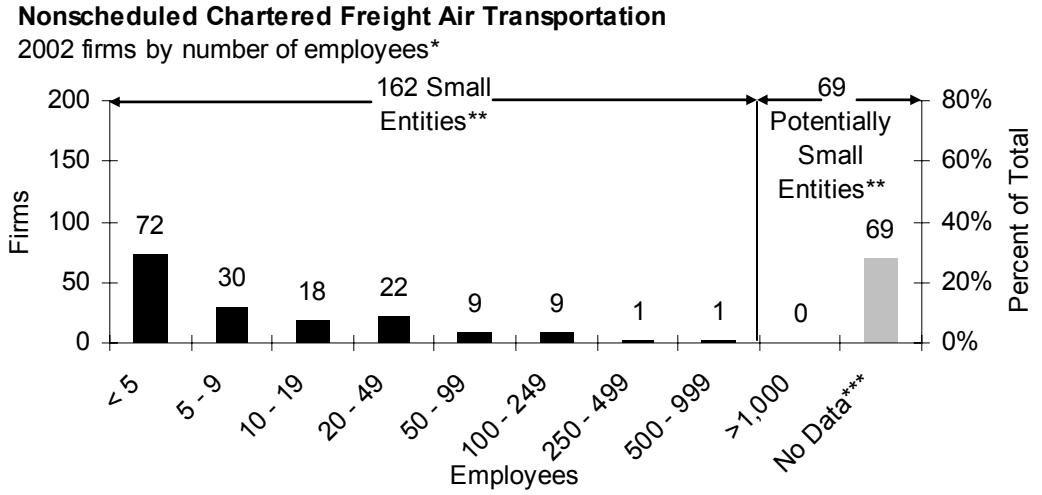


Source: 2002 Economic Census
Notes: *These estimates do not include non-employers. **The SBA defines firms with less than 1,500 employees as small. ***The Census Bureau does not maintain employee data for these firms, which operate less than 12 months per year.

NAICS 481212 – Nonscheduled Chartered Freight Air Transportation

As previously stated, the SBA defines any firm in the Nonscheduled Chartered Freight Air Transportation industry with less than 1,500 employees as small. Again using Census Bureau data, TSA determined that there are 231 firms in the overall industry, and at least 162 of these firms are small entities. The average annual revenue for firms in this industry in 2002 was approximately $5.0 million. The data that TSA accessed from the Census Bureau to make this determination did not have enough detail for the Agency to draw a conclusion on the remaining 69 firms.

Figure 66: NAICS 481212: Estimate of Small Currently Regulated Freight Aircraft Operators



Source: 2002 Economic Census

Notes: *These estimates do not include non-employers. **The SBA defines firms with less than 1,500 employees as small. ***The Census Bureau does not maintain employee data for these firms, which operate less than 12 months per year.

Firms operating aircraft under the TFSSP and the PCSSP likely fall into NAICS code 481211, Nonscheduled Chartered Passenger Air Transportation, described above. As previously stated, TSA estimated that there are 649 and 77 TFSSP and PCSSP operators, respectively, that would be affected by the NPRM. In all likelihood, these operators represent a subset of the firms TSA identified using the Census data. So while TSA identified 1,178 small entities (and 222 potentially small entities) in the overall Nonscheduled Chartered Passenger Air Transportation market, it is not likely that all of those firms would be impacted by the proposed rule.

Firms operating under the TFSSP-AC most likely are classified by the Census Bureau by NAICS code 481212, Nonscheduled Chartered Freight Air Transportation. As stated above, TSA estimated that the proposed rule would only affect 48 of these operators. It is likely that the 48 operators represent a subset of the firms TSA identified in the Census data described above.

By adding the estimated number of TFSSP, PCSSP, and TFSSP-AC operators together, TSA was able to conclude that the proposed rule would affect a total of 774 currently regulated

operators. In 2003, pursuant to another rulemaking, TSA estimated that of 767 TFSSP, TFSSP-AC, and PCSSP operators, all but 15 were small entities. Typically, these types of operators are independently owned and operated, and rarely employ more than 1,500 employees, making them small entities according to the SBA. Given that TSA has not received any new data on these operators since 2003, and given the lack of detail in the Census Bureau data, the Agency assumed for the purposes of this analysis that all but 15 of the 774 operators that would be affected by this NPRM are small entities. The Agency seeks comment on this preliminary conclusion.

Newly Regulated Aircraft Operators

The proposed rule would also cover any aircraft operator using an aircraft having a MTOW greater than 12,500 pounds. Such operators primarily conduct operations under 14 CFR part 91 and 14 CFR part 125. Currently, these types of operators are generally not covered by existing security regulations.

Part 91 operations, commonly referred to as GA operations, can be undertaken for a wide range of purposes, but a basic distinction is drawn between flight activity used to provide "common carriage" and other flight activity. *Common carriage* means any operation for compensation or hire where the operator holds itself out as willing to furnish transportation to any member of the public seeking the services offered. The operator openly offers a service for a fee (by advertising or any other means) to members of the public.

In contrast, *private* or *non-common carriage* does not involve offering or holding out by the operator through advertising or any other means. Non-common carriage includes the following:

- Carriage of operator's own employees or property
- Carriage of participating members of a club

- Carriage of persons and property which is only incidental to the operator's primary business
- Carriage of persons or property for compensation or hire under a contractual business arrangement that did not result from the operator's holding out or offering. In this situation, the customer seeks out an operator to perform the desired service and enters into an exclusive mutual agreement; the operator does not seek out the customer.

Under the proposed rule, both common carriage and non-common carriage large aircraft operators would be required to establish and implement the security requirements of the LASP. Those firms operating under common carriage have been discussed in the currently regulated section of this IRFA; the following discussion treats non-common carrier operations.

14 CFR part 125 applies to some large aircraft operations that may provide private carriage (but not common carriage). Part 125 governs the operation of large aircraft that are able to carry 6,000 pounds or more of payload capacity and 20 or more passenger seats.

In conducting research for the Regulatory Evaluation, TSA subject matter experts determined that the proposed rule would affect 9,000 aircraft operators regulated by 14 CFR part 91 and 61 aircraft operators regulated by 14 CFR part 125. Due to the unique conditions under which these firms conduct operations, TSA could not identify the respective NAICS codes for these operators. Consequently, the Agency could not determine the small entity size standards for these businesses. Without this information, TSA could not reliably estimate the number of small entities operating aircraft in these operating categories. Moreover, TSA could not find reliable revenue and employee data for these firms, further complicating the effort.

Given the constraints discussed above, TSA could only conclude that the proposed rule would affect between 0 and 9,000 small entities currently regulated by 14 CFR part 91, and between 0 and 61 small entities currently regulated by 14 CFR part 125. The Agency seeks

comment on information that would allow it to refine its estimate of small entities as defined by the RFA.

Airport Operators

Airports that would be affected by the proposed rule include airports regularly serving scheduled or public charter operations in large aircraft and "reliever airports," as designated by the Secretary of Transportation. TSA determined approximately 42 airports regularly serving scheduled or public charter operations and 273 reliever airports would be subject to the proposed rule, a total of 315 airports.

The 42 affected airports TSA has identified that regularly serve scheduled or public charter operations and do not already have a TSA security program are all owned by public entities. Because the airports are publicly-owned, the Census Bureau classifies them using NAICS Code 926120, Regulation and Administration of Transportation Programs.

Reliever airports are airports designated by the FAA to relieve congestion at commercial service airports and to provide improved general aviation access to members of the local community.[38] The 273 reliever airports that would be impacted by the rule are owned by public entities – such as State and local governments – and private, for-profit concerns. The publicly- and privately-owned airports, due to their different ownership characteristics, are classified by different NAICS codes by the U.S. Census Bureau. Privately-owned airports are classified by NAICS code 48811, Airport Operations, while publicly-owned airports are classified by NAICS code 926120, Regulation and Administration of Transportation Programs.

[38] U.S. Department of Transportation, Federal Aviation Administration, "Categories of Airports," Available from: http://www.faa.gov/airports_airtraffic/airports/planning_capacity/passenger_allcargo_stats/categories/. Accessed on February 28, 2007.

NAICS 48811 – Airport Operations

Private firms operating reliever airports fall into NAICS code 48811, Airport Operations. The SBA defines firms in this industry with less than $6.5 million in annual revenues as small. To discern the number of small firms likely to be impacted by the proposed rule, TSA first obtained data on the total number affected reliever airports from FAA. From the FAA information, which identified 273 total reliever airports that would be subject to the rule, TSA was able to identify 46 privately-held reliever airports.

Unfortunately, TSA could not find any revenue information on the 46 privately-owned reliever airports, making it impossible to determine if they are classified as small entities. However, given that the average annual revenues in the industry were $3.8 million in 2002, well below the $6.5 million threshold set by SBA, it is likely that some of the affected firms are small entities. Due to the lack of available revenue data, TSA assumed for the purposes of this analysis that there are between 0 and 46 small entities in this industry that would be impacted by the rule. The Agency seeks comment on this assumption.

NAICS 926120 – Regulation and Administration of Transportation Programs

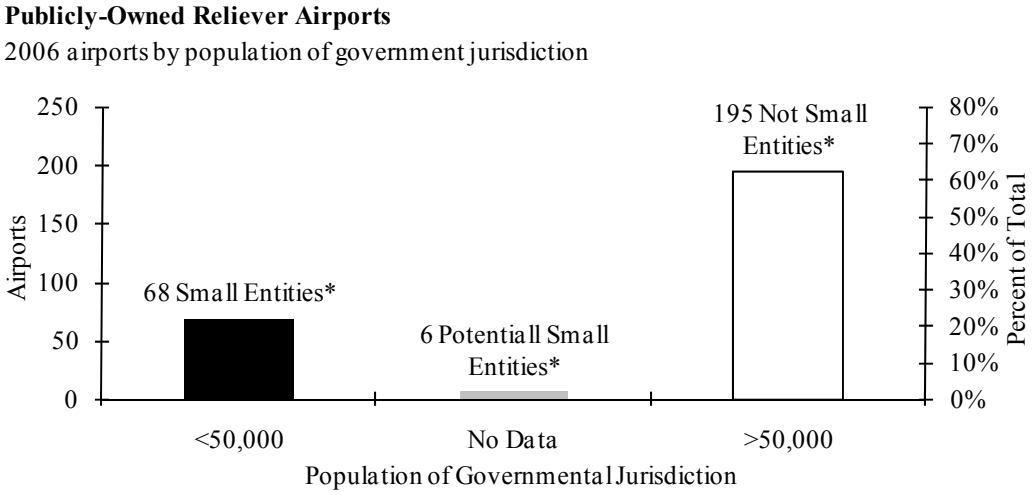
As previously stated, publicly-owned reliever airports likely fall into NAICS code 926120, Regulation and Administration of Transportation Programs. Because firms in this industry are not privately held, for-profit companies, the SBA does not use revenue or employment measures to determine if they are small entities.

Instead, the SBA uses the population of the government jurisdiction that owns the firm to determine if it is a small governmental jurisdiction. Specifically, section 601(5) of the RFA

defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with a population of less than 50,000.[39]

To determine if the proposed rule would have an impact on any small governmental jurisdictions, TSA again accessed the FAA airport data. Of the 315 affected airports, TSA discerned that 269 are owned by governments. After researching the population of all the affected governments using U.S. Census Bureau population data, TSA concluded that between 68 and 74 small governmental jurisdictions would be impacted by the proposed rule. See the figure below.

Figure 67: NAICS 926120: Estimate of Small Publicly-owned Airports



Source: US Census Bureau, 2005 Population Estimates, Census 2000, 1990 Census; FAA
Notes: *The SBA defines firms owned by government jurisdictions to be small if the jurisdiction has a population of less than 50,000.

Summary of Number of Small Entities

Using the data discussed above, TSA concluded that the NPRM would impact between 827 and 9,955 small entities. The ambiguous nature of the revenue and employee data for the firms in some of the affected industries, coupled with the lack of information on operators

[39] Regulatory Flexibility Act, Pub. L. No. 96-354, 94 Stat. 1164 (codified at 5 U.S.C § 601).

covered by 14 CFR part 91 and 14 CFR part 125, prevented TSA from making a more refined estimate. See the figure below.

Figure 68: Total Estimate of Small Entities Potentially Affected by the LASP

Total Small Entities Impacted
The NPRM would impact between 827 and 9,957 small entities.

Operator Classification	NAICS Code	Industry	SBA Size Standard	Low Estimate	High Estimate
Currently Regulated Aircraft Operators (TFSSP, PCSSP, TFSSP-AC)	481211	Nonscheduled Chartered Passenger Air Transportation	1,500 employees	759	774
	481212	Nonscheduled Chartered Freight Air Transportation			
Newly Regulated Aircraft Operators (14 CFR part 91, 14 CFR part 125)	U	U	U	0	9,061
Privately-Owned Airports	48811	Airport Operations	$6.5 million in annual revenue	0	46
Public Airports	926120	Regulation and Administration of Transportation Programs	50,000 population of governmental jurisdiction	68	74
Total				**827**	**9,955**

Source: 2002 Economic Census, FAA, SBA, TSA calculations
Notes: U means data unavailable.

The data used to determine the number of impacted small entities in this analysis exhibit some critical shortcomings. First, TSA did not have access to any comprehensive employment data for some of the affected aircraft operators in the nonscheduled air transportation industry.

Second, the Agency was unable to access comprehensive revenue or employment data for the aircraft operators offering services under 14 CFR part 91 and 14 CFR part 125. Additionally, TSA could not identify the appropriate NAICS codes for these operators, making it impossible to identify the size standard that would be necessary to determine if the firms are large or small.

Third, TSA could not obtain revenue data for firms operating privately-owned reliever airports, making it impossible to generate an accurate estimate of the number of small entities in that industry.

Finally, the Agency was unable to find reliable information on some of the governmental jurisdictions operating covered airports. This prevented the Agency from making a more accurate estimate of the number of small governmental jurisdictions that would be subject to the proposed rule.

Due to the reasons described above, TSA may have under- or overestimated the number of affected small entities. The Agency seeks comment on this possibility.

DESCRIPTION AND ESTIMATE OF COMPLIANCE REQUIREMENTS

The proposed rule would require firms operating certain classes of aircraft and airports to undertake a number of measures aimed at increasing civil aviation security. This section of the analysis provides a brief description of each requirement, followed by an estimate of the unit cost per operator to comply with each requirement. This part of the analysis also attempts to make an initial determination whether the proposed rule would have a significant economic impact on a substantial number of small entities.

Given the operational and regulatory differences between the various firms that would be affected by the proposed rule, compliance requirements and their attendant costs are described separately for currently regulated aircraft operators, newly regulated aircraft operators, and airport operators. Furthermore, costs are estimated as ranges rather than absolute values in order to reflect the uncertainty surrounding different estimates.

Currently Regulated Aircraft Operators

Security Programs and Profiles

Currently regulated aircraft operators affected by the proposed rule would be required to submit a profile containing several pieces of information and to develop and submit a security program. TSA would make available to all covered aircraft operators a template Large Aircraft

Standard Security Program that operators would have the option to either accept without modification or use as the basis of developing their own security program. In estimating costs for this requirement, TSA assumed that nearly all covered operators would choose to adopt the template security program. These requirements would impose costs on currently regulated aircraft operators, which are shown in the figure below. For a more robust discussion on how TSA estimated these costs, see the section on security programs and profiles located above in the Regulatory Evaluation.

Figure 69: Unit Cost: Security Programs/Profiles, Currently Regulated Aircraft Operators

Hourly	Hours			Total Unit Cost		
Compensation	Low	Primary	High	Low	Primary	High
a	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
$62.43	2	4	6	$125	$250	$375

Security Coordinator Duties

Currently regulated aircraft operators have existing security coordinators and would not incur new costs as a result of this requirement.

Security Threat Assessments for Flight Crews

Aircraft operators offering services under existing security regulations must utilize flight crew personnel that have undergone a criminal history records check (CHRC). The proposed rule would require LASP aircraft operators to begin ensuring that their flight crewmembers undergo security threat assessments (STA) and would limit the validity of a STA to 5 years. As proposed, the STA would consist of a CHRC and a check against government terrorism watch lists and related databases. Existing aircraft operators currently pay an estimated $30 to $35 for CHRCs; however, the collection system used by these operators does not include the terrorism check component of the proposed STA. As a result, TSA intends to establish a new system to

enable it to process STA applications from covered aircraft operators. TSA is thus proposing a fee of $74 to recover its costs associated with this new system and the processing of STAs.

Flight crewmembers of currently regulated aircraft operators would be required to submit a new STA application upon publication of a final rule if their most recent CHRC had been completed 5 or more years prior to the compliance date of the final rule. Flight crewmembers having CHRCs completed within 5 years prior to the compliance date in a final rule would be required to submit a STA application once 5 years had passed since their CHRC. Since TSA instituted the existing operator security programs in early 2003, several existing operators may need to conduct a STA on their flight crewmembers in the first year of the LASP.

Because this represents a new requirement, TSA used the full proposed fee, plus opportunity costs, in order to estimate a unit cost to existing operator small entities. As noted above, the proposed fee is $74. TSA estimated opportunity costs would consist of 0.5 hours of flight crewmember time to provide the information required for the STA application and to have fingerprints taken. Using an average wage rate of $51.40 for aircraft operator flight crews,[40] 30 minutes represents an opportunity cost of $25.70 per STA, for a total STA unit cost of $99.70. TSA estimated existing operators each employ an average of 18 flight crewmembers based on data provided by TSA subject matter experts and the American Association of Airport Executives (AAAE), the entity that processes existing operator CHRCs. Based on an assumed turnover rate of 15%, however, TSA estimated that on average an existing operator would have only about 8 crewmembers whose CHRCs would be expired under the proposed rule. Thus, the maximum per-operator cost for STAs would be approximately $800.

[40] The flight crew wage reported here is a weighted average of the following occupations from the 2006 NBAA Salary Survey: Aviation Department Manager II (does some flying), Chief Pilot, Senior Captain, and Copilot.

Figure : Unit Cost: Security Threat Assessments, Currently Regulated Aircraft Operators

Unit Fee (inc. opportunity costs)	Flight Crewmember STAs	Total Unit Cost per Operator
a	*b*	*(a x b)*
$99.70	8	$800

Control of Access to Weapons

Aircraft operators utilizing the TFSSP-AC would be required to control access to weapons. Presently, these operators are required to "apply the security measures in its security program for persons who board the aircraft for transportation, and for their property, to prevent or deter the carriage of any unauthorized persons, and any unauthorized weapons, explosives, incendiaries, and other destructive devices, items, or substances."[41] The proposed rule modifies current law by inserting between "unauthorized weapons" the words "or accessible." TSA has determined this requirement would have a *de minimis* impact, because few passengers are carried aboard such flights and operators are already required to screen them. Further, operators would have a variety of means of rendering weapons inaccessible to passengers.

Check of Accessible Property

The proposed rule would require an aircraft operator to inspect, pursuant to the terms and method in its security program, any property brought on board that would be accessible to the cabin. Property, for this section, is defined as any container, cargo, or company material that may be used to hide a stowaway or explosives, incendiaries or other destructive devices.

TSA has determined that in most cases affected operators already comply with the anticipated inspection requirements during the normal course of the pre-flight check. Costs associated with this responsibility are captured in the security coordinator duties above. Because

[41] 49 CFR 1544.202.

currently regulated aircraft operators are not expected to incur any marginal costs for security coordinators, this requirement also would not add any additional costs for these operators.

Watch List Matching

The proposed regulation would require each aircraft operator to request and obtain certain passenger information from every passenger on each flight operated by the aircraft operator, and transmit the information to an entity approved by TSA to conduct watch list matching (known as a watch list service provider). Any changes to the passenger information prior to boarding would be required to be resent to the watch list service provider.

TSA has estimated the compliance costs for this requirement as the 10-year undiscounted cost of WLSP averaged over the forecast number of flights. This average cost per flight multiplied by the average flights per operator produces and estimated annual cost per operator for WLSP. TSA estimates the cost for compliance would range from $245 to $736 per operator with a primary cost estimate of $491 per operator. To the extent that small entities may make fewer flights per year than large entities, the actual impact to small entities may be lower. However, TSA believes these costs provide a conservative estimate of the impact to small operators. For more discussion on the costs of this requirement, see the section on watch list matching above, located in the Regulatory Evaluation.

Figure 71: Unit Aircraft Operator Cost for WLSP Compliance

Components	**Cost Estimates**		
	Low	Primary	High
WLSP Costs	$22,787,364	$45,574,727	$68,362,091
Flight Forecast	87,932,347	87,932,347	87,932,347
Cost Per Flight	$0.26	$0.52	$0.78
Flights per Operator	946	946	946
Cost Operator	**$245**	**$491**	**$736**

Audits of Aircraft Operators

Under the proposed rule, each aircraft operator must contract with an auditor approved by TSA to conduct an audit of the aircraft operator's compliance with its security program.

Based on similar audits undertaken relative to other federal aviation programs, TSA estimated the cost for these audits to be approximately $2,257 per audit, on average. Currently, audits are performed to review safety, operations, and maintenance. TSA anticipates that many of these firms will offer the "security" audit as part of their offerings to their current customers and, perhaps, where feasible, bundle the security audit with already scheduled audits.

Based on interviews with 3 International Standard for Business Aircraft Operations (IS-BAO) auditors, TSA estimated costs for audits could range from $1,464 to $3,050. As stated above, TSA adopted the average of $2,257 as its primary estimate. For more discussion on these costs, see the section in the Regulatory Evaluation that describes this requirement.

Total Cost per Currently Regulated Aircraft Operator

The following figure is a summary of the requirements and compliance costs of the proposed rule for currently regulated aircraft operators. As described above, TSA estimated that between 759 and 774 currently regulated small entities would be impacted by the proposed rule.

Figure 72: Total Compliance Unit Cost, Currently Regulated Aircraft Operators

Requirement	Unit Cost		
	Low	Primary	High
Security Programs and Profiles	$125	$250	$375
Security Coordinator Duties	-	-	-
STAs for Flight Crew	$800	$800	$800
Control Access to Weapons	-	-	-
Screening of Accessible Property	-	-	-
Watch List Matching	$245	$491	$736
Audits	$1,464	$2,257	$3,050
Total	**$2,634**	**$3,797**	**$4,960**

Given the uncertainty in this analysis, it was difficult for TSA to conclusively determine if the proposed rule would have a significant economic impact on a substantial number of

currently regulated aircraft operators. Although neither the RFA nor the SBA define the term "significant economic impact," TSA attempted to compare compliance costs to average firm revenues to determine if the rule would have a considerable economic impact on covered small entities. Unfortunately, this proved difficult due to the lack of revenue data on covered firms.

As previously stated, currently regulated aircraft operators are likely categorized by the Census Bureau using NAICS codes 481211, Nonscheduled Chartered Passenger Air Transportation, and 481212, Nonscheduled Chartered Freight Air Transportation. In 2002, according to the Economic Census, firms in these industries earned annual revenues of approximately $3.9 million and $5.0 million, respectively. For a firm with average annual revenues in either of these industries, a compliance cost of approximately $2,634 to $4,960 would not likely constitute a significant economic impact, given that the cost would equal less than 1% of annual revenues.

For the proposed rule to have a significant economic impact on a currently regulated aircraft operator, the aircraft operator would likely have to earn annual revenues of approximately $367,000 or less. In this scenario, the highest estimated compliance costs associated with the proposed rule would represent approximately 1% of the firm's annual revenue.

While conducting research for this analysis, TSA was unable to acquire comprehensive revenue data on currently regulated aircraft operators, and therefore could not make a conclusive determination on whether these firms would experience a significant economic impact under the proposed rule. However, in light of the average annual revenues of firms in the respective industries in 2002, TSA does not believe the proposed rule would represent a significant

economic impact on a substantial number of currently regulated aircraft operators. The Agency requests comment on this preliminary determination.

Newly Regulated Aircraft Operators

Security Programs and Profiles

As described above, covered aircraft operators would be required to submit a profile to TSA and to develop and submit a security program. TSA estimated it would take newly regulated aircraft operators between 8 and 16 hours to review the template security program, assemble the requisite profile information, and submit the requisite documents to TSA for review. TSA assumed an average of 12 hours for its primary estimate. To calculate costs for newly regulated aircraft operators to review security programs and submit the required profile information, TSA again multiplied the estimated hourly range by the hourly wage of $62.43.

Figure 73: Unit Cost: Security Programs/Profiles, Newly Regulated Aircraft Operators

Hourly	Hours			Total Unit Cost		
Compensation	Low	Primary	High	Low	Primary	High
a	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
$62.43	8	12	16	$500	$750	$1,000

Security Coordinator Duties

Newly regulated large aircraft operators would be required to designate Aircraft Operator Security Coordinators (AOSC), Ground Security Coordinators (GSC), and In-Flight Security Coordinators (ISC) and ensure they are properly trained. Each security coordinator position would have unique responsibilities; however, aircraft operator employees could be trained to serve as one or all three of these positions.

The principal AOSC or an alternate, if applicable, must be available for contact by TSA 24 hours a day, seven days a week to ensure the Agency is able to quickly disseminate any intelligence of a threat to a specific aircraft operator or industry segment. The AOSC bears the

further responsibility for maintaining any and all records necessary to demonstrate to an auditor or TSA inspector the aircraft operator's compliance with its security program. In addition to these AOSC duties, security coordinators are responsible for the enforcement of policies and procedures relative to the security of the aircraft, including the vetting of crew (where required) and passengers which must be carried out in accordance with the operator's security program. Many of the aircraft operator requirements discussed in the following cost sections fall under the responsibility of the security coordinators.

TSA estimated the amount of time security coordinators of newly regulated aircraft operators would spend on their duties. For a detailed discussion of these estimates, see the section on security coordinator duties in the Regulatory Evaluation. The figure below displays the annual cost per operator of having an AOSC.

Figure 74: Unit Cost: Security Coordinator Duties, Newly Regulated Aircraft Operators

Hourly	Hours			Total Unit Cost		
Compensation	Low	Primary	High	Low	Primary	High
a	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
$53.59	164	284	404	$8,780	$15,210	$21,650

Newly regulated aircraft operators would also need to ensure that security coordinators underwent appropriate security training in order to carry out their required functions. The AOSC would thus coordinate with TSA to provide training to GSCs and ISCs. Training would cover topics such as procedures to notify authorities when dealing with suspect items, unauthorized access to the aircraft, threat notification and response, implementation of security directives, and other security related topics. Security coordinators would be required to complete both an initial training course and annual recurring training. TSA again provided a range of estimates of the amount of time newly regulated operators would spend conducting new and recurring training.

For the purposes of estimating costs for this IRFA, TSA assumed that an operator would need to conduct an initial and recurring training of GSCs and ISCs in one year. Although this is unlikely, the Agency feels that this is a conservative assumption that accounts for the maximum potential cost of this requirement.

Figure 75: Unit Cost: Security Coordinator Training, Newly Regulated Aircraft Operators

Requirement	Unit Cost		
	Low	Primary	High
New Training	$460	$680	$890
Recurring Training	$230	$340	$440
Total	**$690**	**$1,020**	**$1,330**

Security Threat Assessments for Flight Crews

The proposed rule would also require newly regulated aircraft operators to ensure that their flight crewmembers undergo security threat assessments (STA). The STA process would require each flight crewmember to submit fingerprints, along with information such as name, date and place of birth, Social Security Number (voluntary), and other information necessary for TSA to determine whether an applicant has committed a disqualifying crime or poses a threat to transportation or national security. For a comprehensive discussion of how TSA derived the total cost of this provision, see the section of the Regulatory Evaluation that describes this requirement.

For the purposes of estimating costs for this IRFA, TSA estimated the cost of flight crews obtaining STAs on a per operator basis. Based on input from TSA subject matter experts, TSA assumed 1.5 flight crewmembers per aircraft, and 1.8 aircraft per Part 91 operator and 4 aircraft per part 125 operator. The figure below displays the average cost that each newly regulated operator would incur as a result of this NPRM.

Figure 76: Unit Cost: Security Threat Assessments, Newly Regulated Aircraft Operators

Requirement	Total Unit Cost		
	Low	Primary	High
Security Threat Assessment	$580	$580	$580

Control of Access to Weapons

As described in the more comprehensive Regulatory Evaluation and in the section on currently regulated aircraft operators of this IRFA, this requirement is anticipated to have a *de minimis* impact on covered operators.

Check of Accessible Property

As previously stated, TSA determined that in most cases affected operators already comply with the anticipated inspection requirements during the normal course of the pre-flight check. Costs associated with this responsibility are captured in the security coordinator duties above.

Watch List Matching

The estimated cost for WLSP compliance is the same for the newly covered and existing operators. TSA utilizes the same methodology as above to estimate the total unit compliance cost for newly regulated aircraft operators. TSA estimates the cost for compliance would range from $245 to $736 with a primary cost of $491 per operator.

Audits of Aircraft Operators

Under the proposed rule, each aircraft operator must contract with an auditor approved by TSA to conduct an audit of the aircraft operator's compliance with its security program. The cost of this requirement for newly regulated aircraft operators would be identical to the cost for currently regulated operators. TSA estimated that the unit cost of an audit would range from $1,464 to $3,050, with $2,257 being the Agency's primary estimate for the cost of this requirement.

Total Cost per Newly Regulated Aircraft Operator

The following figure is a summary of the requirements and compliance costs of the proposed rule for newly regulated aircraft operators. The Agency estimated that the cost of complying with the proposed rule would range from $12,259 to $28,356 for newly regulated aircraft operators. As described above, TSA estimated that between 0 and 9,061 small entities in this operator category would be impacted by the proposed rule.

Figure 77: Total Compliance Unit Cost, Newly Regulated Aircraft Operators

Requirement	Unit Cost		
	Low	Primary	High
Security Programs and Profiles	$500	$750	$1,000
Security Coordinator Duties	$9,470	$16,230	$22,990
STAs for Flight Crew	$580	$580	$580
Control Access to Weapons	-	-	-
Screening of Accessible Property	-	-	-
Watch List Matching	$245	$491	$736
Audits	$1,464	$2,257	$3,050
Total	**$12,259**	**$20,308**	**$28,356**

TSA again encountered analytical difficulties when attempting to determine if the proposed rule would have a significant economic impact on a substantial number of newly regulated aircraft operators. As previously stated, TSA was unable to acquire annual revenue data for these operators. This lack of information prevented TSA from making a conclusive determination of the rule's impact on small entities in this operator category.

For the proposed rule to have a significant economic impact on a newly regulated aircraft operator, the aircraft operator would likely have to earn annual revenues of $2.7 million or less. If a firm with this level of annual revenues incurred compliance costs of $28,356 (the high estimate in the figure above), it would represent 1% of annual revenue. Given the uncertainty in its estimates, TSA requests comment on whether the proposed rule would have a significant economic impact on a substantial number of newly regulated aircraft operators.

Airport Operators

Security Programs and Profiles

The proposed rule would require certain privately-owned airports to develop security programs and submit security profiles to TSA. TSA would make available a template partial airport security program that operators would have the option to either accept without modification or use as the basis of developing their own security program.

To calculate the unit cost for airports to comply with this requirement, TSA assumed that nearly all covered airport operators would choose to adopt the template security program, thereby minimizing the cost of implementing this requirement. Second, TSA estimated it would take these newly regulated private airport operators between 8 and 16 hours to review and implement the template security program and assemble the requisite profile information. TSA adopted an average of 12 hours as its primary estimate. Finally, TSA multiplied each hour estimate by a middle management wage rate of $31.24 per hour to generate a unit cost between $250 and $500, with a primary estimate of $375. The requirement to adopt and submit security programs and profiles is not recurring; therefore, airport operators would only incur this cost once over the ten-year period of analysis. This estimate does not include completion of a risk-based self-assessment tool that may complement the security program. TSA has requested comments on whether such a tool should be mandatory but has not set it forth as a requirement in the proposed rule.

Figure 78: Unit Cost: Security Programs/Profiles, Airport Operators

Hourly	Hours			Total Unit Cost		
Compensation	Low	Primary	High	Low	Primary	High
a	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
$31.24	8	12	16	$250	$375	$500

Airport Security Coordinators

The proposed rule would also require airport operators to maintain airport security coordinators (ASC). For a more in-depth discussion of this requirement, see the airport security coordinator section of the Regulatory Evaluation.

TSA estimated airport security coordinators would spend an average of between 0.5 and 1 hour per week on their duties, adopting 0.75 hours per week as its primary estimate. To calculate the cost on an annual basis, TSA translated the weekly hour estimates into annual estimates of 26, 39, and 52 hours, respectively. Finally, to calculate the unit cost associated with this requirement, TSA multiplied the anticipated number annual hours by the ASC average hourly cost of compensation. See the figure below.

Figure 79: Unit Cost: Security Coordinator Duties, Airport Operators

Hourly	Hours			Total Unit Cost		
Compensation	Low	Primary	High	Low	Primary	High
a	*b*	*c*	*d*	*(a x b)*	*(a x c)*	*(a x d)*
$31.24	26	39	52	$810	$1,220	$1,620

Airport security coordinators would need to undergo training to comply with the proposed rule. TSA training requirements for airport security coordinators differ from those for aircraft operator security coordinators. ASC training is only offered twice per year by the American Association of Airport Executives. This 8-hour training course is taught by professional trainers and requires payment of a $350 registration fee. Since this training is offered at a single location, TSA estimated ASCs would need to expend an additional $450 to cover travel and other incidental expenses. TSA assumed the need to travel to and from the training would effectively add an additional 8 hours to the training.

To estimate the cost of this requirement, the 8 hours of class time are added to the 8 hours of assumed travel time for a total of 16 hours of compensated ASC time. TSA estimated airports

would need to train between 1 and 3 ASCs in order to meet the requirements that an ASC be available 24-hours per day. Without more detailed information, TSA adopted the average for its primary estimate. See the figure below for a summary of the costs of complying with this requirement. TSA has requested comments on whether it should adopt a self-paced training program for these airports that would reduce the impact of this requirement. For the purposes of the RFA, however, TSA estimated costs for this requirement as it is proposed in the NPRM.

Figure 80: Unit Cost: Security Coordinator Training, Airport Operators

Training Cost Item	Unit Cost		
	Low	Primary	High
Training Course Fee		$350	
Travel Expenses		$450	
ASC Compensation	$500	$1,000	$1,500
Total	**$1,300**	**$1,800**	**$2,300**

Total Cost per Airport Operator

Using the estimates described above, TSA concluded that the proposed rule would impose a compliance cost of between approximately $2,360 and $4,420 per airport operator. The range of compliance costs reflects the uncertainty surrounding many of the variables used to generate the estimates. See the figure below.

Figure 81: Total Compliance Unit Cost, Airport Operators

Requirement	Unit Cost		
	Low	Primary	High
Security Program and Profile	$250	$375	$500
ASC Duties	$810	$1,220	$1,620
ASC Training	$1,300	$1,800	$2,300
Total	**$2,360**	**$3,395**	**$4,420**

After making the estimates described above, TSA has initially concluded that the proposed rule would not impose a significant economic impact on a substantial number of privately-owned airport operators. In 2002, the latest year for which data are available, firms in this industry earned on average approximately $3.8 million in annual revenue according to the

U.S. Census Bureau. The cost of complying with the proposed rule, as calculated above, would therefore represent less than 1% of revenue for a firm with average industry revenues. Alternatively, if an airport operator incurred the highest estimated compliance cost described above ($4,420), it would need annual revenues of less than $442,000 for the proposed rule to impose costs of 1% of firm revenue. Consequently, TSA has initially determined that the rule would not impose a significant economic impact on these types of firms. The Agency seeks comment on this preliminary conclusion.

As stated above, the proposed rule would also affect publicly-owned airports. These airport operators would have to follow the same requirements as privately-held airport operators: adopt security programs, submit security profiles to TSA, and designate and maintain airport security coordinators.

Because the requirements for these airports are the same as for the privately-owned airports, TSA estimated the unit compliance costs using the same methodology. As stated above, the Agency calculated that the proposed rule would impose a cost of between $2,360 and $4,420 per airport operator. Although these airports are publicly-owned, TSA was unable to locate revenue information for them. The Agency was thus unable to compare compliance costs to revenue in order to make a judgment on whether the costs represent a significant economic impact to these firms.

TSA therefore requests comment on whether the proposed rule would have a significant economic impact on the 68 to 74 publicly-owned small airport operators that TSA identified in its research. Specifically, TSA requests any information that would allow it to compare estimated compliance costs to revenues typically earned by these types of airport operators.

SIGNIFICANT ALTERNATIVES CONSIDERED

TSA considered four substantive alternatives to the proposed regulation that would have reduced compliance costs for small businesses. First, TSA considered using the current method of watch list matching employed by aircraft operators under the TFSSP and PCSSP rules. Second, TSA considered using TSA inspectors to conduct audits instead of TSA approved third party auditors. Third, TSA considered leveraging the Secure Flight program currently under development, which would use a web-based application for transmission of passenger information to the Secure Flight vetting engine. Fourth, TSA evaluated the incremental impact of raising the aircraft weight threshold from 12,500 pounds MTOW to 16,500 pounds MTOW and the incremental impact of lowering the aircraft weight threshold to 10,500 pounds MTOW. This section describes those alternatives relative to the proposed regulation. TSA invites comments on these or other substantive alternatives to the proposed rule.

Watch List Matching

TSA considered requiring all large-aircraft operators to conduct watch list matching as currently done under the Twelve-Five and Private Charter Rules. These aircraft operators currently run their passengers against the No Fly List, which they retrieve from TSA. The proposed rule would require aircraft operators to send passenger information to a TSA-approved watch list service provider. The alternative to the proposed rule is to extend the current method of watch list matching under the Twelve-Five and Private Charter Rules to large aircraft operators that are not currently required to have a security program. Operationally, this would require that a total of approximately 9,835 aircraft operators have direct access to the No Fly List from TSA.

TSA has rejected this alternative based on security grounds. Expanding direct access to the No Fly List from 750 aircraft operators today to 9,835 under this alternative increases the opportunity for the list to be compromised and would contradict other TSA initiatives to limit distribution of the watch lists. In order to limit the number of entities that have access to the No Fly List, TSA proposes to require large aircraft operators to submit passenger information to a TSA-approved watch list service provider. The proposal would reduce the number of entities with direct access to the No Fly List, thus improving security.

TSA Inspectors

TSA considered using TSA inspectors instead of approved third-party auditors to complete the audits proposed in the rule. Under such a scenario, TSA would need to hire several new employees to complete the inspections. Each operator would complete a TSA inspection every other year. Because TSA would conduct all of the inspections, aircraft operators would no longer pay a biennial fee for audits. This would reduce the primary unit cost estimate for newly regulated small aircraft operators from $20,308 to $18.051. Assuming a "significant impact" is 1% of an operator's revenues, this would reduce the number of affected small entities to those having annual revenues less than $2.5 million. Unfortunately, TSA was unable to estimate how many operators would be affected by this change and, as noted in the alternatives analysis in the Regulatory Evaluation, the Agency requests comments that would enable it to quantify these impacts.

Relative to these alternatives, TSA opted for the proposed plan as the most efficient way of applying its limited compliance and enforcement resources towards the objective of increasing security. TSA does not have a sufficient number of inspectors to conduct the requisite number of inspections on the large number of operators that would be subject to the proposed rule.

Evaluating a Different Design

The foregoing analysis evaluated alternatives based on changes to particular elements of the processes underlying the proposed rule; what follows is an evaluation of an alternative that posits a different process for vetting the passengers of general aviation aircraft operators. Specifically, TSA assumes that the role filled by the watch list service providers would be met by the Secure Flight program. In the proposed rule, watch list service provider costs account for $45.6 million or 2.8 percent of aircraft operator costs. In terms of total regulatory costs, watch list service provider costs amount to 2.4 percent; the remaining 97.6 percent of the regulatory costs of the proposed rule derives from procedures that would be unchanged by the introduction of Secure Flight into the watch list service provider role. Among these are the costs associated with the security program, training costs, and auditor costs for aircraft operators and airport operators, as well as the government costs associated with these processes.

In the Secure Flight program currently under development, TSA has indicated the use of a web-based application for some transmissions of passenger information to the Secure Flight vetting engine. Following that reasoning, this alternative is based on a browser interface of web services submission mechanism and proceeds on the expectation that the Secure Flight web application will be deployed as the mechanism by which general aviation aircraft operators will transmit passenger information for vetting against the watch lists. This analysis reflects the early stage of development and cannot, given this early stage, include costs that may be identified as TSA proceeds with system development.

While the design and development of the Secure Flight web-based application is in its early stages, TSA subject matter experts have provided two approaches to extending an already

established web-based application to the general aircraft population. These two approaches, in turn, yield two estimates of the incremental costs.

They key difference between these approaches is the assumption made relative to the implementation of LASP. In the first approach the implementation of LASP does not precede the extension of Secure Flight to the general aviation population while in the second, Secure Flight follows the implementation of LASP. Central to this difference is recognition that preparing aircraft operators to transmit passenger information to vetting agent and receive passenger information from a vetting agent requires a number of tasks to be performed. Among these are, operational instruction (file format, processes and procedures) and testing (beta and operational), as well as customer service and support during the initial implementation period. Furthermore, these tasks, and the associated costs, will be incurred whether performed by the private sector (in the form of WLSPs) or the government sector (in the form of Secure Flight).

The first approach, option-one, would be developed and implemented with the absence of an implemented LASP and would amount to $23.2 million undiscounted over ten years. This approach posits that without an implemented LASP, Secure Flight would be required to establish a relationship with each of the aircraft operators. TSA would work with aircraft operators to develop the formatting and transmission procedures for not only for the upload of passenger information but also the download of passenger vetting results. These out-reach or ramp-up activities will be borne by the Secure Flight process. The costs associated with these activities are identified in the table below as "airline interface coordinators" and are estimated to amount to amount to $3.0 million.

Figure 82: Option 1 Costs for Providing Watch List Matching Services using Secure Flight

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Development Costs	10,000,000										10,000,000
Implementation Costs											

Initial Servers	100,000										100,000
Airline Interface Coordinators	3,000,000										3,000,000
Total Implementation Costs	3,100,000										3,100,000
Total Development & Implementation	13,100,000										13,100,000
Annual Costs											
Customer Services Agents	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000
Secure Flight Analysts	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,000,000
Hardware Refresh				50,000				50,000			100,000
Total Refresh Costs	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	10,100,000
Total Incremental Costs	14,100,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	23,200,000

Under this option, the costs associated the watch list service providers as proposed in the rule would be removed and in their place these incremental Secure Flight costs would be substituted. Previously, in the Cost of Compliance section, above, TSA estimated the ten-year, undiscounted costs of providing watch list matching costs at $45.6 million; these would be replaced by the $23.2 million identified in the table above. TSA has not estimated the cost for operators to connect to the Secure Flight web-based application.

The second approach, option-two, would be developed and implemented with the ability to leverage activities associated with a fully implemented LASP and would amount to $11.0 million undiscounted over ten years. This approach posits that an implemented LASP would establish a relationship with each of the aircraft operators during the initial deployment of the watch list service provider process. During this period both TSA and the watch list service providers would work with aircraft operators to develop the formatting and transmission procedures for not only for the upload of passenger information but also the download of passenger vetting results. As a result, Secure Flight would assume a relatively mature process. The costs associated with out-reach or ramp-up activities would have been borne by LASP and not Secure flight, therefore, they are not contained in the table below.

Figure 83: Option 2 Costs for Providing Watch List Matching Services Using Secure Flight Web Based Services

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Development Costs	-										
Implementation Costs											
Initial Servers	100,000										100,000
Airline Interface Coordinators	750,000										750,000
Total Implementation Costs	850,000										850,000
Total Development & Implementation	850,000										850,000
Annual Costs											
Customer Services Agents	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000
Secure Flight Analysts	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,000,000
Hardware Refresh				50,000				50,000			100,000
Total Refresh Costs	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	10,100,000
Total Incremental Costs	1,850,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	1,000,000	1,050,000	1,000,000	1,000,000	10,950,000

Under this option, the costs associated with the watch list service providers as proposed in the rule would be remain and at some point in time the vetting process would be taken over by Secure Flight. Assuming the Secure Flight cut-over took place at the end of year five approximately $24.2 million of the $45.6 million undiscounted WLSP costs (those in years six through ten) would be removed and replaced by the undiscounted Secure Flight costs (those in years one through 5) of $5.9 million bringing the ten-year undiscounted total of the "mixed" approach to $27.3.

Figure 84: Cost of Split LASP – Secure Flight Watch List Matching for General Aviation

	Ramp up	Refresh	Operating Costs	FISMA	Profit & Overhead	Total
LASP 10-Year	$1,260,800	$2,663,744	$31,831,790	$1,600,000	$8,218,393	$45,574,727
LASP Years 1-5	1,260,800	1,294,848	13,404,993	1,600,000	3,863,341	21,423,982
LASP Years 6-10	$0	$1,368,896	$18,426,797	$0	$4,355,053	$24,150,746
Sec. Flt. Year 1-10						$10,950,000
Sec. Flt. Year 6-10						$5,050,000
Sec. Flt. Year 1-5						$5,900,000
Total: LASP Year 1-5 plus Sec. Flt. Year 1-5						$27,323,982

TSA has not estimated the cost for operators to connect to the Secure Flight web-based application; however, given the sophistication of the firms currently filling this role, the impact may not be large. TSA is seeking comments specifically on this point.

The forgoing analysis contains several critical assumptions; two among these are key: First, the thorough study required to clearly identify and evaluate the costs of developing a system to support the extension of Secure Flight to the general aviation, including a web-based interface, has not yet been undertaken and as a result there is a significant amount of uncertainty in these estimates. Second, with respect to WLSP costs, the analysis assumes these costs are uniformly distributed over time and ignores the impact of the learning curve on the behavior of costs.

Comparison of the First Three Alternatives:

TSA opted for the proposed plan as the more efficient and effective way of applying its limited compliance and enforcement resources towards the objective of increasing security. The use of third-parties would allow TSA to meet its security mission into four important ways.

First, third-party auditors would increase effective TSA oversight by reviewing each aircraft operator's compliance with its security program six months after TSA approves its security program and every two years thereafter.

Second, given the number of large aircraft operators (approximately 10,000), the third-party auditor program would allow TSA to ramp up more quickly thereby obtaining the assessment of all large aircraft operators more quickly relative to a program that relied solely on TSA inspectors, given the associated hiring and training associated with new hires.

Third, the third-party auditor program would allow TSA to focus more of its compliance and enforcement resources on aircraft operators that are experiencing problems with implementing and complying with their security programs.

Fourth, the watch list matching service providers would provide the needed security of watch list matching for passengers on large aircraft and would do so in a timely fashion. Given the security concerns, TSA believes a reliable mechanism for watch list matching for large aircraft must be operational without undue delay. While the Secure Flight Program would also provide a reliable mechanism, its development is likely to be several years away and it is likely that it would not be available to address this important security need when TSA would be ready to implement the LASP.

Additionally, the GA industry is very familiar with the third party auditor concept as it relates to safety inspections. Many GA operators undergo third party audits each year to comply with customer requirements. The proposal should be easily integrated into most GA operator's existing audit schedules.

Evaluating Different Aircraft Weight Thresholds

The determination of weight must take into account a number of factors such as the effect on international harmonization, existing policies and programs, and the economic effect on the GA community. Discussed below are two alternatives to the threshold weight issue.

Alternative 1: Lower threshold weight to 10,500 pounds MTOW. This solution will reduce the associated risk and number of unknown aircraft operators by incorporating an additional 3,000-5,000 aircraft into a mandatory security program. This alternative would also include a portion of currently unregulated types of aircraft, including large turboprops and

smaller jet aircraft. However, in order to successfully implement this threshold weight, significant modifications to existing security programs and new rulemaking may be required, which would result in delayed program/rule timelines. These additional aircraft require TSA oversight and place an additional strain on existing TSA resources. Furthermore, this change would require additional international coordination, since TSA would be moving away from the globally accepted International Civil Aviation Organization standards.

TSA estimates the cost impact of option one, in terms of undiscounted annualized dollars would add $23.7 million to the undiscounted annualized cost of the rule as proposed. The costs for option one were developed as follows: TSA assumed that the entire population of additional aircraft operators would be newly regulated. The cost was established for this group based on the new operator costs discussed above, in terms of annualized, undiscounted 10-year costs and dividing by the average new operators over the 10-year period. Assuming *ceteris paribus*, this cost was applied to the number of new operators based on flights to provide an estimate of the incremental costs to extend the rule to this group.

Alternative 2: Raise threshold weight to 16,000 pounds MTOW. This option would reduce the number of regulated aircraft and parties by approximately 9,000 aircraft which would ultimately decrease the inspection requirements on TSA resources. However, excluding these aircraft would increase the potential risk and could result in higher damage potential. TSA believes that this increased risk and damage potential of aircraft between greater than 12,500 pounds MTOW and 16,000 pounds MTOW are not justified by the reduction in cost. Furthermore, moving away from the common greater than 12,500 pounds MTOW threshold will yield the same concerns discussed in alternative one.

TSA estimates the cost impact of option two, in terms of undiscounted annualized dollars would subtract $26.4 million from the undiscounted annualized cost of the rule as proposed. The costs for option two were developed as follows: TSA assumed that the population of aircraft operators could be described by the mix of new and existing operators as in the population underlying the rule as proposed. The cost for newly regulated operators was established based on the new operator costs discussed above, in terms of annualized, undiscounted 10-year costs and dividing by the average new operators over the 10-year period. The cost for already regulated operators was established based on the existing operator costs discussed above, in terms of annualized, undiscounted 10-year costs and dividing by the average existing operators over the 10-year period. Assuming *ceteris paribus*, these costs were applied to the number of new operators and existing operators respectively based on flights. These values were summed to provide an estimate of the incremental costs of limiting the rule to this group.

The costs for this analysis were based on those developed for new and existing aircraft operators in the Cost of Compliance section, above; they appear in the table below.

Figure 85: Total Compliance Cost for New and Existing Aircraft Operators

	in millions of dollars						
	Security Programs & Profiles	Flight Crew STAs	3rd Party Audits	Watch List Service Providers	Security Coordinator Duties	Security Coordinator Training	Subtotal Operator Costs
New Operators	$7.692	$11.024	$104.979	$41.974	$926.243	$43.720	$1,135.633
Existing Operators	0.219	3.673	9.346	3.600	0.000	0.000	16.838
Total	$7.911	$14.697	$114.325	$45.575	$926.243	$43.720	$1,152.471

The TSA costs associated with Security Program Review ($0.834 million), Enforcement and Compliance ($190.05 million), as well as Passenger Opportunity Costs ($28.829 million) were distributed based on the distribution of new and old aircraft operators to yield total costs of $1.306 million. These are the costs associated with aircraft with a MTOW greater than 12,500 pounds.

Figure 86: Total Cost for Aircraft with MTOW Greater than 12,500 Pounds

	in millions of dollars						
	Aircraft Operators	Distri-bution Key	TSA Costs Security Program Review	TSA Costs Enforcement & Compliance	PAX Opportunity Costs	Subtotal Operator Costs (Table 47)	Total Costs
New Operators	9,061	92.1%	$0.768	$175.093	$26.560	$1,135.633	$1,338.055
Existing Operators	774	7.9%	$0.066	$14.957	$2.269	$16.838	$34.130
Total	9,835		$0.834	$190.050	$28.829	$1,152.471	$1,372.184

These costs were adjusted to reflect the decrease in operators as a result of raising the threshold to 16,000 pounds MTOW, as well as the increase in operators as a result of lowering the threshold to 10,500 pounds MTOW based on the number of annual flights identified to each grouping.

Figure 87: Sensitivity Analysis of Evaluated MTOW Thresholds

				in millions of dollars			
	Flights	Flights Increment	Factor	Total Costs	Revised Total Cost	Difference	Annualized Undiscounted Total
Over 12.5 K	2,010,475	n/a	n/a	$1,372.184	n/a	n/a	n/a
10.5 K & higher	2,365,837	355,362	117.7%	$1,338.055	$1,574.563	$236.508	$23.7
16.0 K & higher	1,623,220	-387,255	80.7%	$34.130	$1,107.876	-$264.308	-$26.4

Based on the above discussion and analysis by TSNM-GA technical experts, the program office recommends that the threshold of greater 12,500 pounds MTOW be maintained as the recognized security threshold weight standard for current and future GA security programs and policies. Selecting a lower threshold weight would improve security because more aircraft would be subject to the LASP but would also increase the burden to industry to the point where the burden may not be fully supported by increased security. Selecting a higher threshold weight would lower the burden on the industry because a lower number of aircraft would be subject to the LASP. However, with this higher threshold weight, the proposed LASP would not cover many aircraft that can cause significant damage if used as a missile or to deliver a biological, chemical, or nuclear weapon. TSA believes that mitigating the potential security risk and

damage potential of large aircraft 16,000 pounds MTOW or under outweighs the cost difference. Consequently, TSA believes that the weight threshold of greater than 12,500 pounds MTOW is the appropriate balance of risk and burden.

IDENTIFICATION OF DUPLICATION, OVERLAP, AND CONFLICT WITH OTHER FEDERAL RULES

TSA has identified an overlap between the proposed Large Aircraft Security Program and US Customs and Border Protection's (CBP) regulations governing its Advance Passenger Information System (APIS). CBP requires certain aircraft flying to or from the United States to submit passenger manifests to APIS for comparison to the watch lists. CBP's watch list comparison would thus duplicate TSA's proposed requirement that large aircraft operators submit passenger information to watch list service providers for comparison to the watch lists.

In recognition of this overlap, TSA would exempt from its watch list requirement flights covered by its NPRM that also are subject to CBP's APIS regulations.

PRELIMINARY CONCLUSION

Based on this preliminary analysis, TSA has made no determination whether the proposed rule would have a significant economic impact on a substantial number of small entities under section 605(b) of the RFA. TSA requests comment on all aspects of this analysis. TSA will make a final determination in the Final Regulatory Flexibility Analysis for the Final Rule.

INTERNATIONAL TRADE IMPACT ASSESSMENT

The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. TSA has assessed the potential effect of this notice of proposed rulemaking and has determined this rule would not have an adverse impact on international trade.

UNFUNDED MANDATES REFORM ACT ANALYSIS

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector, such a mandate is deemed to be a ``significant regulatory action." This notice of proposed rulemaking does not exceed this threshold for State, local, and tribal governments; however, proposed security measures for city- or county-owned airports may nevertheless impose a burden on some small municipalities. The impact on the overall economy does exceed the threshold, resulting in an unfunded mandate on the private sector. This regulatory evaluation documents costs and alternatives. TSA will publish a final analysis, including its response to public comments, when it publishes a final rule.

APPENDIX A: UNCERTAINTY ANALYSIS

All economic analysis is subject to uncertainty. This appendix identifies important sources of uncertainty in the economic analysis of the Large Aircraft Security Program and illustrates their influence on the estimated costs.

There are four aspects from which uncertainty derives: uncertainty regarding inputs, uncertainty regarding outcomes, uncertainty regarding data, and uncertainty regarding assumptions used to simplify complex interactions. This particular analysis considers each of these uncertainty factors. The appendix first provides a discussion of the elements of uncertainty simulated in this analysis, followed by an overview of the effect of this uncertainty on the 10-year primary undiscounted cost estimate. Following the aggregated effects of uncertainty on total program costs is a discussion of the effects of modeled uncertainty on several individual cost elements developed in the regulatory analysis.

EFFECTS OF UNCERTAINTY ON TOTAL ANALYSIS

Various sources of uncertainty may affect the reliability of the primary estimate in the cost analysis section. Many of these sources of uncertainty can be modeled using Monte Carlo simulation.[42] The effects of some sources of uncertainty cannot be quantified, although those inputs can be examined qualitatively. The following

[42] Monte Carlo simulation allows an analyst to evaluate the effect of multiple and combined uncertainties in an analysis. The analyst begins by identifying key variables about which there is uncertainty regarding their precise values. Subject matter expertise is solicited to identify the parameters and, where possible, the type of statistical distribution that would best represent the possible values each variable could take. Once this has been completed, a software package randomly selects values for each identified source of uncertainty from the chosen distributions, calculates the associated cost estimates for program elements and the total program, and records the outcome. This process is repeated thousands of times, and with these repeated trials a distribution for cost outcomes is derived. When complete, it enables the analyst to evaluate how the individual uncertainties of the identified variables affect the outcome of the analysis.

discussion provides insight about the effects of uncertainty on the overall primary 10-year cost estimate.

Sensitivity Analysis

The proposed regulation would impose new requirements on aircraft operators that conduct flights using aircraft having a maximum certificated takeoff weight (MTOW) greater than 12,500 pounds. Some of the affected aircraft operators are already covered by at least one of the current security plan requirements while others, especially private operators conducting operations under FAA's 14 CFR parts 91 and 125, have not been subject to comparable security regulations.

TSA subject matter experts were unable to provide enough information about the newly covered operators to enable the use of Monte Carlo simulation to evaluate the effects of this uncertainty. Nevertheless, because these population numbers drive a significant portion of both the estimated aircraft operator and TSA costs, TSA instead has conducted an analysis of the sensitivity of the final estimate to changes in the population estimates over the ten year period of analysis. The estimated population for Part 91 and 125 operators used in the regulatory evaluation begins at 9,000 and 61, respectively, and this population is assumed to grow at an annual rate of 1.4%.

Since an important driver of costs is the number of operators (the lion's share of which are Part 91 GA operators), TSA examined the impact on costs of variation in this annual growth rate for the number of Part 91 operators. While TSA does not have established data on this range of variation, the distribution can be given a distribution that ranges from 1% per year to 1.8% per year, with a mean value of 1.4% per year. A

truncated normal distribution for this value was used, with a standard deviation of 0.001 and upper and lower bounds of 1.8% and 1% respectively.

Since most of the aircraft operations affected by the proposed rule involve jet aircraft, the number of annual Part 91 operations will be affected by the underlying growth rate for General Aviation jet aircraft operations. The FAA Aerospace Forecast[43] anticipates that such activity will grow at a 5.8% annual rate, and for this uncertainty analysis this variable is given a symmetrical triangle distribution, with central value of 6% annual growth and extreme values of 4% and 8%.

The most significant source of uncertainty in the cost estimates is the actual number of annual operations conducted by aircraft subject to the proposed rule. The major reason for this is that the duties of the aircraft operator's security coordinator are centered around checking on the passengers of each regulated flight, a task which is assumed to require 18 minutes per flight for the security coordinator. The costs of these security coordinator duties make up the lion's share of the total costs associated with the proposed rule. For this reason, variation in the annual number of regulated flights contributes directly and significantly to variation in the total cost of the rule.

Subject matter experts and other industry data were relied upon to develop the annual flight count assumptions driving the primary cost analysis, and to broaden the available information on this issue, an FAA database of actual flight operations in the nation's controlled airspace was used to develop a profile of annual flight activity by operators of aircraft (of all engine types) flying under FAR Part 91 or Part 135. In doing this, it was assumed that the flight services offered by operators subject to the proposed

[43] FAA Aerospace Forecasts, FY 2008 – 2025, Table 27.
http://www.faa.gov/data_statistics/aviation/aerospace_forecasts/2008-2025/

rule would be conducted under Instrument Flight Rules, and would therefore be monitored in controlled airspace. All such flights in the national airspace system are identified in the FAA's Enhanced Traffic Management System (ETMS) database. As part of this analysis, TSA used tail number identifications for ETMS flight records to aggregate GA and charter flights in aircraft of 12,500 lb. or greater MTOW during fiscal year 2007. These flights were conducted in aircraft with jet engines, turboprop engines and piston engines, and to estimate future activity levels, TSA used the FAA's projected activity growth rates for each of these engine types (-0.2%, 1.5% and 6% for piston, turboprop and jet aircraft respectively) to grow future flight counts by affected aircraft.

In contrast, for the primary cost calculations of the cost analysis, estimates for annual counts of covered operators and the annual number of flights conducted by each operator were combined to estimate annual flight counts. While based on data and assumptions collected from industry subject matter experts, these activity forecasts contrast sharply with those derived from the ETMS flight record data for FY2007. Figure 87 reports these two flight count forecasts.

Figure 88: Annual Flight Forecast

Annual Flights by Aircraft Covered in Proposed Rule		
Year	ETMS Based Forecast	Operator Count Based Forecast
1	2,118,982	5,145,198
2	2,233,928	8,695,385
3	2,355,696	8,817,120
4	2,484,698	8,940,560
5	2,621,366	9,065,728
6	2,766,159	9,192,648
7	2,919,566	9,321,345
8	3,082,101	9,451,844
9	3,254,313	9,584,170
10	3,436,782	9,718,348

To capture the uncertainty about the actual level of flight activity that would drive primary costs for the proposed rule, a random variable for annual flights was created in two steps:

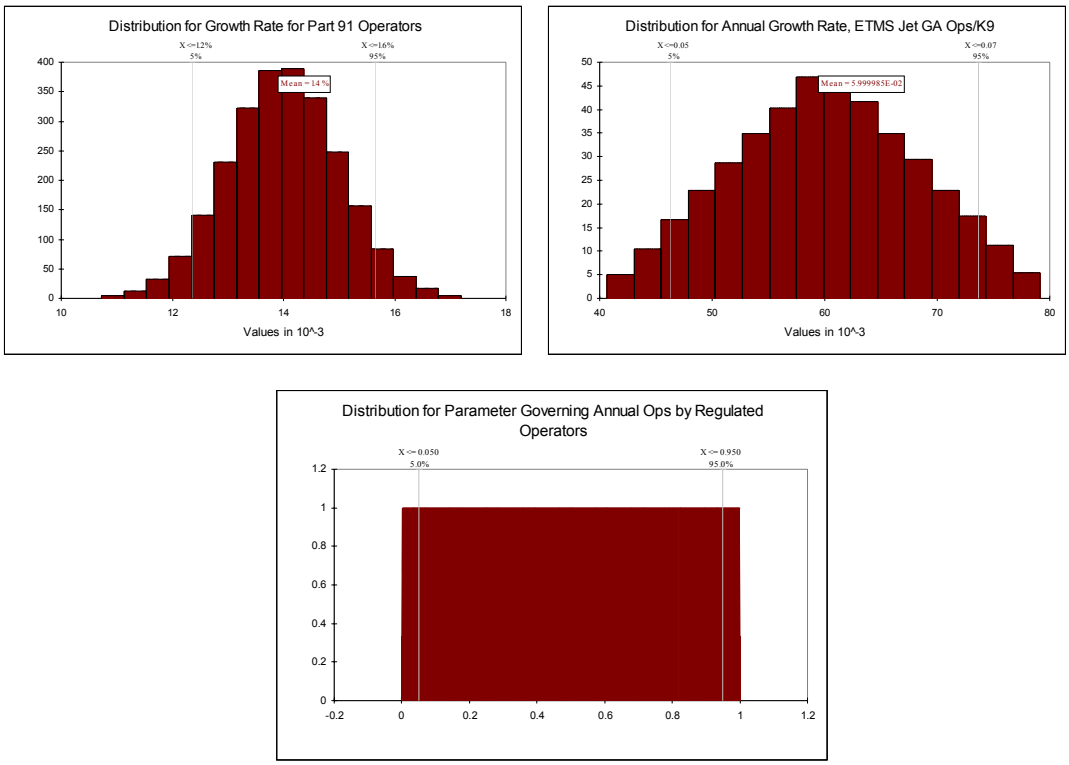
1. A random variable ***X*** was created, using a uniform distribution between 0 and 1. This means that any value between 0 and 1 is equally likely to occur during the Monte Carlo simulation process.
2. The random variable for annual flights in each forecast year was constructed as Annual Flights = [***X*** *** (ETMS Flights)] + [(1 –** ***X*****) * (Operator Count Forecast Flights)]**

This construction creates a flight count value for each year that is uniformly distributed between the lower value represented in the ETMS-based forecast and the higher value represented in the Operator Count-based forecast, depending on the value taken by the random variable ***X***.

This approach differs from the customary approach in uncertainty analyses of choosing a distribution that is centered on the primary deterministic estimate, but in this case the Operator Count-based forecast can legitimately be regarded as an upper bound for an important driving factor for the overall primary cost estimate. In this setting, the principal interest is in the effect of plausible smaller values for annual flight counts on the primary estimate for overall program costs and for other important primary cost subcomponents.

These three input distributions used to initiate the LASP primary cost uncertainty analysis are shown below.

Figure 89: Distributions for Input Variables for LASP Uncertainty Analysis



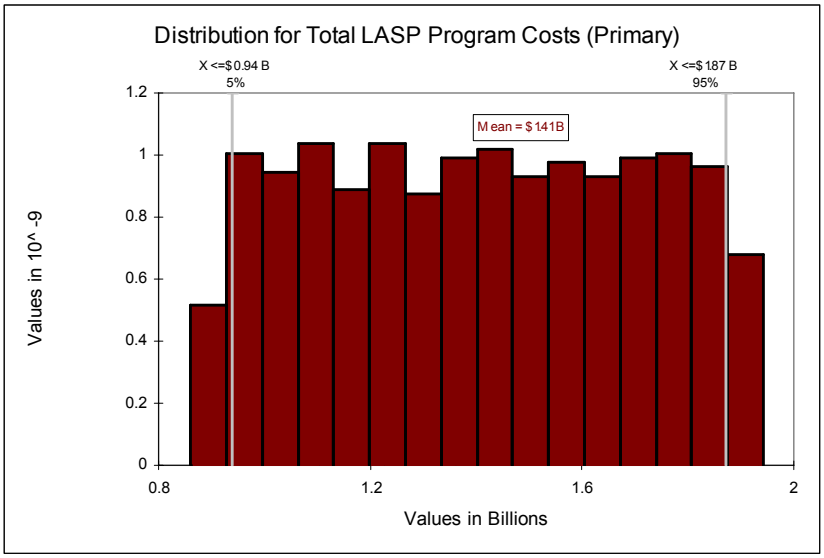
Monte Carlo Simulation

Using these specified distributions for uncertainty in important input variables, TSA ran a Monte Carlo simulation.[44] The simulation was based on the primary estimate of the core cost analysis and therefore uses all of the primary estimate assumptions except those explicitly treated as sources of uncertainty for the simulation, which are described above The mean 10-year undiscounted total cost estimate is $1.41 billion. The interior 90% interval for these primary total costs ranges between $0.94 billion and $1.87 billion

[44] The simulation used Latin Hypercube sampling over 10,000 iterations.

– a spread of around $0.93 billion. Figure 89 shows the full distribution of total undiscounted 10-year cost estimates. Readers should note that this simulation does not account for uncertainty regarding the size of the initial population of covered aircraft operators, nor does it account for any uncertainty in unit costs for duties assigned to operators, airports and TSA. It does illustrate the sensitivity in total program costs to a reasonable degree of variability in the volume and annual growth of activity by the dominant share of the covered operator population.

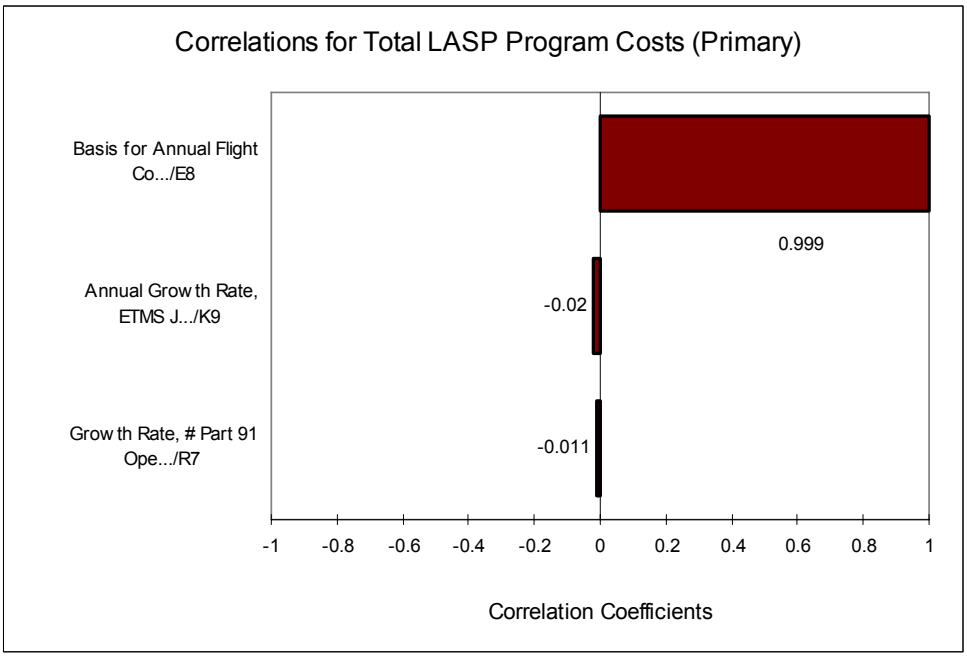
Figure 90: Distribution of Total 10-Year Cost Estimates



The Monte Carlo simulation also provides information on the correlation between the distribution for total undiscounted program costs and the three input distributions discussed above. This "tornado" chart is shown as Figure 90. As shown in the figure, the correlation between total program costs and the modeled variability in the volume and growth of Part 91 flight activity is quite strong, at 0.954. The correlation between program total costs and variability in the other two modeled variables is much more

modest. Total program costs, undiscounted over the 10 year period, have a negligible correlation of -0.002 with the assumed variability in the annual growth rate for General Aviation Jet operations. Similarly, total program costs, undiscounted over the 10 year period, have essentially no correlation, at -0.011, with the modeled variability in the annual growth rate for the number of operators who would be covered by the proposed rule.

Figure 91: Correlations between Input Distributions and LASP Total Cost Simulations



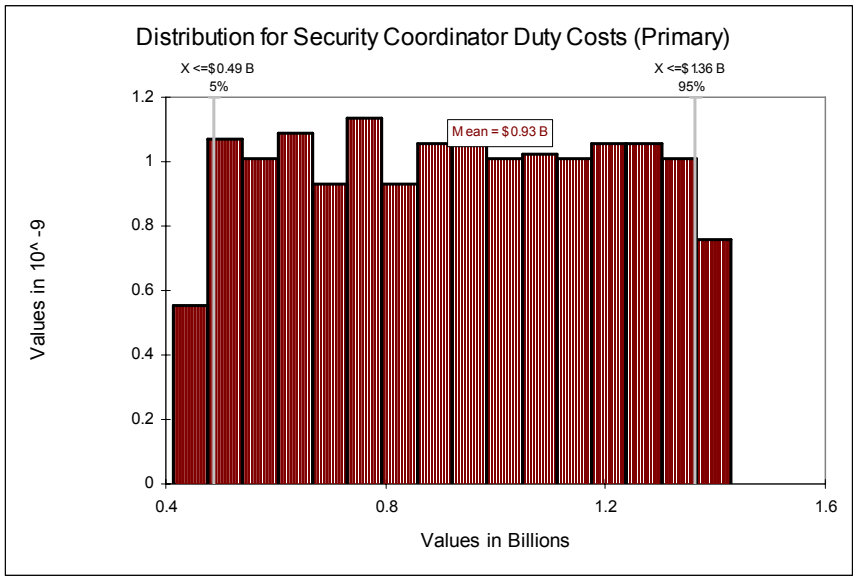
UNCERTAINTY IN INDIVIDUAL COST ELEMENTS

TSA also simulated the variability in three major cost elements (which contribute to the total program costs discussed above). In the remainder of this appendix, the resulting distributions for each cost element are described in turn.

The most significant cost component for the LASP program is the cost of security coordinator duties for covered operators. These costs are directly affected by the number of annual flight operations, which vary with the program elements used as inputs in the

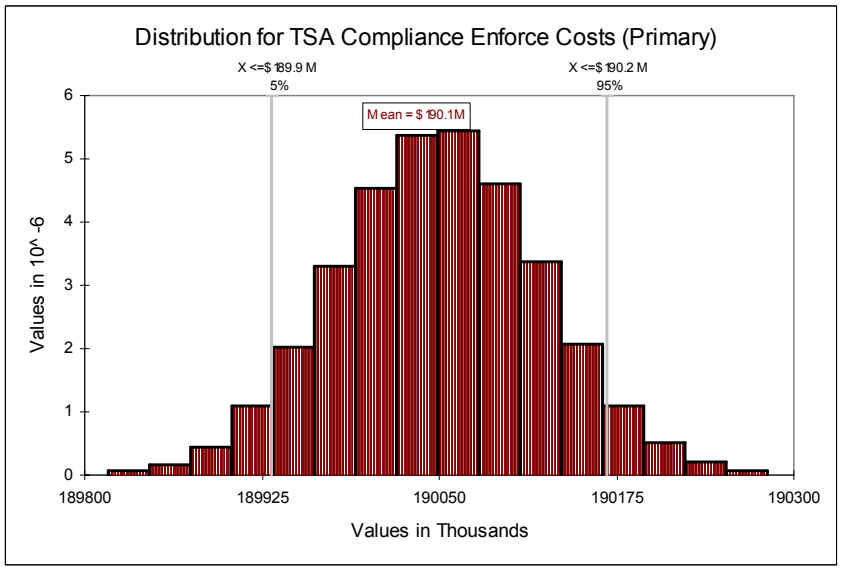
uncertainty analysis. After the simulation, the mean undiscounted 10 year cost for these duties was $0.93 billion, with an interior 90% interval ranging from $0.49 billion to $1.36 billion.

Figure 92: Distribution of 10-Year Security Coordinator Duty Primary Cost Estimates



TSA costs for compliance enforcement were also simulated, taking a mean value of $190.1 million in 10 year undiscounted costs. The 90% interval around this mean value ranged from $189.9 million to $190.2 million, indicating relatively little variability in these costs due to variability in the input parameters chosen to drive the simulation. These compliance enforcement costs are the most significant TSA costs within the LASP program implementation.

Figure 93: Distribution of 10-Year TSA Primary Costs for Compliance Enforcement



Finally, the variability in passenger opportunity costs due to time spent providing personal information for watch list matching was simulated. As shown in , under the simulation this cost element took a mean value of $60.4 million, within a 90% range defined by $32.0 million and $88.7 million. This cost subcategory distribution is also driven largely by the number of annual flights by operators covered by the proposed rule.

Figure 94: Distribution of 10-Year LASP Passenger Opportunity Primary Costs