Final Regulatory Analysis

Consumer Rulemaking:
Enhancing Airline Passenger Protections II

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Executive Summary

The Department of Transportation (DOT) is issuing a Final Rule to provide airline passengers with additional protections in the areas of airline service provision and consumer information. Some of the provisions in this Rule build on regulatory requirements adopted as part of the Final Rule on Enhancing Airline Passenger Protections (EAPP1) that was published in the Federal Register on December 30, 2009. Econometrica and its subcontractor, HDR Decision Economics, were tasked with developing a regulatory evaluation for each of the requirements included in this Final Rule (referred to as "EAPP2"). This regulatory evaluation estimates the economic impact, in terms of benefits and costs, to passengers, U.S. and foreign air carriers, and other entities regulated under this proceeding, as required by Executive Order (EO) 12866.[1]

In this analysis, we discuss and, where possible, provide estimates of the benefits and costs for specific regulatory requirements in 11 areas, including extension of the EAPP1 requirements for tarmac contingency plans, customer services plans, and customer complaint responses to cover foreign carriers; expanded reporting of tarmac delays; changes in denied boarding compensation (DBC) requirements; elimination of the break-out of government taxes and fees from advertised fares for air transportation; and disclosure of baggage and other optional fees.

Most of the new requirements cover carriers offering passenger service to domestic and international destinations. The U.S. air carriers that account for nearly all domestic passenger trips and about 60 percent of international passenger trips from or to U.S. airports are already required to comply with several of these requirements. As many as 130 foreign carriers will also have to comply with the requirements for tarmac contingency plans, customer service plans (CSPs), and customer complaint responses adopted for U.S. carriers in the EAPP1 Final Rule. In addition to U.S. and foreign carriers, the requirements that full fares be displayed in travel advertising and solicitations and that baggage and optional fees be clearly disclosed will also apply to as many as 15,000 travel agents and tour operators.

All quantified benefits and costs estimated for individual requirements were translated into current values for each year in the 10-year period beginning with calendar year 2012.[2] In accordance with Office of Management and Budget (OMB) guidelines, a discount rate of 7 percent is used in the primary analysis and is supplemented with overall estimates using a 3 percent discount rate as well.

[1] An analysis of the impact of the new requirements on small carriers, travel agents, and tour operators is provided in the accompanying Regulatory Flexibility Analysis.
[2] In this analysis, the affected parties are assumed to be compliant with the proposed regulations by January 1, 2012, with the exception of the full-fare advertising provision in Requirement Area 7, which is assumed to take effect 60 days later.

Table ES1 - Present Value of Net Benefits for the Rule, 2012-2021

		PV (millions)
Monetized Benefits	10 Years, 7% discounting	$45.0
	10 Years, 3% discounting	$53.5
Monetized Costs	10 Years, 7% discounting	$30.7
	10 Years, 3% discounting	$33.2
Monetized Net Benefits	10 Years, 7% discounting	$14.3
	10 Years, 3% discounting	$20.3

The expected present value (PV) of passenger benefits from the Rule over a 10-year period using a 7 percent discount rate is estimated at $45.0 million. The expected present value of costs incurred by carriers and other sellers of air transportation to comply with the Rule is $30.7 million over 10 years, discounted at 7 percent. The PV of net benefits for a 10-year period at a 7 percent discount rate is thus $14.3 million. Using a 3 percent discount rate, the PV of net benefits for 2012 through 2021 is estimated at $20.3 million.

A comparison of the benefit and cost estimates for each of the 11 sets of new requirements is provided in Section 5.2, along with information on additional benefits and costs for which quantitative estimates could not be developed.

Substantial portions of the estimated benefits, costs, and net benefits from the Rule are attributable to the full-fare advertising provisions of Requirement Area 7. The estimated benefits for these requirements total $29.0 million over the 10-year period from 2012 through 2021 using a discount rate of 7 percent. Benefits estimated for the full-fare advertising provisions represent 64 percent of the total benefits estimated for all 11 sets of new requirements during the period from 2012 through 2021.

The expected costs of complying with the full-fare advertising provisions of Requirement Area 7 are estimated at $6.8 million. All of these costs will be incurred in 2012. Costs estimated for the full-fare advertising requirements represent 22 percent of the total costs estimated for all 11 sets of new requirements during the period from 2012 through 2021.

None of the present values of estimated benefits or estimated costs estimated for any of the other requirements from 2012 through 2021 (discounted at 7 percent) exceed $10 million.

This regulatory analysis indicates that adoption of the new requirements will result in projected benefits to the public that outweigh the estimated costs of the Rule.

Introduction

The Department of Transportation (DOT) is issuing a Final Rule to provide airline passengers with additional protections in the areas of airline service provision and consumer information. Some of the provisions in this Rule build on regulatory requirements adopted as part of the Final Rule on Enhancing Airline Passenger Protections (EAPP1) that became effective on April 29, 2010.[3]

Econometrica and its subcontractor, HDR Decision Economics, were tasked with developing a regulatory evaluation for each of the requirements included in the Final Rule. This regulatory evaluation estimates the economic impact, in terms of benefits and costs, to passengers, U.S. and foreign air carriers, and other entities regulated under this proceeding, as required by Executive Order (EO) 12866.

The regulatory impact analysis (RIA) is conducted to determine the economic impact, if any, of the Rule and to assess whether, on balance, the Rule is in the public interest. This analysis provides a baseline description of passenger protections, identifies the need for the Rule, and defines the analytic scope and parameters. It discusses the Rule's anticipated effects and presents a summary of the expected benefits and costs.

The May 2010 preliminary RIA presented estimates for the benefits and costs of specific proposals included in the Notice of Proposed Rule Making (NPRM). The final RIA updates these estimates to reflect the provisions incorporated into the Final Rule, which will add new regulatory requirements in the following areas:

Req. Area	Requirement Description
1	Expansion of tarmac delay contingency plan requirements and extension of EAPP1 Final Rule requirements to cover foreign carriers
2	Expanded tarmac delay reporting and application to foreign carriers
3	Establishment of minimum standards for customer service plans (CSPs) and extension of EAPP1 Final Rule requirements to cover foreign carriers
4	Extension of requirements to post contracts of carriage, tarmac delay contingency plans and CSPs on websites to cover foreign carriers
5	Extension of EAPP1 Final Rule requirements for carriers to respond to consumer complaints to cover foreign carriers
6	Changes in denied boarding compensation (DBC) policy
7	Full-fare advertising and prohibition on opt-out provisions
8	Expanded requirements for disclosure of baggage and other optional fees
9	Prohibition on post-purchase price increases
10	Prompt passenger notification of flight status changes
11	Limitations on venue provisions in contracts of carriage.

This document provides an economic evaluation of the Rule in each of these 11 requirement areas. It also summarizes the comments received in response to the NPRM that relate to the

[3] "Final Rule on Enhancing Airline Passenger Protections," DOT-OST-007-0022, December 30, 2009. In this Regulatory Impact Analysis, the Final Rule being evaluated is sometimes referred to as "EAPP2" for clarity.

preliminary RIA and, where possible, indicates how these comments were taken into account in the final RIA.

For each area addressed in the Final Rule, we present the economic rationale for adopting additional requirements. We provide information on current regulatory requirements, Department enforcement policy, and industry practices; specify the nature of the benefits and costs associated with the Rule; and indicate the sources of data used to quantify these costs and benefits, where possible. Benefit and cost estimates are presented for individual requirements, and the aggregate benefits and costs of the requirements are aggregated to determine the present value of net benefits over a 10-year time period. The accompanying Regulatory Flexibility Analysis assesses the extent to which the costs associated with these requirements could potentially affect small carriers, travel agents, and tour operators.

The scope of this analysis is broad, yet it involves estimating very detailed changes that can occur in a wide variety of situations. It was necessary to make many estimates and assumptions in cases where specific data were not available or to make the estimation exercise manageable. The Department solicited comments to improve the analysis to the greatest extent possible. This evaluation summarizes comments submitted to the regulatory docket that were related to the Preliminary Regulatory Analysis and provides a response for each of those comments here.

1. Discussion of Comments Received on the NPRM

1.1. General Comments

Ratio of benefits to costs by provision and unquantifiable benefits

The Air Transport Association (ATA) and the International Air Transport Association (IATA), among others, noted that benefits were not estimated for some Rule provisions and that the monetized benefits were smaller than the monetized costs for the Rule provisions in some requirement areas. The ATA and IATA argued that the Department should not adopt the proposed requirements in any of the 11 requirement areas in the NPRM for which the monetized benefits in the preliminary RIA did not exceed estimated costs.

Adequate data do not exist to support the development of quantitative estimates for all of the benefits (and costs) that will result from the provisions in each of the 11 requirement areas included in the Final Rule. In the NPRM, the Department solicited information in several areas from knowledgeable parties. To the extent that such information was not available or forthcoming, some benefits and costs could not be quantified in the final evaluation. They are, nonetheless, accurately described as unquantifiable components of the Rule's impact.

Moreover, while we were not able to make quantitative estimates of the benefits for certain Rule provisions, the estimated costs to carriers of complying with these requirements are projected to be extremely small in relation to carrier revenues from passenger service. To confirm that this is the case, in Section 5.3 we present a cost-per-passenger analysis for several Requirement Areas for which quantitative estimates of benefits could not be developed. The cost-per-passenger analysis shows that the cost of complying with these requirements will be extremely low.

IT costs and fees

IATA contends that the Regulatory Impact Analysis did not accurately reflect the IT costs associated with meeting all of the requirements included in the NPRM. Among the IT costs that IATA believes were not properly taken into account were the following:

- incremental costs for Web updates that occur more frequently than once a year
- IT costs incurred to update passengers on flight status changes
- submission of monthly data related to tarmac delays
- changes to reservations systems necessary to allow holds without payment for 24 hours
- disclosure of past delays and cancellations
- changes to full-fare advertising requirements for both airlines and ticket agents
- website maintenance and updating to display prominently changes in baggage and other optional fees
- inclusion of baggage allowance and fees on e-tickets
- mandated provision of flight status updates.

Some of these costs were in fact included in the preliminary RIA. Others have been estimated and included in the final evaluation, specifically:

- The incremental costs for Web updates referred to in the IATA comments relate to posting baggage and other optional fee disclosures. As discussed in Section 4.8.2, current DOT enforcement policy already requires carriers to disclose baggage fees and to post an alert on the home page to alert consumers about increases in these fees. There are no additional costs associated with permitting this alert to remain on the home page for 3 months, rather than for some shorter period of time. However, the Final Rule does add other new requirements for carriers and ticket agents concerning the disclosure of baggage and optional fees, particularly with respect to code-share and interline flights. Estimates of these compliance costs are presented in Section 4.8.4 below.

- It is our understanding that most carriers currently have systems in place that are used to update passengers on delayed or cancelled flights—the Rule requirements simply ensure that this information is provided promptly. Consequently, we do not anticipate that there will be significant costs associated with this requirement.

- System set-up and programming costs for submission of tarmac delay reports were included in Section 6.2 of the preliminary RIA. Updated estimates of these costs are presented in Section 4.2.4 of the final RIA.

- Costs associated with changes to reservations systems necessary to allow holds without payment for 24 hours were not included in the preliminary RIA because the Department does have adequate information to estimate these costs. A review of carrier and third-party websites indicated that most reporting U.S. carriers currently allow travelers either to hold a reservation for 24 hours without payment or to cancel ticket purchases within 24 hours without penalty. Both of these options are permissible under the Final Rule requirements.

- The preliminary RIA did not include any costs associated with disclosure of past delays and cancellations because the NPRM did not contain any proposed requirements in this area beyond those already included in the EAPP1 Final Rule.

- Costs associated with changes in the full-fare advertising requirements were included in Section 6.7 of the preliminary RIA. However, IT costs related to display of full-fare advertising on websites were relatively small, because our review of marketing carrier and large online travel agency (OTA) sites indicated that this information was already calculated and, in many cases, displayed on the booking selection pages. For example, the programming required for the four largest OTAs will consist solely of changes to the color, size, and placement of the full-fare price for each option offered.[4] These costs are also included in Section 4.7.4 of the final RIA.

- Section 6.8 of the preliminary RIA included estimates of the costs for website formatting and maintenance for prominent display of changes to baggage and other optional fees. These costs are also included in Section 4.8.4 of the final RIA.

- Section 6.8 of the preliminary RIA also included estimates of the costs for inclusion of baggage allowance and fees on e-tickets. These costs are included in Section 4.8.4 of the final RIA.

- It is our understanding that most carriers currently provide flight status updates. For example, our February 2010 review indicated it was possible to sign up to receive text message updates on the websites of 9 of the 11 reporting carriers that sold tickets directly to the public at that time.

1.2. Comments Relating to Specific Requirement Areas

1.2.1. Requirement Area 1: Tarmac Delays and Contingency Plans

Additional flight cancellations

Industry analysts Joshua Marks and Daryl Jenkins have argued that the cancellation rate for flights which would otherwise have had lengthy tarmac delays in the absence of the EAPP1 Final Rule has actually been much higher than estimated in the preliminary RIA.[5]

It is important to keep in mind that some flights which previously experienced tarmac delays of more than 3 hours were cancelled even in absence of this regulation. In addition, an analysis we recently conducted for the Department indicates that while the cancellation rate for domestic flights experiencing tarmac delays of 2½ hours or more (the time limit at which a decision to return to the gate must typically be made) has increased since the EAPP1 Rule requirements took effect, the number of cancellations among this cohort of flights has actually decreased relative to

[4] At least one of the four largest OTAs displayed full fares including all taxes and fees on the flight selection page for international flights at the time this evaluation was finalized.

[5] See Marks and Jenkins' July 20, 2010, study, "Impact of Three-Hour Tarmac Delay Rules and Fines on Passenger Travel Time and Welfare," and their November 18, 2010, follow-up study, "Summer 2010 Cancellations and the Five-Month Impact of the Three-Hour Tarmac Delay Rule," both of which are available at www.tarmaclimits.com.

the number for the same time period in previous years. Consequently, it is possible that costs that would have been incurred from a higher proportion of flights experiencing tarmac delays of 2½ hours or more being cancelled have been more than offset by the avoided cancellations attributable to the reduced overall numbers of domestic flights that are now experiencing tarmac delays of this length. The impact on cancellations of international flights operated by foreign carriers (for which tarmac delays of 4 hours trigger the contingency plan) is also projected to be minimal.

Carrier costs for gate returns

IATA states that the preliminary RIA cost estimate for incorporating a time limit for lengthy tarmac delays did not include costs of taxi time back to gate per flight (including passenger, crew, and aircraft), the cost of using ATC (air traffic control) to taxi back to gate, per-flight cost of changing crew or having a spare crew waiting if necessary, and the cost of aircraft station expense (including ground staff and provision of external power unit for aircraft if necessary) per flight. Without including estimates of these costs, IATA contends that the preliminary RIA underestimates the true cost to the carriers of the regulation.

The preliminary RIA included estimates of the fuel costs to planes to taxi back to gate, the cost of providing food and water after 2 hours of delay, and passenger deplaning fees. These costs were relatively small because the projected number of affected flights operated by foreign carriers was estimated to be relatively low, but they were included. The Department does not have access to information on the other cost elements described in the IATA comments. In the absence of adequate information, these costs are listed as unquantifiable costs in the final RIA.

Costs of cancelled flights

IATA believes that the estimate of $11,600 for the incremental cost of a cancelled flight reported in the preliminary RIA is too low.

While this estimate was presented in the preliminary RIA section summarizing the assumptions used in the benefits and costs analysis, it is actually the cost figure for 1998 cancellations reported in the study used as the source for this estimate.[6] The unit costs estimates used in the preliminary RIA analysis of the tarmac contingency plan requirements included an updated estimate of the cost for a cancellation of $14,818.

The Final Rule requires covered foreign carriers to set a tarmac delay limit of no more than 4 hours.[7] As discussed above, the Department has analyzed data on domestic flights experiencing tarmac delays of 2½ hours or more since the EAPP1 Rule requirements became effective and determined that the number of these flights which are ultimately cancelled has actually decreased. Consequently, no costs associated with additional cancellations are projected to result from this requirement being extended to foreign carriers in the final RIA.

[6] Zalman Shavell, "The Effects of Schedule Disruptions on the Economics of Airline Operations," The MITRE Corporation, April 14, 2000.

[7] The tarmac contingency plans posted by U.S. carriers subject to these requirements under the EAPP1 Final Rule typically include a self-selected 4-hour limit on tarmac delays for international flights departing from or arriving at U.S. airports.

Cost of increased refunds and cancelled passenger trips due to returns to gate during long delays

The ATA expects that there will be a significant increase in the number of passengers requesting refunds due to “significant delays” and contends that these costs should be included in the RIA.

It is not clear that an increased number of passengers seeking refunds will cause carriers as a whole to incur net costs, because most passengers will seek alternative air transportation after cancelling trips on flights with lengthy delays. In any event, the benefits to passengers who would request refunds to avoid being held on a flight experiencing a lengthy tarmac delay are likely to exceed the administrative costs of providing the refund and rebooking on another flight.

Costs to airports for contingency plans

Comments submitted by the Dallas-Fort Worth Airport contended that if tarmac delay contingency plans are required of U.S. airports, the costs airports may incur to implement them should be considered.

The Final Rule requires that covered U.S. and foreign carriers coordinate their tarmac contingency plans with all large hub, medium hub, small hub, and non-hub airports, a significant expansion from the EAPP1 requirement that covered U.S. carriers coordinate their plans with large and medium hubs. The numbers of carriers operating flights to and from each size-class of airport and the numbers of additional carrier contingency plans that authorities at each size-class of airports will need to receive, review, and discuss with carriers are developed and included in the Final RIA. These data are used to estimate costs to carriers for coordinating plans with airport authorities. While we were not able to develop quantitative estimates of the costs to airport authorities associated with this requirement, they are noted as an unquantifiable cost element of the Rule. (See sections 4.1.2 and 4.1.4 below).

1.2.2. Requirement Area 3: Customer Service Plans

Cost of developing and implementing customer service plans

The ATA contends that the preliminary RIA significantly underestimated the cost to extend customer service plans to foreign carriers and regional carriers. Using the preliminary estimate of $91,000 per carrier to implement such plans, the ATA calculates that the costs estimated in the preliminary RIA were sufficient for only 36 carriers to implement such plans, but that the preliminary RIA estimates that 86 foreign carriers would need to do so.

The preliminary RIA presented separate CSP compliance cost estimates for large and small carriers. The ATA comment assumes that all foreign carriers will incur the higher costs estimated for large carriers. In addition, U.S. regional carriers were already required to develop and self-audit CSP compliance as part of the EAPP1 Final Rule requirements.

The final RIA incorporates updated estimates of these CSP costs (See Section 4.3.4 below).

1.2.3. Requirement Area 4: Posting Contracts of Carriage, Tarmac Contingency Plans, and Customer Service Plans on Carrier Websites

Litigation costs

Many comments expressed the view that litigation costs stemming from proposed requirements to include contingency plans and customer service plans in carriers' contracts of carriage should have been taken into account in the preliminary RIA. The ATA comments referenced estimates submitted in the EAPP1 rule-making, which concluded that each of its members would bear an additional $500,000 in additional annual litigation costs.

The proposed requirements for tarmac delay plans and customer service plans to be included in carrier contracts of carriage have not been included in the Final Rule, so no estimates of costs related to these provisions need be included.

1.2.4. Requirement Area 7: Full-Fare Advertising

Consumer surplus methodology for benefits estimation

The ATA comments include several specific criticisms of the estimated benefits from the proposed full-fare advertising requirements that were presented in the preliminary RIA. The principal focus of these comments is that the use of a consumer surplus analysis to estimate the reduction of "dead weight loss" from consumers purchasing tickets without taking into account all of the included taxes and fees is somehow incorrect or inappropriate to use as a benefits estimation methodology.

It is important to note that this analysis was based on peer-reviewed research which showed that providing consumers with more complete information about the final prices of products being purchases did in fact reduced the quantity purchased. This is, in one sense, an unsurprising result. An axiom of mainstream economic theory is that consumers make optimal purchasing choices based on the information available at the time buying decisions are made. It must therefore be the case that providing consumers with more accurate information about the final purchase price earlier in the buying process improves their welfare. In the context of air travel, ticket purchasers on most travel websites will be aware to varying degrees that additional taxes and fees will be included in the final purchase price. However, it is also clear that most consumers will not know the exact amount of these taxes and fees until they are provided with that information by the ticket agent (carrier, travel agency, etc.). A more extended exposition of the case for the existence of this benefit is provided in an appendix to the final RIA.

However, to address the concerns raised about various calculation issues by the ATA and in other comments, we have not included estimates of the increase in consumer surplus from the full-fare advertising requirement in net benefits calculated for the Rule. The final RIA does include, as an unquantifiable benefit of the full-fare advertising requirement, the value to consumers from avoiding purchases at prices higher than they would be willing to pay if they were disclosed initially.

Search time savings

The ATA also provided comments about the procedures and data used to calculate the other category of benefits estimated in the preliminary RIA for the full-fare advertising requirement—

those accruing from the time saved by ticket purchasers who compare full-fare prices for the same itinerary across multiple websites. The ATA criticisms focused on several of the intermediate data elements used to compute the number of ticket purchasers who would benefit, as well as the estimate of average time saved by comparing fares from multiple sites.

The ATA comments specifically suggest that the ticket purchases are properly estimated using data from the Bureau of Transportation Statistics (BTS) Origin and Destination (O&D) survey. The final RIA estimates the number of ticket purchases using the O&D survey data. The ATA comments also provide newly available information on the average party size for air trips, which was used in place of the estimate in the preliminary RIA.

ATA also disputed the estimated percentage of passengers who book a trip online (72 percent, according to the PhoCusWright study previously cited) that was used in the preliminary RIA and recommended that estimates be based on the 52 percent share found in a 2008 ATA study, which reportedly included business as well as leisure travel. The final RIA uses the 2008 ATA estimate as the share of air travelers booking online in the base year (2012) of the 10-year time period over which benefits are estimated. However, most observers believe that the share of tickets purchased online will continue to grow during the next 10 years. Accordingly, the estimates in the final RIA are based on the percentage of tickets booked online growing by two percentage points annually from 52 percent in 2012 to 70 percent in 2021.

The ATA comments also question the assumption of an average time saving of 5 minutes for purchasers comparing full fares across multiple websites that was used in the preliminary RIA. In response to this concern, we have re-estimated the amount of time saved to 3 minutes, based on a series of time trials performed at HDR offices. This revised estimate is lower because it measures only the time spent searching on additional websites to find full-fare prices but not the time required to complete the purchasing process (entering names, credit cards, seat preference) on additional websites. The revised estimate is more appropriate because a customer will only go through the purchasing process once, even if they check multiple websites.

Impact of full-fare advertising in print and other media on future purchases

The ATA comments noted that the research on consumer behavior and the analysis of online air ticket purchases presented in the preliminary RIA did not assess the possible impact of the full-fare advertising requirement on the effectiveness of travel advertising, but rather focused solely on the impact on online ticket purchasers.

Both the preliminary and final RIA present monetized estimates only for the benefits that would be realized by online purchasers of air travel. The Department does not have sufficient information available to assess the possible impact of the full-fare advertising requirement on the effectiveness of travel advertising generally.

Costs of revising websites and print media advertising

Finally, IATA contends that costs for revising websites and print media advertising were not included in the preliminary RIA. Estimates of these costs were provided in Section 6.7 of the preliminary RIA and in Section 4.7.4 of the final RIA.

2. An Overview of the Air Transportation Sector and Current Regulatory Structure

This section provides an overview of important features of the passenger air travel sector: U.S. and foreign carriers, airports, flights and passengers, regulatory authorities, and travel agencies and tour operators.

2.1. U.S. and Foreign Air Carriers

Nearly 300 U.S. and foreign air carriers provide some combination of scheduled and nonscheduled passenger and all-cargo air service to U.S. and international destinations. All U.S. air carriers operating any aircraft of 60 seats or more must have a certificate under 49 USC 41102 (or an exemption issued by DOT from that section) to provide scheduled passenger service. Some carriers operating fleets consisting only of smaller aircraft may also be "certificated carriers." A relatively limited number of carriers operating small aircraft are authorized as "commuter air carriers" under the definition provided in 14 CFR 298.3(b). Foreign air carriers must hold permits issued under 49 USC 41302 (or an exemption issued by DOT from that section) to operate flights that arrive or depart at U.S. airports.

The applicability of some current regulatory requirements varies not only between U.S. and foreign carriers, but also among different categories of U.S. carriers, based on the carrier's share of total industry revenues from scheduled passenger service on domestic routes or the seating capacity of the aircraft the carrier operates.

Reporting carriers

"Reporting carriers"—those that account for at least 1 percent of domestic scheduled passenger service revenues—must report information to BTS monthly on lengthy tarmac delays, on-time performance (OTP), payment of DBC, and other aspects of carrier performance. In 2012, the first full year in which the Rule will be effective, the roster of reporting carriers is expected to include six mainline carriers (Alaska, American, Delta, Hawaiian, United, and US Airways), three low-cost model major airlines (Frontier, JetBlue, and Southwest), and five regional carriers (American Eagle, Atlantic Southeast, ExpressJet, Mesa, and SkyWest).[8]

[8] There were 18 reporting carriers at the end of 2009. Since then, Air Tran has been purchased by Southwest; Continental and United have merged; Comair no longer must report; and Pinnacle has elected to discontinue reporting on a voluntary basis. It is also possible that ExpressJet will discontinue reporting voluntarily if SkyWest (which acquired the carrier in 2010) elects to consolidate reporting by the beginning of 2012.

Table 1 - Scheduled Passenger Service on U.S. Carriers, 2009

	Number of Carriers	Departures	Passengers	Passengers/ Departure
Reporting Carriers	18	7,008,602	628,155,438	90
Other U.S Carriers	79	2,517,894	86,952,529	35
Total	**97**	**9,526,496**	**715,107,967**	**75**
Reporting % of Total	18.6%	73.6%	87.9%	--

Source: BTS T-100 Segment database, 2009

Aircraft size-based distinctions among U.S. carriers

Many regulatory requirements apply only to carriers that operate at least one aircraft originally designed to hold 30 passengers or more. Carriers that provide passenger service using at least one aircraft originally designed to hold 30 passengers or more, but none that have more than 60 seats, are considered small entities for purposes of assessing impact under the relevant requirements of the Regulatory Flexibility Act. There are also a significant number of carriers that operate only aircraft with fewer than 30 seats. The regulatory requirements for these carriers are less extensive than those for larger carriers. Finally, there are several carriers that do not offer scheduled service but operate public charter flights. The majority of these carriers provide charter service using at least one aircraft with more than 60 seats.

Table 2 - US Carriers by Size Class, 2009

Group	Seat Criterion	Total in 2009 T-100*	Charter-only**	Scheduled Service	Contract Carriers	Other
Large	> 60	49	16	33	15	18
Small	30 - 60	12	0	12	6	6
Very Small	< 30	38	10	28	1	27
Total		**99**	**26**	**73**	**22**	**51**

Note: 17 large carriers and 1 small carrier are reporting carriers.

*Excludes carriers that were no longer operating independently by end of 2010.

**Six charters offered some scheduled service in 2009; all are very small Alaska or sightseeing tour carriers.

The U.S. domestic airline industry continues to undergo significant consolidation. Of the 117 U.S. carriers operating at the beginning of 2009, 20 were no longer providing service 2 years later. Fourteen of the remaining carriers are wholly-owned subsidiaries that do not independently market air transportation services but are treated as separate entities for some reporting and regulatory compliance purposes.

Mainline and regional airlines

Several U.S. carriers, including 5 of the 14 carriers expected to be reporting carriers by the beginning of 2012, operate flights primarily or exclusively on a contract basis, providing service primarily for the largest mainline network carriers. Most of these carriers do not sell scheduled air transportation services directly to the general public; the flights they operate are listed on the contracting carriers' schedules under code-share agreements. A few small regional carriers (e.g., Cape Air and Great Lakes) operate both contract and independently-marketed flights.

Regional carriers—both contract carriers and those that market flights independently—provide service to a much larger network of communities than do the mainline and low-cost national carriers. The Regional Airlines Association (RAA) estimates that its 68 member carriers provide the only scheduled service available at 263 of the 428 U.S. airports in the 48 contiguous States and at 185 of the 207 airports in Alaska, Hawaii, and Puerto Rico.[9]

Regional carriers are typically subject to the same reporting and regulatory requirements as other airlines in the same size classes. In some instances, however, contract carriers must comply with their mainline partners' commitments and compliance requirements—including relevant provisions in the Final Rule dealing with tarmac delay plans and customer service plans.

Foreign carriers

In contrast, foreign carriers operating flights to and from the United States are currently subject to a single set of regulatory requirements. Nearly all of them will be subject to the EAPP1 requirements for domestic carriers that are being extended to cover foreign carriers in the EAPP2 Final Rule. There are 130 foreign carriers that operate scheduled or charter service to the United States.[10]

Table 3 - Number of Foreign Carriers

Group	Total in 2009 T-100*	Charter-only*	Scheduled Service	Contract Carriers	Other
Alliance	36	0	36	1	35
EU	47	21	26	2	24
Canada	10	2	8	2	6
Total	**130**	**29**	**101**	**12**	**89**

*No charter service carrier operated more than three scheduled service flights in 2009.

2.2. Airports

The Federal Aviation Administration (FAA) groups airports into a set of size-based categories based on the number of passengers boarded ("enplanements") annually. There were 565 U.S. airports with at least 2,500 passenger enplanements in 2009. More than two-thirds of domestic and international passengers departed from 29 major metropolitan hubs, and another one-fifth departed from 37 medium hub airports. On the other end of the size spectrum, there were 180 airports with between 2,500 and 10,000 passenger enplanements in 2009. More than half of these (91) were located in Alaska.

[9] Regional Airline Association, *2010 Annual Report.*

[10] Four foreign carriers operate passenger service to and from the United States exclusively with aircraft having fewer than 30 seats. These carriers would not have to comply with the requirements that apply only to U.S. and foreign carriers which provide passenger service on at least one aircraft that has 30 or more seats.

Table 4 - Passenger Enplanements by Size of Airport, 2009

Category	Minimum %/# of Passengers	# of Airports	Passengers (millions)	% of Total	Passengers per Airport
Large Hub	>1% of total	29	491.7	69.3%	17.0 million
Medium Hub	>0.25% of total	37	138.0	19.4%	3.7 million
Small Hub	>0.05% of total	69	56.7	8.0%	821,000
Non-Hub	>10,000/year	250	22.9	3.2%	91,000
Other Commercial	>2,500/year	180	0.9	0.1%	5,000
Total		**565**	**710.1**	**100.0%**	**1.3 million**

Source: BTS T-100 Segment database, 2009.

International flights depart from every large and medium hub, most small hubs, and about one-third of non-hub airports. However, only 5 of the 180 airports with between 2,500 and 10,000 passenger departures in 2009 offered scheduled international service.

2.3. Flights and Passengers

Airline passengers travel to both domestic and international destinations using both scheduled and nonscheduled (charter) service provided by U.S. and foreign carriers. Carrier-specific data on the annual numbers of domestic and international departures and passengers boarded for each type of flight are available from the BTS T-100 segment database.

Most passenger travel is on scheduled service flights, and seven out of every eight scheduled flights are to destinations within the United States. Virtually all domestic flights are on U.S. carriers. Foreign carriers may transport passengers between two U.S. airports only on segments of flights that originate from or continue on to international destinations. U.S. carriers also account for a significant majority of international departures, although the share of passengers on international flights is divided more evenly between U.S. and foreign carriers because the average number of passengers per departure is larger on flights operated by foreign carriers.

Table 5 - Scheduled Passenger Service: Departures and Passengers, 2009

	Domestic	International	Combined
Departures			
U.S. Carriers	8,751,178	775,885	9,527,063
Foreign Carriers	2,389	483,944	486,333
Total	**8,753,567**	**1,259,829**	**10,013,396**
Passengers			
U.S. Carriers	631,955,369	83,152,598	715,107,967
Foreign Carriers	503,133	66,349,930	66,853,063
Total	**632,458,502**	**149,502,528**	**781,961,030**
Passengers/Departure			
U.S. Carriers	72.2	107.2	75.1
Foreign Carriers	210.6	137.1	137.5
Total	**72.3**	**118.7**	**78.1**

Source: BTS *T-100 Segment database*, 2009

The number of passengers flown typically rises each year, but enplanements fell in 2008 and again in 2009. The FAA Aerospace Forecast for 2010 through 2030 projected increases of 0.4 percent and 0.9 percent, respectively, from 2009 to 2010 in the numbers of passengers flying on domestic and international flights. For 2011 and future years, the Forecast projects that annual passenger enplanements will increase by an average of 2.8 percent annually on domestic routes and 4.2 percent on international routes.[11]

2.4. Regulatory Authorities

The OST conducts economic licensing of U.S. carriers; establishes regulatory requirements relating to advertising and provision of scheduled and nonscheduled passenger service; issues guidelines and letters to codify and clarify Department enforcement policy; and enters into consent orders to enforce regulations and impose penalties for noncompliance. All of the requirements evaluated in this regulatory analysis represent modifications of, or clarifications to, existing OST rules and enforcement policy.

During the 3-year period from 2008 through 2010, the OST entered into 75 enforcement orders with U.S. and foreign carriers, travel agencies, and tour operators. More than one-third of these consent orders (26) involved noncompliance with established rules and policy relating to the advertising of air fares.

Regulatory authority for matters involving airports is vested in the FAA. Some of the requirements (especially those relating to tarmac contingency plans) will have a limited impact on airport operations, but the costs that will be incurred by airport authorities could not be quantified.

[11] Federal Aviation Administration, *FAA Aerospace Forecast: Fiscal Years 2010-2030.*

Air travel security issues are under the jurisdiction of the Transportation Security Administration (TSA).

Arriving passengers on international flights need to be cleared for entry by Customs and Border Patrol (CBP) personnel. The Rule requires covered carriers to coordinate their tarmac contingency plans with CBP authorities at diversion airports. This will ensure that arriving international passengers can be deplaned and allowed to leave the airport in a timely fashion.

2.5. Travel Agencies and Tour Operators

While most regulation of the air transportation sector is concerned with carriers and airports, other sellers of air transportation must comply with OST advertising regulations and guidelines. Travel agencies and tour operators are the two largest industry sectors (in addition to carriers) that sell tickets to passengers for scheduled service flights. These sales sometimes are made on a standalone basis and sometimes as part of a package that may include accommodations, activities, and ground transportation. Carrier, travel agent, and tour operator websites also offer packages that do not include any air transportation.

According to a recent study, about 17 percent of travel agencies have online ticketing capability. The four largest online travel agencies—Expedia, Orbitz, Priceline, and Travelocity—reportedly account for 96 percent of all online sales by travel intermediaries in the leisure travel market segment.[12] However, the travel agent and tour operator sectors consist primarily of small businesses with fewer than 20 employees per firm.

Table 6 - Travel Agencies and Tour Operators, 2007

	Total Firms	Large OTAs	Online Sales Capability	Offline Sales Only	20+ Employees	<20 Employees
Travel Agencies	11,803	4	2,003	9,796	626	11,177
Tour Operators	2,687	0	457	2,230	267	2,420

Sources: Bureau of the Census, *County Business Patterns,* 2007; PhoCusWright, *The Role and Value of the Global Distribution Systems in Travel Distribution*, 2009.

The three large Global Distribution System (GDS) companies—Amadeus, Sabre, and Travelport—provide the infrastructure to process both online and offline transactions for most travel agencies and tour operators. Sabre (Travelocity) and Travelport (Orbitz) also own large OTAs as well. GDS companies reportedly processed more than 376 million air transactions in the United States in 2008, accounting for 64 percent of all airline passenger revenue.[13]

[12] PhoCusWright, *The Role and Value of the Global Distribution Systems in Travel Distribution*, November 2009.
[13] Ibid.

3. General Framework for Analysis of Benefits and Costs

The Rule includes 11 sets of requirements containing more than 20 provisions that will provide airline passengers with additional protections. While the benefits and costs attributable to each of the 11 requirement areas were evaluated on a standalone basis, there are two dimensions of the evaluation that cut across the specific requirements: (1) the aspect of passenger air travel that will be addressed and (2) the ability of passengers (or prospective passengers) to obtain needed services or information from other sources. The first of these considerations shapes the methodologies used to estimate benefits; the second informs the estimation of both benefits and costs. We also present a listing of the general assumptions used in developing these estimates.

3.1. Type of Air Travel Issues Being Addressed

The Rule provisions address three types of passenger air travel issues:

- ***Carrier Service:*** Several of the requirements will standardize or improve aspects of service provision for passengers who have already booked flights (such as Requirement Areas 9 and 10) and, in the case of tarmac delays (Requirement Area 1), have already boarded the aircraft. In many of these areas, some carriers typically provide the level of service required, but others fall short of the requirement to a degree that the service provided is qualitatively different from that which would be reasonable for consumers to expect. Adopting regulations to address these issues will reduce the amount of time consumers lose to delays, move some of the time spent waiting to more comfortable situations, and reduce uncertainty associated with air travel. There are also benefits to consumers at the time of purchase from limiting the frequency and consequences of possible service failures.

- ***Purchaser Information:*** Other requirements will improve the extent and presentation of information available to consumers who are in the process of making air travel purchase decisions. While online search tools provide potential customers with access to much more extensive information about carriers, flight times, and prices than was previously available, it is often difficult to determine the final price of the purchase being contemplated. Adopting additional requirements for the provision of information about flight pricing, fees, and likelihood of delays (Requirement Areas 2, 7, and 8) will reduce consumer search time and improve the chances that purchase decisions are made with sufficient information.

- ***Passenger Equity:*** Two types of possible requirements—those dealing with overbooking (Requirement Area 6) and limitations on venue provisions in contracts of carriage (Requirement Area 11)—primarily address carrier-passenger equity issues, but they may have subtle economic effects as well.[14] Ensuring equitable treatment of involuntarily

[14] More specifically, these provisions would ensure that similarly situated passengers would be treated equitably. For example, requiring an increase in the maximum DBC level to account for inflation would compensate future passengers who are involuntarily bumped at the same (real) rate as those who are currently denied the ability to board oversold flights. Prohibiting restrictions on the venue for filing claims would ensure that the costs and

bumped passengers may reduce potential passenger reluctance to purchase consolidator or frequent flyer tickets for trips at busy air travel times. Eliminating restrictions on venue may prompt airlines to be more responsive to the complaints of unsatisfied passengers and avoid increased litigation exposure.

In our development of benefits estimation methodologies, we have therefore grouped the Rule requirements into three categories based on the type of impact and benefits they are expected to have: (1) improving the delivery of services to passengers who have already booked air travel; (2) providing additional or clearer information to consumers who are making travel purchase decisions; and (3) assuring more equitable treatment of similarly-situated passengers. The expected benefits from adopting each of these three categories of requirements were estimated using different approaches:

- ***Carrier Service:*** In general, the benefits of requirements that will improve carrier delivery of services have been evaluated by assessing the impact on the aggregate amount of time and the quality/comfort of where that time is spent (e.g., in the terminal vs. on the tarmac) during travel for affected passengers. In some instances, the benefit of a requirement will be to increase the certainty of service delivery within expected levels of provision quality and timeliness. Estimating the benefits of these requirements involved making an assessment of the likely ranges of uncertainty premiums that passengers attach to air travel services.

- ***Purchaser Information:*** A consumer surplus methodology was used to estimate the benefits of requirements that are expected to improve the availability and ease-of-use of pre-purchase air fare information. Evaluating the benefits for each requirement area involved developing an estimate of the number of purchasers who would make use of the additional information and the value to them of having this additional information available. The estimated benefits also depend on the extent to which options are already available to consumers who wish to incorporate them into their purchasing decisions. Valuing the benefits from improved information also required estimating the per-purchaser time savings from reduced search costs.

- ***Passenger Equity:*** The requirements that address passenger equity issues involve transfers from carriers to passengers. The amounts of these transfers are relatively straightforward to calculate in the case of the possible changes to the DBC policy, but the extent of any transfer resulting from limitations on carrier venue restrictions cannot be quantified.

3.2. Availability of Alternatives to Carrier Services or Information

The extent to which consumers have available alternatives to relying on the carrier to provide adequate service or to obtaining adequate information to inform purchase decisions also varies among the areas addressed by Rule provisions:

inconvenience associated with filing a consumer-related claim would be similar for consumers in different States, instead of varying with the distance between the carrier's and the passenger's home State.

- ***Post-Purchase Changes in Terms of Service:*** The requirements for tarmac contingency plans for foreign carriers and for all carriers to coordinate these plans with CBP at diversion airports are located at one end of the spectrum of situations with readily available alternatives, with well-publicized instances of passengers being held on the tarmac for prolonged periods of time. The changes in DBC requirements and the prohibition on post-purchase price increases also address situations where the carrier or ticket agent can make unilateral alterations in the terms of service. In these areas, the requirements will limit the range of discretion that could be taken by one party to an airline travel contract (the carrier) in situations where the other party (the passenger) is unable to make welfare loss-mitigating responses to those actions.

- ***Pre-Travel Services or Information Available:*** In contrast, some deficits in the pre-purchase information available to potential purchasers of air travel on carrier websites may be mitigated by use of other online booking services that provide more extensive or more readily accessible information. Similarly, updates on flight status can be obtained from a variety of sources in addition to current carrier notification systems. The economic benefits of additional requirements in these areas depend on the extent of the time costs associated with the increased searching that must be undertaken to obtain the desired information from alternative sources, as well as the extent to which some purchasers of air travel will have access to information that they presently do not know how to obtain. The regulatory evaluation of these provisions includes an assessment of present industry and consumer practices to determine the incremental benefits of more extensive and universal information provision and the extent to which online purchasers of air travel make use of the information that is already available.

3.3. General Assumptions Used in Estimating Benefits and Costs

The ability to evaluate and interpret the results of an economic analysis depends to a significant degree on the documentation of the baseline data and assumptions used. The following general assumptions apply throughout the entire analysis of benefits and costs:

- In accordance with Office of Management and Budget (OMB) guidelines, a real discount rate of 7 percent is used in the primary analysis and is supplemented with overall estimates using a 3 percent discount rate as well.

- The requirements take effect on January 1, 2012, with quantifiable benefits and costs calculated over the 10-year period from 2012 through 2021.[15]

- This analysis includes benefits and costs for foreign business and citizens.

[15] Most of the Final Rule requirements will become effective 120 days after publication. The full-fare advertising provision of Requirement Area 7 will take effect 60 days later. However, the effective dates for all Rule provisions were aligned to the beginning of the 2012 calendar year in this regulatory evaluation to simplify the presentation and explanation of the benefit and cost estimates.

- The numbers of flights and passengers are assumed to increase annually at the rates projected in the FAA Aerospace Forecast for 2010 through 2030 (See Section 2.3 above).

- The value of travel time (and the cost of air travel delay) is estimated at $28.60 per hour for all airline travelers.[16]

- Costs for domestic carriers to comply with Requirements 1 (tarmac contingency plans), 3 (customer service plans), and 5 (complaint response) were estimated in the regulatory evaluation for the EAPP1 Final Rule.[17] The unit cost estimates in this analysis assume that the per-carrier costs of compliance are equal for domestic and foreign carriers.

- Per-hour costs for applicable categories of carrier, travel agent, and tour operator employees were estimated using Bureau of Labor Statistics (BLS) wage rates, increased by 43 percent to account for the non-wage components (e.g., fringe benefits, employer taxes) of direct labor costs.[18] A mark-up of 100 percent was applied to these direct labor cost estimates to account for supervisory and management planning, communication, training, and oversight time.

A more detailed description and discussion of the baseline data and assumptions used in developing the benefit and cost estimates is provided in Section 4 below and in Appendix 1.

4. Regulatory Evaluation of Specific Requirement Areas

This section of the regulatory evaluation provides a specific assessment of the impact, benefits, and costs for each of the 11 specific requirement areas. For each of these, we present the following information:

- ***Current Requirements, Industry Practices, and Need for Additional Regulation.*** This section outlines relevant current regulatory requirements and DOT enforcement policy for each area in which additional passenger protections were developed, presents a summary of current industry practices, and describes the needs addressed by the Rule.

- ***New Area Requirements to Address Identified Needs.*** This section outlines regulatory requirements adopted as part of the Rule and provides information on the entities that will be affected.

- ***Estimated Benefits of Area Requirements.*** This section presents the methodology used to evaluate benefits; estimates for the components that could be evaluated quantitatively; and descriptions of the benefits for which no quantitative estimates could be developed.

[16] Economic Values for FAA Investment and Regulatory Decisions, A Guide, Contract No. DFTA 1-02-C00200, GRA Inc., Oct. 3, 2007.
[17] DOT, *Final Regulatory Impact Analysis of Rulemaking on Enhanced Airline Passenger Protections*, December 17, 2009 (hereafter referred to as the "EAPP1 RIA").
[18] BLS, "Employer Costs for Employee Compensation," June 2009.

- ***Estimated Costs of Area Requirements.*** This section presents the methodology used to evaluate costs; estimates for the components that could be evaluated quantitatively; and descriptions of the costs for which no quantitative estimates could be developed.

In the preliminary RIA, benefit and cost estimates were also developed for four alternative requirement scenarios for comparison with requirements included in the rule text of the NPRM:

- ***Requirement Area 1 - Alternative A*:** The Department would require a maximum time limit of 4 hours, instead of a carrier-determined limit (expected to be 5 hours), for tarmac delays before requiring the deplaning of passengers on international flights.

- ***Requirement Area 1 - Alternative B*:** The contingency plan requirements for foreign carriers would apply only to those carriers with at least one flight designed to seat 61 or more passengers.

- ***Requirement Area 7 - Alternative C*:** The full-fare advertising requirement would apply to carrier websites only.

- ***Requirement Area 7 - Alternative D*:** The effective date for full-fare advertising for carriers and other advertisers of air travel would be within 30 days of final rule publication.

The preliminary RIA found essentially no differences in net benefits between the base case analyzed for Requirement Area 1 and Alternatives A and B. Alternative A was adopted in the Final Rule. It also determined that net benefits would be lower under Alternatives C and D than under the base case analyzed for Requirement Area 7. The full-fare advertising requirements proposed in the NPRM base case were adopted in the Final Rule.

4.1. Additional Requirements for Tarmac Contingency Plans

4.1.1. Current Requirements, Industry Practices, and Need for Additional Regulation

The EAPP1 Final Rule requires any certificated or commuter air carrier that offers scheduled passenger service or public charter service using any aircraft with 30 or more seats to develop a contingency plan for long delays on the tarmac for all flights they operate, including those on aircraft containing fewer than 30 seats. For domestic flights, carriers covered by the EAPP1 Final Rule have to ensure that (1) passengers on planes delayed on the tarmac for 2 hours will have access to food, water, clean lavatories, and the assistance of medical personnel if needed and (2) passengers on planes delayed on the tarmac for 3 hours will be permitted to deplane, unless there is a safety or security-related impediment to deplaning passengers or air traffic control (ATC) advises the pilot that permitting passengers to return and deplane would significantly disrupt airport operations. The requirement for a tarmac contingency plan also applies to U.S. carriers operating international flights to and from the United States. However, carriers are currently allowed to set their own time limits in the contingency plans for deplaning international flights. Tarmac contingency plans must be coordinated with the authorities of large-hub and medium-hub airports (i.e., those that account for at least 1 percent, and between 0.25 and 1 percent, respectively, of total U.S. passenger enplanements).

As noted in Section 4.2.1 below, there were 710 tarmac delays of 3 hours or longer involving scheduled domestic flights operated during the last 12 months (May 2009 through April 2010) before the EAPP1 Final Rule requirements became effective, but only 13 such delays in the first 6 months after the Rule became effective. While current regulations mandate reporting of tarmac delays only at large- and medium-hub airports, it is our understanding that every reporting carrier has provided BTS with tarmac delay information for all of their scheduled domestic flights.[19]

The EAPP1 Final Rule does not require foreign carriers to comply with the EAPP1 Final Rule stipulations relating to carrier handling of lengthy tarmac delays. As Table 5 in Section 2.3 indicates, 44 percent of all passengers on international flights departing from the United States in 2009 flew on foreign carriers. Many of these flights departed from large-hub airports that have a history of problems with lengthy tarmac delays. Consequently, passengers who fly on foreign carriers lack the same minimum guarantee-of-service provision in the event of a lengthy tarmac delay that is currently afforded to travelers to and from the same destinations on covered U.S. carriers.

Recent BTS data on tarmac delays associated with arriving aircraft indicate that these situations almost always arise as a result of landings at diversion airports. This is especially likely to be an issue in the event that an international flight is diverted to an airport that does not have CBP staffing in place at the time of the arrival. Without a CBP presence, it may not be possible to admit (or readmit) to the United States passengers who are arriving on an international flight. These passengers may therefore not be allowed off the airplane and into a diversion airport. The current EAPP1 requirements do not address this potential obstacle to avoiding or reducing the incidence of lengthy tarmac delays associated with inbound international flights.

The EAPP1 Rule also does not require assurance that carriers have coordinated their tarmac contingency plans with the authorities at the small-hub and non-hub airports they serve.

4.1.2. Area 1 Requirements to Address Identified Needs

The Department is extending the coverage of the EAPP1 tarmac contingency plan requirements to include foreign carriers operating scheduled and public charter passenger service flights to and from the United States using at least one aircraft with 30 or more seats. In addition, covered U.S. and foreign carriers will now be required to coordinate their contingency plans with authorities (including terminal operators, where applicable) at all U.S. airports with 10,000 or more passenger enplanements annually that the carrier services, including small-hub and non-hub airports that are not within the scope of the current EAPP1 requirements. Finally, while U.S. carriers are currently required to coordinate their contingency plans and efforts with regularly used airports, the recent Final Rule does not specifically require that carriers must coordinate these contingency plans with CBP officials to enable passengers on diverted incoming

[19] As noted above, BTS also receives reports on tarmac delays of less than 3 hours on scheduled domestic flights operated by reporting carriers.

international flights to deplane after extended tarmac delays. The Department has included a requirement in this Rule to ensure that carriers coordinate plans with appropriate CBP personnel at any U.S. airport that the carrier uses as a diversion airport for its international flights.

Because it is difficult to predict the length of a tarmac delay after which individual carrier plans would afford passengers the opportunity to deplane—it could be as much as 6 hours for long cross-Pacific flights but shorter for flights to and from Canada, Mexico, and the Caribbean—the Department decided to set a maximum limit of 4 hours for tarmac contingency plans to afford passengers the opportunity to deplane.[20]

The number of lengthy tarmac delays that would require carrier actions under the proposed requirements can be projected using the distribution of tarmac delay times for reporting U.S. carriers during the most recent 12-month period (May 2009 through April 2010) before the current EAPP1 tarmac delay limits became effective. These projections underscore the sensitivity of the benefit and cost estimates to the time limits specified in foreign carrier tarmac contingency plans. With the maximum time limit before allowing passengers the opportunity to deplane set at 4 hours, the Rule requirement will affect the waiting time experienced by passengers on an average of seven flights annually operated by foreign carriers.[21]

Table 7 - Estimated Number of Lengthy Tarmac Delays for Foreign Carriers, 2009

	Canadian Carriers*	Other Carriers	Total
2+ hour delay	89	184	273
3+ hour delay	28	59	87
4+ hour delay	3	7	11
5+ hour delay	0	1	1

*Canadian carrier tarmac contingency plans are required to have 60/90-minute food/deplaning limits, so these flights are not expected to be delayed 2+ hours without providing passengers with the opportunity to deplane.

Source: Econometrica projections based on BTS tarmac delay reports for reporting carriers.

The total number of carrier-airport pairs for which coordination of tarmac contingency plans would be required was estimated using the BTS T-100 segment data. These tabulations show that the EAPP2 will nearly triple the number of carrier-airport pairs and increase the plan coordination requirements by nearly 200 percent to 5,637 from the 1,938 currently required under the EAPP1 Final Rule.

[20] Since the preliminary RIA was prepared, U.S. carriers were required to set time limits for allowing passengers to deplane from international flights experiencing lengthy tarmac delays. A recent review of the tarmac contingency plans posted on the websites of reporting carriers indicates that this limit has typically been set at the 4-hour mark. Delays involving Canadian carrier flights are estimated separately because these carriers are already required to have a tarmac contingency plan in place that affords passengers protections against lengthy onboard delays which are at least equivalent to those guaranteed to passengers on U.S. carriers under the EPP1 and EAPP2 Final Rules (see the Flight Rights Canada policy at http://www.tc.gc.ca/eng/mediaroom/releases-nat-2008-08-h207e-2158.htm#bg2).

[21] The projected numbers of flights projected to experience delays of more than 4+ and 5+ hour delays incorporate a 30-minute time window for returning to the gate before reaching the carrier-specified time limit.

Table 8 - Number of Carrier-Airport Pairs with Tarmac Plan Coordination Requirement

Carrier Size Classification	Airport Category				
	Large Hub	Medium Hub	Small Hub	Non-Hub	Total
Large	822	921	1,140	1,325	4,208
Small	86	109	201	259	655
Foreign	514	119	86	55	774
Total	**1,422**	**1,149**	**1,427**	**1,639**	**5,637**
# of Airports	29	37	69	250	385
Carrier Plans/Airport	49.0	31.1	20.7	6.6	14.6
New Plans/Airport*	**17.7**	**3.2**	**20.7**	**6.6**	**9.6**

*EAPP1 required U.S. carriers to coordinate plans with large and medium hub airports (n=1,938).

4.1.3. Benefits of Area 1 Requirements

Extending the EAPP1 Final Rule's contingency plan requirements for domestic carriers' contingency plans to foreign carriers will provide passengers on foreign carriers' flights departing from or arriving to the United States with the same benefits that passengers on flights of domestic carriers currently receive.

This analysis considers two groups of benefits, divided into those which could be monetized for this analysis and those which could not. The first category includes the insurance value of the guarantee to deplane after an extended tarmac delay. As with insurance, people derive a benefit from the knowledge that the option exists to take advantage of the guarantees provided by this rule, even if they ultimately go unused. Just as consumers are willing to pay for a guaranteed recompense in case of an undesirable event (such as traditional travel insurance for reimbursement for a canceled trip), they are willing to pay some amount to ensure that if ever delayed on the tarmac, they will be given the option to deplane instead of having to remain on the tarmac for an extended period.

No data were found on exactly what this insurance value is. Therefore, we conducted a cost-per-passenger analysis for this component of benefits (See Section 5.3 below).

The second category includes the benefits that arise from a better or more comfortable experience while being delayed on the tarmac. The benefits from this greater comfort are estimated as follows:[22]

[22] A similar methodology was used to estimate the benefits of tarmac contingency plans for domestic carriers in the regulatory analysis that accompanied the EAPP1 Final RIA. There are two differences from the approach used in that analysis. The first is that benefits for "meeters and greeters" are not included here, as nearly all arriving international flights with extensive on-tarmac delays are at airports to which the planes have been diverted and therefore are unlikely to keep "meeters and greeters" waiting in the arrival airport. The second is that the analysis no longer includes an attempt to put a dollar value on the greater comfort or security a passenger will feel during any period of delay from knowing that a contingency plan exists. Instead, the cost per passenger analysis is conducted.

- This requirement will shift the portion of total trip time spent in less comfortable conditions for passengers delayed on the tarmac for 2 hours or more. These passengers will now be ensured access to food, water, and adequate lavatory facilities, as well as to medical assistance if needed.

- While studies that specifically address consumer responses to long onboard air travel delays have not been located, estimates from studies of consumer behavior and user experience on other modes of transportation are available to use as proxies. Specifically, analyses on transit systems provide estimates of "premiums" on the value of user time based on the value people place on quicker or easier access to move from one place to another and on improved comfort during travel. This regulatory analysis adopts the premiums on the value of time used in the EAPP1 RIA to evaluate applying a similar requirement to covered U.S. carriers.[23]

- The value of the projected difference in comfort resulting from the proposed requirement is estimated using a percentage of the base value of travel time impacted (i.e. a "premium"), developed from survey-based estimates of the values attached by travelers to different waiting, walking, and transfer conditions. Since no specific estimates of time values for level of service ratings for airline travel are available, values were taken from other modal studies. The most applicable study estimated a time-value premium based on differing levels of service that incorporated factors such as comfort, convenience, and reliability for various categories of public transportation and auto users. In this research, "level of service" ratings were used to determine the value of time spent in different conditions. Based on this study, a premium of 0.34 was used for the greater comfort derived from access to food, water, and clean lavatory facilities, which reflects the difference between different service levels (calculated as the ratio of A-C to D on a scale of A to F; see Appendix for details). The total value of this benefit is calculated as the product of the hours spent by all passengers waiting on the tarmac for more than 2 hours, the premium for greater comfort (assumed to be 0.34), and the DOT-specified value of time for air travelers.[24]

[23] For example, studies show that transit riders value sitting more than standing without regard to any change in total travel time required. Travelers also prefer to spend time in transit rather than part of the time waiting for service if total trip length is the same. See William Waters, *The Value of Times Savings for the Economic Valuation of Highway Investments in British Columbia*, BC Ministry of Transportation and Highways, 1992, as discussed in *Transportation Cost and Benefit Analysis – Travel Time Costs*, Victoria Transport Policy Institute, revised August 10, 2007, and Marcus von Wartburg and W.G. Waters II, "*Congestion Externalities and the Value of Travel Time Savings*," in *Towards Estimating the Social and Environmental Costs of Transportation in Canada*, Anming Khang, et al, eds., Center for Transportation Studies, University of British Columbia, August 2004.

[24] This premium is within the range found for the value transit passengers place on being able to sit versus stand (0.20 and 0.87 in two studies that address the quality of travel experience). William Waters presents data that the difference between the value of time sitting versus standing is 0.20 of the prevailing wage rate (William Waters, *The Value of Times Savings for the Economic Valuation of Highway Investments in British Columbia*, BC Ministry of Transportation and Highways, 1992, as discussed in Transportation Cost and Benefit Analysis – Travel Time Costs, Victoria Transport Policy Institute, revised August 10, 2007). An older study (P.B. Goodwin) presents premiums ranging from 0.25 to 0.87 (averaging 0.50) for sitting versus standing in either a public or segregated (demand response only) vehicle (P.B. Goodwin, *Human Effort and the Value of Travel Time*, Journal of Transport Economics and Policy, January 1976).

- No change in overall trip time is assumed for passengers on flights that return to the gate and subsequently depart.[25]

Conceivably, this requirement could result in some flights being cancelled *that would not otherwise have been cancelled* in order to free up needed gates. If this is the case, some passengers would experience a negative impact in the form of a reduction in the benefits received from air travel. However, the Department has analyzed data on flight delays and cancellations in the first 6 months after the EAPP1 Rule limits on lengthy tarmac delays experienced by passengers on domestic flights. The results of this analysis indicate that the number of cancellations of flights that have experienced tarmac delays of 2½ hours or more have not increased since the Rule took effect.

The benefits of the Rule requirements for domestic and foreign carriers to coordinate contingency plans with airport authorities at small hub and non-hub airports and with CBP authorities at diversion airports are difficult to quantify. The regulatory evaluation prepared in support of the EAPP1 Final Rule assumed that the recently adopted regulations would be adequate to ensure complete compliance by domestic carriers. However, the Rule enhancements to the contingency plan requirements may increase the probability that covered domestic carriers completely comply with the EAPP1 requirements. The benefits of these enhancements are therefore estimated to range from 0 to 1 percent of the total benefits previously estimated for domestic carriers' tarmac contingency plans.

The estimates of benefits incorporate two key assumptions:

- The distribution of tarmac delays among foreign carriers' flights to and from U.S. airports is identical to the distribution of reporting domestic carriers' flights.[26]

- There will be no measureable rate of increase in flight cancellations due to the implementation of contingency plans (based up the Department's review of length tarmac delays and cancellations since EAPP1 went into effect, as noted above)

The benefits from increased passenger comfort in Requirement Area 1 are estimated as follows:

Table 9 - Benefits Estimates for Requirement Area 1

	2012	2012-2021
Passengers on Foreign Carrier Flight Segments	73,216,065	887,235,989
Passengers on Foreign Carriers Already in Compliance	10,856,852	131,563,883
Foreign Carrier Flight Segments	532,607	6,454,156

[25] Carriers are not required to afford deplaning passengers the opportunity to reboard. It is our understanding that, in some cases, no passengers have elected to deplane when delayed planes have returned to the gate. It is possible that passengers on some flights that return to the gate and subsequently depart may experience an increase in waiting time. However, no suitable estimate of the potential increase in waiting time for passengers on these flights could be identified.

[26] Carriers are not currently required to report on-time performance data for international flights to BTS, so it is not possible to calculate the distribution of flights by length of on-tarmac delay for foreign carriers.

Flights of Foreign Carriers Already in Compliance	159,782	1,936,247
Passengers who May Benefit	62,359,213	755,672,106
Number of Flights that May Benefit	396,311	5,011,261
Average Passengers per Flight that May Benefit	166	161
Benefit from Provision of Adequate Food, Drink, and Lavatory Access		
Value of Time for Passengers (All-Purpose Traveling)	$28.60	$28.60
Premium for Access to Food, Drink, and Lavatory	34%	34%
Incremental Benefit per Hour per Passenger with Access to Food, Drink, and Lavatory	$9.72	$9.72
Number of Flights with 2+ hr. Tarmac Delays*	203	2,149
Share of Flights with 2+ hr. Delays that are Arrivals	10.0%	10.0%
Arriving Flights with 2+ hr. Tarmac Delays*	20.3	214.9
Passengers on Arriving Flights with 2+ hr. Tarmac Delays*	3,395	35,945
Average Hours of Waiting Time after 2+ hr. Taxi-In Tarmac Delay	0.31	0.31
Average Benefit per Passenger from Access to Food, Drink, and Lavatory during Arrivals	$3.01	$3.01
Total Benefits from Access to Food, Drink, and Lavatory during Arrivals	$10,235	$108,355
Share of Flights with 2+ hr. Delays that are Departures	90.0%	90.0%
Departing Flights with 2+ hr. Tarmac Delays*	183	1,934
Passengers on Departing Flights with 2+ hr. Tarmac Delays*	30,559	323,509
Average Hours of Waiting Time after 2+ hr. Taxi-Out Tarmac Delay	0.44	0.44
Average Benefit per Passenger from Access to Food, Drink, and Lavatory during Departures	$4.28	$4.28
Total Benefits from Access to Food, Drink, and Lavatory during Departures	$130,747	$1,384,151
Monetized Benefits from Carrier Coordination with CBP and Additional Airports	$7,984	$79,844
Total Benefits during both Arrivals and Departures	**$148,967**	**$1,572,351**
Total Benefits during both Arrivals and Departures (millions) Discounted		*$1.2*

*excludes flights on foreign carriers that already have compliant plans.

** assumed to be equal to 0.5 percent of the benefits previously estimated for these requirements in the RIA for the EAPP1 Final Rule.

A more detailed description of the procedures used to calculate these benefits is provided in Appendix 1.

Adoption of these requirements may provide several additional categories of potential benefits that could not be quantified in this regulatory evaluation, including the following:

- ***Improved Management of Flight Delays.*** As with domestic carriers, there is a possibility that the existence of contingency plans for long onboard delays could lead to heightened sensitivity to additional delay costs among foreign carrier management. This could lead to improved management of delayed flights, diversion schedules, and other flight management issues, as carriers have additional incentive to avoid long onboard delays.

- ***Decreased Anxiety with Regard to Flying.*** Knowing that contingency plans exist may bring relief during long onboard delays and lower overall flight anxiety for some passengers, making some passengers less uneasy overall about traveling by air. This may lead to a significantly improved travel experience for some passengers (more so than is estimated) and may even lead to an increase in overall demand for air travel.

- ***Reduced Stress among Delayed Passengers and Crew.*** A possible decrease in passenger anxiety, together with improved comfort and convenience brought by contingency plans, may lead to reduced stress among delayed passengers and crew. This may decrease minor conflicts and occasional altercations that arise when people are under stress for extended periods in close quarters.

- ***Improved Overall Carrier Operations.*** Carriers may be able to improve general operations based on analysis of data now required to be stored on substantive delays and carrier responses. This recalls the business management maxim, “What you can measure, you can manage.” If carriers measure substantive delays and their responses to them, the result will establish benchmarks for improvements. From these benchmarks, carriers can improve service, leading to more unquantifiable passenger benefits.

- ***Improved Customer Good Will toward Carriers.*** As the level of service provided by carriers improves and complaints decline, overall customer good will toward carriers should improve. Improved good will may lead to a slight increase in demand.

Because there are potentially significant but unquantifiable benefits that may be realized by passengers as a result of these requirements, a cost-per-passenger analysis is presented in Section 5.3 below.

The Department expressly solicited comments regarding the estimation of a premium on the value of time for certainty/security of knowing that if carriers are required to have contingency plans and the premiums for time spent with access to food, water, and clean lavatories after a 2-hour tarmac delay and for the time spent in an airport instead of on the tarmac after waiting an extended period of time.

4.1.4. Cost of Area 1 Requirements

Costs were estimated in the preliminary RIA for scenarios with a 5-hour maximum limit to deplane passengers in foreign carrier contingency plans (base case); a 4-hour maximum limit mandated by the Department (Alternative A); and a variation of the base case scenario in which compliance with this requirement was limited to foreign carriers that operate flights to and from the U.S. using at least one aircraft originally designed with more than 60 seats (Alternative B).[27]

The final RIA cost estimates are based on foreign carrier contingency plans that contain a 4-hour time limit after which passengers must be afforded the opportunity to deplane. In Section 4.1.2, we estimated that these carriers would have needed to apply these plans to respond to 203 tarmac delays of 2 or more hours in 2009. Eight of these delays would have extended past the 4-hour mark.

Foreign carriers (other than Canadian carriers) will incur one-time costs to develop and implement tarmac delay contingency plans and per-flight costs that vary with the length of time that the delayed aircraft remains on the tarmac. Specific compliance cost elements include:

- Staff and management costs to develop, post, and monitor the contingency plan and to collect data on actions triggered by the plan. In the EAPP1 RIA, these costs were aggregated with carrier costs for coordinating contingency plans with large and medium hub airports. In the final RIA, we have disaggregated these costs to be able to estimate the incremental costs that will be incurred as a result of extending the coordination requirement to small hub and non-hub airports. The per-carrier residual fixed cost of developing and posting a tarmac contingency plan is estimated to be approximately $7,500.

- Coordinating tarmac contingency plans with airport authorities (and terminal operators, where applicable) is assumed to take carriers an average of 4 hours per large hub, 3 hours per medium hub, 2 hours per small hub, and 1 hour per non-hub airport from which they operate passenger service.

- Per-person costs to provide adequate food, water, lavatory facilities, and medical attention. The per-person cost to provide adequate food and water was assumed to be $3.71.[28]

- Per-person costs associated with deplaning and reboarding passengers. Per-person costs for passengers on flights required to taxi back to the gate (instead of using buses and mobile stairs) are based on the average taxi time and fuel burn per minute by plane size. Per-person costs were also calculated for passengers deplaned on the tarmac and

[27] Only one small foreign carrier currently provides passenger service to and from the United States using at least one aircraft with 30 seats but none that have more than 60 seats. This carrier would not have been required to develop and adhere to a tarmac contingency plan under alternative B.

[28] Carrier costs for servicing toilets are expected to be minimal. This analysis assumes that no increase in onboard medical personnel or equipment will be needed to comply with the Rule.

transferred to the terminal by bus. Airport boarding and deplaning fees were included in the unit costs for both groups of passengers.

Unit costs for foreign carriers to comply with the Rule provisions in Requirement Area 1 as estimated as follows:

Table 10 - Unit Costs for Requirement Area 1

	Unit Cost
Fixed cost per-carrier to develop plan*	$7,500
Estimated carrier personnel hours per carrier-airport coordination	
large hub	4
medium hub	3
small hub	2
non-hub	1
Mean wage rate per hour**	$48.77
Full labor cost per hour	$139.48
Per-passenger cost (2+ hour delays)	$3.71
Additional per-passenger cost (4+ hour delays with reboarding)	$2.74
Fuel cost (4+ hour delays with reboarding), per-flight	$176.48

*EAPP1 RIA estimate, adjusted to account for airport coordination costs separately.
**Mean wage rate for management occupations, NAICS 481000, BLS Occupational Employment Statistics, May 2009.
***Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

Based on these estimates and assumptions, costs incurred by affected carriers to comply with the Rule provisions in Requirement Area 1 are expected to be $1.9 million in 2012 and $3.4 million for the entire 10-year period from 2012 through 2021.

Table 11 - Estimated Compliance Costs for Requirement Area 1

	2012	2012-2021
Development of contingency plan		
Number of foreign carriers that must develop plans*	103	103
Fixed cost per-carrier to develop plan	$7,500	$7,500
Cost of developing contingency plans	**$772,500**	**$772,500**
Cost of airport-specific plan develop/coordination		
Large hubs (foreign carriers only)	$286,775	$286,775
Medium hubs (foreign carriers only)	$49,795	$49,795
Small hubs (U.S. and foreign carriers)	$398,082	$398,082
Non hubs (U.S. and foreign carriers)	$228,611	$228,611
Cost of airport-specific plan develop/coordination	**$963,264**	**$963,264**
Variable costs of tarmac contingency plans*		
Average number of passengers per segment	175	175
Projected tarmac delays of 2+ hours	202	2,442
Passengers affected by tarmac delays of 2+ hours	35,347	428,333
Per-passenger costs, 2+ hour delays	$3.71	$3.71
Projected tarmac delays of 4+ hours	8	96
Passengers affected by tarmac delays of 4+ hours	1,385	16,780
Additional per-passenger costs, 4+ hour delays with reboarding	$2.74	$2.74
Per-flight fuel costs, 4+ hour delays with reboarding	$176.48	$176.48
Variable costs of tarmac contingency plans	**$136,323**	**$1,651,975**
Total costs of tarmac contingency plans	**$1,872,088**	**$3,387,739**
Total Compliance Costs (millions)	$1.87	$3.39
Discounted Total Compliance Costs (millions)		*$2.95*

*Estimates in this section exclude passengers and flights on Canadian carriers.
Note: Number of flights and passengers incurring tarmac delays increases in subsequent years by the growth rates for international passengers and flights projected in the 2009 FAA Aerospace Forecast.

4.2. Tarmac Delay Reporting

4.2.1. Current Requirements, Industry Practices, and Need for Additional Regulation

As noted above, reporting carriers are currently required to report flight delay data for regularly scheduled domestic flights, including information on all tarmac delays of 3 hours of more, to BTS. Since October 2008, these reports were required to include tarmac delays associated with flights that returned to the gate and subsequently departed, those that were diverted from their destination airports, and those that were ultimately cancelled.[29]

There were 710 reported tarmac delays of 3 hours or longer involving scheduled domestic flights operated during the last 12 months (May 2009 through April 2010) before the EAPP1 Final Rule requirements became effective. Most of the delays during this period involved departures. Of the 72 delays associated with arriving flights, 65 involved landings at diversion airports.

Table 12 - Number and Percent of Flights with Tarmac Times of 3 Hours or More

		Stage of Operation of the 3-Hour Tarmac Time				
Year/Month	**Total**	**Prior to Cancellation**	**Multiple Gate Departure**	**Taxi-Out**	**Taxi-In**	**At Diversion Airport**
2009						
May	35	7	2	25	1	0
Jun	278	40	42	172	1	23
Jul	164	21	20	105	0	18
Aug	70	7	11	45	0	7
Sep	6	0	0	4	0	2
Oct	12	0	0	12	0	0
Nov	4	0	1	2	0	1
Dec	35	5	3	22	0	5
2010						
Jan	22	0	3	14	2	3
Feb	60	0	4	54	1	1
Mar	20	1	2	14	1	2
Apr	4	0	0	1	0	3
May	5	0	0	1	0	4
Jun	2	0	0	1	0	1
Jul	0	0	0	0	0	0
Aug	2	0	0	0	0	2
Sep	4	0	2	2	0	0
Oct	0	0	0	0	0	0
May 2009 - Apr 2010	**710**	**81**	**88**	**470**	**6**	**65**
May - Oct 2010	13	0	2	4	0	7

Source: BTS, *Monthly Summary of Tarmac Times Jan 2009 - Oct 2010*

There have been only 13 reported delays of 3 hours or more in the first 6 months after the Rule became effective. As Table 12 shows, the number of reported tarmac delays varies substantially on a month-to-month basis but is highest in the summer months because of unexpected severe

[29] Final Rule on Revision of Airline Service Quality Performance Reports, Docket No. OST 2007-28522.

weather events. It would therefore be reasonable to expect that the number of delays in the next 6-month period (November 2010 through April 2011) would be lower than for the most recent 6 months (May through October 2010) for which delay reports are available.[30]

At present, however, the Department does not collect information on the number and characteristics of tarmac delays associated with domestic flights operated by non-reporting U.S. carriers and with international flights operated by either U.S. or foreign carriers. Information about these delays will improve the Department's ability to understand the extent and causes of lengthy tarmac delays and provide the basis for assessing whether carriers are complying with current requirements for tarmac contingency plans.

4.2.2. Area 2 Requirements to Address Identified Needs

The Rule requires all covered U.S. carriers and foreign carriers to report specified information to BTS on all tarmac delays of 3 hours or more involving domestic flights or international flights departing from, or arriving at, a U.S. airport.

Information on 3-hour tarmac delays involving domestic flights of reporting carriers is available since October 2008. Reporting carriers accounted for 73 percent of domestic departures and 57 percent of international departures in 2009. If tarmac delays of 3 hours or more were uniformly distributed among reporting carriers, non-reporting U.S. carriers, and foreign carriers, as well as between domestic and international flights, the numbers of reportable delays in 2009 would have been as follows:[31]

Table 13 - Projected Numbers of Reportable 3-Hour Tarmac Delays, 2009

		Total	Domestic	International
US Carriers	Reporting	166	26	140
	Non-Reporting	43	10	33
	Total	**209**	**36**	**173**
Foreign*		59	0	59
All Carriers		**268**	**36**	**232**

*excludes Canadian carriers, which typically will not have reportable tarmac delays.

Source: Estimated from tarmac delay reports for domestic flights operated by reported carriers.

4.2.3. Benefits of Area 2 Requirements

This requirement will provide the Department with more complete information, which could improve its ability to identify, analyze, and respond to issues and enforcement matters relating to carrier adherence to tarmac contingency plans. Passengers may also benefit from BTS making

[30] While this analysis was being finalized, a historically unprecedented number of taxi-in delays occurred at JFK Airport during the last few days of 2010 due to a severe blizzard. All of the impacted flights were international arrivals. At the time this report was prepared, the causes of these delays had not yet been evaluated. The evaluation does not incorporate any projections for future occurrences of similar events.

[31] These projections take into account the subsequent reductions in 3-hour tarmac delays that have taken place as a result of the EAPP1 Rule.

available delay statistics from more carriers of air travel. However, it is not possible to quantify the benefits from these improvements in data coverage and availability.

Since these data will be used for tarmac delay reports published by BTS, it is also possible that benefits may accrue to consumers as they become more aware of the range of incidents of long tarmac delays and adjust their purchasing decisions. Such a scenario will result in improved performance among carriers, especially among international carriers that may set a time limit for tarmac delays before allowing deplaning that is greater than the 3-hour requirement for domestic flights. This analysis does not attempt to estimate such benefits at this point.

There is also a possibility that the publication of incidents of lengthy tarmac delays could generate increased negative passenger attention, in turn leading to heightened sensitivity to additional delay costs among carrier management. This could lead to improved management of delayed flights, diversion schedules, and other flight management issues, as carriers have additional incentive to avoid long tarmac delays.

4.2.4. Cost of Area 2 Requirements

In Section 4.2.2, we estimated that on an annual basis (using data from May 2009 through April 2010 for international flights and from May 2010 through October 2010 for domestic flights), there would have been 10 3-hour tarmac delays involving domestic flights operated by non-reporting U.S. carriers and 263 on international flights operated by U.S. and foreign carriers in 2009 that would have been reportable to BTS under the Rule provisions in Requirement Area 2.

Carriers will incur one-time costs to set up and program tarmac delay data collection systems that produce reports in an electronic format suitable for submission to BTS. In addition, carriers with one or more reportable tarmac delays in a particular month will need to collect data on the affected flights, enter this information into the reporting system, and upload it to a BTS electronic submission application. For this analysis, we have assumed that it will require U.S. reporting carriers (which already have on-time performance reporting systems in place for domestic flights) 2 hours to complete and submit each report. A per-report estimate of 4 hours was used for other U.S. carriers and foreign carriers.

Unit costs to set up reporting systems and prepare and submit delay reports are estimated as follows:

Table 14 – Unit Compliance Costs for Requirement Area 2

	Direct Labor Hours	Mean Wage Rate*	Full Cost per Hour**	Cost per Firm
Set-up costs to record and transmit tarmac delay data in BTS format				
reporting carriers				
programming for data collection/reporting	4	$35.67	$102.00	$408
onsite personnel training	40	$24.27	$69.00	$2,760
other carriers				
programming for data collection/reporting	8	$35.67	$102.00	$816
onsite personnel training	10	$24.27	$69.00	$690
Per-report costs for data collection, form completion and review, and forwarding to BTS				
reporting carriers	2	$24.27	$69.00	$138
other carriers	4	$24.27	$69.00	$276

*Rates for computer programmers and first-line supervisors/managers of office and administrative support workers, NAICS 481000, BLS Occupational Employment Statistics, May 2009.

**Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

Based on these estimates and assumptions, costs incurred by affected carriers to comply with Rule provisions in Requirement Area 2 are expected to be approximately $350,000 in 2012 and $910,000 for the 10-year period from 2012 through 2021.

Table 15 - Estimated Compliance Costs for Requirement Area 2

	2012	2012-2021
Number of carriers incurring system set-up/training costs		
reporting carriers	18	18
other U.S. carriers	43	43
foreign carriers*	117	117
Cost per carrier		
reporting carriers	$3,168	$3,168
foreign carriers*	$1,506	$1,506
Total system set-up/training costs	**$297,984**	**$297,984**
Newly reportable tarmac delays		
international flights by reporting carriers	153	1,854
other U.S. carriers	45	511
foreign carriers*	65	783
Total reports filed	263	3,149
Cost per report filed		
reporting carriers	$138	
other U.S. carriers/foreign carriers*	$276	
Total cost of filing delay reports	**$349,458**	**$911,532**
Total Compliance Costs (millions)	$0.35	$0.91
Discounted Total Compliance Costs (millions)		*$0.75*

*Excludes Canadian carriers, which typically will not have reportable tarmac delays.
Note: Number of flights with reportable tarmac delays increases in subsequent years by the total departure growth rate projected in the 2009 FAA Aerospace Forecast.

4.3. Minimum Standards for Customer Service Plans (CSPs)

4.3.1. Current Requirements, Industry Practices, and Need for Additional Regulation

Under the EAPP1 Rule, any domestic certificated or commuter air carrier that operates scheduled passenger service with at least one aircraft originally designed with 30 or more seats is required to develop a customer service plan (CSP) that addresses the issues covered by the 12 areas of the Air Transport Association's (ATA) Customer Service Commitment (CSC). These carriers are also required to self-audit their adherence to this CSP. Airlines participating in the ATA CSC have committed to the following:

1. Offering the lowest fare available
2. Notifying customers of known delays, cancellations, and diversions
3. Delivering baggage on time
4. Setting a reasonable baggage liability limit
5. Allowing reservations to be held or canceled

6. Providing prompt ticket refunds
7. Properly accommodating passengers with disabilities and other special-needs passengers
8. Meeting customers' essential needs during lengthy tarmac delays
9. Handling "bumped" passengers with fairness and consistency
10. Ensuring good customer service from code-share partners
11. Ensuring responsiveness to customer complaints
12. Identifying the services it provides to mitigate passenger inconveniences resulting from cancellations and misconnects.

However, the EAPP1 Final Rule does not establish specific standards for most of these components (although some are already fixed by existing regulatory requirements), nor does the ATA CSC define the meaning of terms used in some of the 12 parts (e.g., "lowest fare," "timely reporting"). The current CSP requirements also do not apply to foreign carriers, which creates a potential disparity in the level of service guaranteed to passengers on international flights operated by U.S. and foreign carriers.

The lack of specified minimum standards for CSPs makes it difficult for both passengers and the Department to evaluate the specific guarantees of service provision that are being made by carriers. In addition, passengers traveling to destinations outside the United States are not currently assured a minimum level of customer service in the areas addressed by the ATA CSC and EAPP1 Final Rule requirements if they choose to fly on a foreign carrier.

4.3.2. Area 3 Requirements to Address Identified Needs

The Rule references or establishes specific standards for each of the 12 required CSP elements. In addition, foreign carriers will be required to establish CSPs that cover passengers on their flights to and from the United States. They will also be required to conduct the annual self-audits of compliance now required of covered U.S. carriers.

The Rule also stipulates that covered U.S. and foreign carriers will have to make the results of the required annual self-audits of compliance available for Department review on request for 2 years following the date on which the audit is completed.

For this analysis, we have assumed that subsidiaries of foreign carriers will not be required to develop independent CSPs. Foreign carriers offering scheduled service that are not subsidiaries of other foreign carriers with flights to and from the United States will need to develop, adhere to, and self-monitor compliance with their CSPs.

4.3.3. Benefits of Area 3 Requirements

The Department believes that the minimum standards specified in the Rule will assist carriers in better preparing their customer service plans and decrease confusion among carrier and consumers as to the CSP requirements.

It is reasonable to assume that adoption of a customer service plan with specific performance standards will improve the level of service provided. As noted in the RIA for the EAPP1 Final

Rule, a review of data from domestic carriers that were self-auditing compliance with customer service plans previous to the EAPP1 Final Rule showed a greater reduction in customer complaints beginning in the 2 years after adoption of self-auditing than for carriers that did not audit in the same timeframe.[32] The historical difference in complaint rates between carriers that self-audited and those that did not is used to estimate the decline in complaints for carriers that will now audit compliance.

Table 16 - Benefits Estimates for Requirement Area 3

	2012	**2012-2021**
Complaints involving Foreign Carriers Received by DOT, 2009	1,566	19,335
Ratio of complaints received by carriers to number received by DOT	61	61
Number of Complaints Received by Foreign Carriers	95,537	1,179,453
Percent Reduction of Complaints from by Implementing CSP	20%	20%
Reduction in Complaints	**19,107**	**235,891**
Benefits from Premium on Complaint Free Air Travel		
Average Price of Airfare (Domestic)	$228	$228
Average Price of Airfare (International)	$1,781	$1,781
Percentage of Foreign Carriers Passengers that on Domestic Routes	0.75%	0.75%
Weighted Average Air Fare	$1,769.31	$1,769.31
Premium on Foreign Flights for Complaint-Free Travel	5%	5%
Average Savings per Complaint Free Flight per Complaining Passenger	**$88.47**	**$88.47**
Total Benefits from Increase in Complaint-Free Trips	**$845,171**	**$10,434,093**
Total Component Benefits (millions)	$0.85	$10.43
Total Component Benefits (millions) Discounted		*$7.65*

Adoption of these requirements may provide several additional categories of potential benefits that could not be quantified in this regulatory evaluation, including the following:

- ***Decreased Confusion and Uncertainty Regarding Department Requirements.*** The specification of standards for the provisions required in carrier customer service plans should lead to a decrease in confusion among carriers and passengers as to what protections are actually provided by the customer service plans. The decrease in

[32] For carriers implementing self-audits of adherence to customer service plans, complaints declined in the 2 years following implementation by 39 percent. During the same time period, carriers that did not do self-audits experienced a drop in complaints of only 19 percent. We have assumed that carriers who initiate self-audits of customer service plans in response to the Rule requirements will have a 10 percent decrease in complaints.

confusion may also lead to cost savings for carriers from a reduction in the amount of time required for employees to answer consumer questions regarding the plans.

- ***Value of Improved Customer Service Based on Self-Auditing of Adherence to Customer Service Plans for Foreign Carriers***. Historical data on complaints filed with DOT show that carriers which implement customer service plans and self-audit adherence to the plan have fewer complaints than other carriers. This presumably is based on an improvement in services from carriers to passengers, including better baggage handling, fewer ticketing errors, less discrimination, and fewer other problems for passengers. Carriers are providing service in a better manner to consumers, but the value of this change is difficult to estimate.

- ***Improved Customer Good Will toward Carriers***. Having specific standards to which carriers can refer may result in higher customer satisfaction than would be the case without the standards. This effect could increase customer good will and possibly decrease costs as carriers implement and manage adherence to their customer service plans.

Because there are potentially significant but unquantifiable benefits that may be realized by passengers as a result of these requirements, a cost-per-passenger analysis is presented in Section 5.3 below.

4.3.4. Cost of Area 3 Requirements

Foreign carriers that are not subsidiaries of other foreign carriers will have to develop, implement, and self-audit compliance with CSPs that meet the minimum standards set forth in the Rule. The preliminary RIA included separate compliance cost estimates for large and small foreign carriers. The Department solicited comments as to whether this type of size-based distinction appropriately captures the likely extent of variation in compliance costs among foreign carriers. Having received no comments on this issue, the final RIA assumes that the seven foreign carriers which boarded or deplaned at least 2 million international passengers in the United States in 2009 will need to develop and implement more extensive CSPs than will smaller foreign carriers.

Unit costs to develop, implement, and maintain compliant CSPs are estimated as follows:

Table 17 - Unit Costs for Requirement Area 3

	2012
Develop and implement CSP	
large foreign carriers*	$35,000
other foreign carriers	$3,850
Annual cost of CSP support (large carriers)	
large foreign carriers*	$41,800
other foreign carriers	$4,598
Annual cost of CSP self-audit (large carriers)	
large foreign carriers*	$15,000
other foreign carriers	$1,650

*More than 2 million passengers annually departing from/arriving in the United States.

Source: EAPP1 RIA estimates for U.S. carriers.

Based on these estimates and assumptions, costs incurred by affected carriers to comply with Rule provisions in Requirement Area 3 are expected to be $1.5 million in 2012 and $9.6 million for the entire 10-year period from 2012 through 2021.

Table 18 - Estimated Compliance Costs for Requirement Area 3

	2012	2012-2021
Number of foreign carriers by U.S. passenger enplanements, 2009		
large foreign carriers*	7	
other foreign carriers	81	
First-year implementation		
large foreign carriers*	$245,000	$245,000
other foreign carriers	$311,850	$311,850
Annual plan support		
large foreign carriers*	$292,600	$2,926,000
other foreign carriers	$372,438	$3,724,380
Annual self-audits		
large foreign carriers*	$105,000	$1,050,000
other foreign carriers	$133,650	$1,336,500
Total cost of customer service plans	**$1,460,538**	**$9,593,730**
Total Compliance Costs (millions)	$1.46	$9.59
Discounted Total Compliance Costs (millions)		*$7.35*

*More than 2 million passengers annually departing from/arriving in the United States.

It is possible that one or more specific components of the Rule requirements for CSPs will cause carriers that do not currently meet the specified minimum level of service to incur additional compliance costs. However, the Department does not have adequate information to be able to determine the numbers of carriers that would need to make substantive changes to comply with each of the various aspects of service provision specified under this requirement, nor is it possible to develop carrier-specific unit cost estimates for any such changes.

4.4. Posting of Contracts of Carriage, Customer Service Plans, and Tarmac Contingency Plans on Foreign Carrier Websites

4.4.1. Current Requirements, Industry Practices, and Need for Additional Regulation

Under the EAPP1 Final Rule, covered U.S. carriers are required to develop tarmac contingency plans and to post them on their websites. Another section of the EAPP1 Final Rule requires covered U.S. carriers to develop, follow, and self-audit compliance with CSPs. These plans must also be posted on carrier websites.

A February 2010 review of the websites of reporting U.S. carriers that sell air transportation to the general public indicated that all have posted their CSPs on their websites, either on a standalone basis or as part of their contracts of carriage. A subsequent review of these websites in December 2010 confirmed that the tarmac contingency plans required by the EAPP1 are also posted on all reporting U.S. carrier websites.

Of the foreign carriers who have websites accessible to U.S. consumers, all but 30 currently have their contracts of carriage posted. However, only 15 foreign carriers offering service to and from the United States currently have a CSP posted on their website; five of these are in a form that is comparable to the ATA CSC plan. Finally, while all carriers based in member countries of the European Union (EU) must adhere to the EU tarmac delay regulation (261/2004), and most have either a link to or summaries of the regulation on their websites, none have U.S.-specific tarmac delay plans posted on their websites.

4.4.2. Area 4 Requirements to Address Identified Needs

The Rule provisions in Requirement Area 4 will require foreign carriers to post contracts of carriage, customer service plans, and tarmac contingency plans on websites targeted to U.S. ticket purchasers.

Table 19 - Number of Foreign Carriers Required to Post

Document	Total in 2009 T-100*	Exempt*	Non-Exempt	Currently Compliant**	Other
Contract of Carriage	130	19	111	81	30
CSP	130	40	90	15	75
Tarmac Delay Plan	130	23	107	0	107

*Includes wholly-owned subsidiaries (14), other carriers without English-language websites (5), and for CSPs only, other charter carriers (20). In addition, small carriers operating only aircraft with fewer than 30 seats are also exempt from CSP (1) and tarmac delay plan (4) requirements.

**Compliant carriers may need to upload updated or revised plans.

4.4.3. Benefits of Area 4 Requirements

It was not possible to develop quantitative estimates of benefits for this requirement. It is possible that making this information and these service plans more accessible online will lead to some improvement in customer service or in some time-savings to consumers who are seeking this information.

Because there are potentially significant but unquantifiable benefits that may be realized by passengers as a result of these requirements, a cost-per-passenger analysis is presented in Section 5.3 below.

4.4.4. Cost of Area 4 Requirements

Foreign carriers that are not already compliant with the requirements to post contracts of carriage, tarmac contingency plans, and customer service plans on websites marketed to passengers to and from the United States will incur administrative and website programming costs. On a per-carrier basis, these costs were assumed to be equal to those estimated for posting the baggage and optional fee disclosure notices in Section 4.8.4.

Unit costs for foreign carriers to comply with the posting requirements are estimated as follows:

Table 20 - Unit Costs for Requirement Area 4

	Direct Labor Hours	Mean Wage Rate*	Full Cost per Hour**	Cost per Firm
Website programming to post/update documents				
initial programming for new documents	8	$35.67	$102.00	$816
updated links/website text (annual)	4	$35.67	$102.00	$408

*Rates for computer programmers, NAICS 481000, BLS Occupational Employment Statistics, May 2009.

**Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

Based on these estimates and assumptions, costs incurred by affected carriers to comply with Rule provisions in Requirement Area 4 are expected to be $0.2 million in 2012 and $1.3 million for the entire 10-year period from 2012 through 2021.

Table 21 - Estimated Compliance Costs for Requirement Area 4

	2012	2012-21
Posting contracts of carriage		
Additional foreign carriers required to post	30	30
Unit cost to post (first time)	$816	$816
Foreign carriers required to update		111
Unit cost to post update		$408
Total cost of posting contracts of carriage	**$24,480**	**$432,072**
Posting customer service plans (CSPs)		
Additional foreign carriers required to post	75	75
Unit cost to post (first time)	$816	$816
Foreign carriers required to update		90
Unit cost to post update		$408
Total cost of posting customer service plans	**$61,200**	**$391,680**
Posting tarmac delay plans		
Additional foreign carriers required to post	107	107
Unit cost to post (first time)	$816	$816
Foreign carriers required to update		107
Unit cost to post update		$408
Total cost to post tarmac delay plans	**$87,312**	**$480,216**
Total costs for website posting requirements	**$172,992**	**$1,303,968**
Total Compliance Costs (millions)	$0.17	$1.30
Discounted Total Compliance Costs (millions)		*$0.99*

4.5. Requiring Foreign Carriers to Respond to Customer Complaints

4.5.1. Current Requirements, Industry Practices, and Need for Additional Regulation

The EAPP1 Final Rule requires covered U.S. carriers to acknowledge customer complaints in writing and to provide substantive responses to the concerns raised within specified time limits. In 2009 the Department received reports of 7,233 problems concerning service on U.S. carriers and an additional 1,450 complaints related to problems on foreign carriers. The complaint rate per 100,000 passengers on foreign carriers is 50 percent higher than the rate for U.S. carriers.

Table 22 - Passenger Service Complaints Received by the Department, 2009

Complaint Category	Domestic	Foreign	Total
Flight cancellations, delays, etc.	1,870	164	2,034
Baggage	1,281	323	1,604
Reservations/ticketing/ boarding	1,085	437	1,522
Customer service	974	120	1,094
Refunds	460	174	634
Disability	465	51	516
Oversales	332	38	370
Fares	348	75	423
Discrimination	107	23	130
Advertising	38	12	50
Animals	5	0	5
Other (includes frequent flier)	268	33	301
Total	**7,233**	**1,450**	**8,683**
Passengers Boarded	631,955,369	83,152,598	715,107,967
Complaints per 100,000 Passengers	1.14	1.74	1.21

Source: OST, *Air Travel Consumer Reports*, Jan-Dec 2009; BTS, *T-100 Segment database, 2009.*

The Department currently lacks the regulatory authority to require that foreign carriers respond to customer complaints within a specified timeframe. As airline passengers become increasingly familiar with the CSPs mandated in the EAPP1 Final Rule for domestic carriers, they are unlikely to be aware that these requirements do not apply to flights operated by foreign carriers when making decisions about booking international travel.

4.5.2. Area 5 Requirements to Address Identified Needs

The Rule extends the requirements for covered U.S. carriers in the EAPP1 Final Rule relating to designation of an advocate for customers' interests; acknowledgement of customer complaints in writing; and provision of a substantive response to the concerns raised within specified time limits to provide passengers on foreign carrier flights to and from the United States with the same guarantee of response.

For this analysis, we have assumed that all foreign carriers which are not subsidiaries of other foreign carriers with flights to and from the United States would need to respond to customer complaints in a manner that complies with the Rule requirements. The total number of customer complaints requiring responses is estimated to be 61 times the number of complaints reported directly to the OST, based on a 2001 report by the DOT Inspector General.[33] Improved carrier responsiveness to complaints was estimated to reduce the level of complaints by 20 percent in the EAPP1 RIA.

Table 23 - Number of Consumer Complaints Involving Foreign Carriers, 2009

Variable	Estimate
Number of Complaints Received by DOT	1,450
Ratio of Total to Reported Complaints	61
Estimated Total Complaints	88,450
Percent Reduction from CSP Implementation	20%
Expected Number of Complaints with CSP	70,760

Source: OST, Air Travel Consumer Reports, Jan-Dec 2009; EAPP1 RIA.

4.5.3. Benefits of Area 5 Requirements

The benefits of this provision include reduced barriers to filing a complaint which in turn leads to time savings for some travelers, and increasing satisfaction due to more prominently displayed complaint filing information. This analysis considers two components of benefits. The first of these reflects the time consumers save from carriers posting information for filing a complaint on their websites. This benefit is measured and quantified. The second component of benefits consists of the value to consumers who filed complaints of receiving a more specific, targeted response or acknowledgement of the complaint. Since estimates of the dollar value to consumers of improvements in the quality of acknowledgements and responses to complaints could not be located, a cost-per-passenger analysis was conducted. The results are presented in Section 5.3 below.

Quantitative benefits associated with reducing the time required to file a complaint are estimated using the same procedure used to estimate these benefits for the same requirements imposed on domestic carriers in the EAPP1 Final Rule. [34]

[33] DOT, "Final Report on Airline Customer Service Commitment," Office of the Inspector General, report AV-2001-020, February 12, 2001." See the Source Notes section of the Appendix for further details.
[34] This includes the time spent locating the appropriate address to send the letter or e-mail but does not include the resolution of complaints.

Table 24 – Benefits Estimates for Requirement Area 5

	2012	2012-2021
Number of Complaints (Foreign Carriers)	1,566	19,335
Complaint Multiplier (# of Complaints not filed actually received by Carriers)	61	61
Number of "Ground Level" Complaints to Foreign Carriers	**95,537**	**1,179,453**
Benefits from Increase in Consumer Surplus		
Percent Change in Cost of Complaining	3.23%	3.23%
Elasticity of Cost of Complaining	1.07	1.07
Percentage Increase in Complaints	3.47%	3.47%
Incremental Increase in Number of Complaints	**3,315**	**40,919**
Decrease in the Cost of Complaining	$0.32	$0.32
Benefits from Increase in Consumer Surplus	**$530**	**$6,547**
Total Component Benefits (millions)	$0.00	$0.01
Total Component Benefits (millions) Discounted		*$0.00*

As with passengers on domestic carriers covered under the EAPP1 Final Rule, passengers on flights of foreign carriers who file complaints may experience greater reassurance and less agitation while awaiting resolution of a complaint. Passengers may feel that their complaints are legitimate when carriers respond to them specifically instead of just noting that a communication has been received. The Department expressly solicited comments regarding estimating the dollar value to customers of receiving a response to their complaint that acknowledges the issues involved, instead of a more generic acknowledgement of the communication, but usable information was not forthcoming.

A cost-per-passenger analysis was conducted in which the net costs of the requirement (total costs, net of the monetized benefits from the more accessible information for filing complaints) was divided by the number of passengers on covered flights by international carriers. The results are presented in Section 5.3 below.

4.5.4. Cost of Area 5 Requirements

Foreign carriers that are not subsidiaries of other foreign carriers will have to comply with the minimum standards for responding to customer complaints included in the Rule provisions in this requirement area. The preliminary RIA included separate compliance cost estimates for large and small foreign carriers. The Department solicited comments as to whether this type of size-based distinction appropriately captures the likely extent of variation in compliance costs among foreign carriers. Having received no comments on this issue, the final RIA assumes that the seven foreign carriers which boarded or deplaned at least 2 million international passengers in the United States in 2009 will need to develop and implement more extensive systems and procedures to handle customer complaints will smaller foreign carriers. Per-carrier compliance costs are estimated as follows:

Table 25 – Unit Costs for Requirement Area 5

	2012
Establish/upgrade complaint handling system and procedures (large foreign carriers*)	$41,371
Establish/upgrade complaint handling system and procedures (other foreign carriers)	$4,261
Per-complaint cost to respond	$1.85

*More than 2 million passengers annually departing from/arriving in the United States.

Source: EAPP1 RIA estimates for U.S. carriers.

Based on these estimates and assumptions, costs incurred by affected carriers to comply with Rule provisions in Requirement Area 5 are expected to be $0.8 million in 2012 and $2.4 million for the entire 10-year period from 2012 through 2021.

Table 26 – Estimated Compliance Costs for Requirement Area 5

	2012	2012-2021
Cost of implementing response systems		
Number of large foreign carriers*	7	
Number of other foreign carriers	81	
Cost of implementation, large foreign carriers	$41,371	
Cost of implementation, other foreign carriers	$4,261	
Cost of responding to complaints	**$634,738**	**$634,738**
Number of complaints	77,520	939,393
Per-complaint response cost	$1.85	
Cost of responding to individual complaints	**$143,412**	**$1,737,877**
Total cost of responding to complaints	**$778,150**	**$2,372,615**
Total Compliance Costs (millions)	$0.78	$2.37
Discounted Total Compliance Costs (millions)		*$1.91*

*More than 2 million passengers annually departing from/arriving in the United States.

Note: Number of passengers complaining is estimated to increase in subsequent years by the international passenger growth rate projected in the 2009 FAA Aerospace Forecast.

4.6. Changes in Denied Boarding Compensation (DBC) Policy

4.6.1. Current Requirements, Industry Practices, and Need for Additional Regulation

DOT requires that airlines pay specified amounts of denied boarding compensation (DBC) to passengers on an overbooked flight in cases where the carrier is not able to recruit a sufficient number of passengers to voluntarily surrender their boarding passes in exchange for cash or vouchers. While nearly 90 percent of boarding refusals attributable to carrier oversales in 2009 were resolved by recruiting volunteers, BTS data indicate that nearly 70,000 passengers were involuntarily bumped from oversold flights operated by reporting carriers.[35]

Table 27 – Passengers Denied Boarding on Reporting Carriers, 2009

	Number	% of Total
Involuntarily Bumped Passengers	69,416	0.012%
Number Receiving DBC	58,005	0.010%
Voluntarily Bumped Passengers	623,673	0.106%
Total Passengers Boarded	583,639,896	

Source: BTS, *Report of Passengers Denied Confirmed Space*, 2009

[35] Under the present requirements, DBC must be paid only to passengers involuntarily bumped from flights on aircraft with 30 or more seats. Additionally, DBC does not have to be paid to passengers bumped from flights on 30-60 seat aircraft to reduce the amount or distribution of weight carried for safety reasons.

Currently, involuntarily bumped travelers are required to be given DBC equal to 100 percent of the fare (200 percent if alternative transportation is not provided within specified time limits) to the next stopover on the flight itinerary, up to the cap specified in the regulation. In 2008, the maximum level of DBC for involuntarily bumped passengers on oversold flights was raised from $200 to $400, when alternative transportation is provided by the carrier within 2 hours for domestic flights and within 4 hours for international flights, and from $400 to $800 otherwise.[36] Based on preliminary analysis of a sample of data from the BTS passenger origins and destinations (O&D) survey, about 7 percent of each-way fares on round-trip tickets and just under one-quarter of one-way fares exceed $400.[37]

The current DBC policy is not clear on the amount of compensation that must be paid to a holder of a zero-fare (e.g., tour consolidator or frequent flyer) ticket who is involuntarily bumped from an oversold flight. In the O&D survey data analyzed, about 4.5 percent of round-trip fares have an each-way value of less than $50, the minimum amount that BTS includes in its statistical estimation of the average fares paid by passengers for air travel.[38] The Department solicited comments on current carrier practices with respect to compensation of these travelers, who may or may not be treated equitably.

Carriers are required to provide a full explanation of the DBC policy in written form, but airline representatives may not always provide complete information about the DBC regulation provisions when orally advising passengers who are involuntarily bumped. BTS Form 251 reports do not include the amounts of DBC paid in the form of vouchers rather than cash or check payments, nor is information available on the extent to which the value of these vouchers typically exceeds the prescribed amount of DBC payable by cash or check. Thus, it is not possible to determine the number or share of passengers who would have been involuntarily bumped but who chose to accept travel vouchers or coupons instead.

The current DBC requirements may not be sufficient to ensure that all passengers bumped from the same flight are treated equitably. Those flying on tickets that exceed the maximum DBC threshold will receive less compensation in relation to the amount of the fare paid; those flying on zero-fare tickets may not be compensated on a basis consistent with those who purchased tickets; and the extent and completeness of the verbal explanations of the compensation options available to potential volunteers for bumping on oversold flights may vary among gate agents.

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[36] DOT, "Final Rule on Oversales and Denied Boarding Compensation," DOT-OST-2001-9325-1328, April 18, 2008. The original maximum levels for DBC were established in 1978. The 1978 limits of $100 and $200 for DBC are equivalent to $650 and $1,300, respectively, in July 2009, after taking into account increases in the Consumer Price Index over the past 21 years.

[37] The sample analyzed included more than one million records for flights originating in Illinois during the second quarter of 2008; the average fare for a round-trip ticket in this sample was $349. The O&D market file data do not identify the type of fares associated with individual tickets, but analysis of the accompanying coupon file indicates that first-class tickets accounted for about 10 percent of flights in the sample.

[38] Including one-way fares in the analysis does not materially alter the estimate of the proportion of passengers traveling on zero-fare tickets: just over 5 percent of one-way fares in this sample were below $50.

4.6.2. Area 6 Requirements to Address Identified Needs

The Rule makes several changes in the existing requirements relating to denied boarding compensation (DBC):

- The Rule doubles the amount of DBC that must be paid to involuntarily bumped passengers: (1) from 100 percent to 200 percent of the one-way fare when alternative transportation is provided by the carrier within 2 hours for domestic flights and within 4 hours for international flights and (2) from 200 percent to 400 percent of the one-way fare otherwise.
- The Rule also increases the maximum amount of DBC that must be paid to involuntarily bumped passengers: (1) from $400 to $650 when alternative transportation is provided by the carrier within 2 hours for domestic flights and within 4 hours for international flights and (2) from $800 to $1,300 otherwise.
- The Rule stipulates that the Department implement a biannual inflation adjustment to the maximum DBC levels based on changes in the CPI-U, with the amount of the adjustment rounded to the nearest $25. Incorporating this adjustment obviates the need for periodic notice and comment rulemakings while maintaining the real value of the maximum compensation amounts set forth in the existing DBC rule.
- The Rule also clarifies previous DBC rule language by explicitly stating that the definition of "confirmed reserved space" on a flight that includes seats held by zero-fare tickets (e.g., tickets obtained from consolidators, as part of a tour package, or by using frequent flyer miles), thus entitling the holders to DBC if bumped. These passengers will be entitled to compensation at the lowest rate paid by cash, check, or credit card for a comparable class of ticket on the same flight, up to the maximum amount currently specified.[39]
- Carriers will be required to "advise each passenger solicited to volunteer for denied boarding, no later than the time the carrier solicits that passenger to volunteer, (1) whether he or she is in danger of being involuntarily denied boarding (in doing so, the carrier must fully disclose the boarding priority rules that the carrier will apply for that specific flight), and (2) the compensation the carrier is obligated to pay if the passenger is involuntarily denied boarding."
- Another new requirement ensures that involuntarily bumped passengers are informed orally of their ability to receive payment of DBC to which they are entitled either by cash or check, rather than in the form of free or discounted air transportation.

It is difficult to evaluate the impact on the numbers of passengers who will be voluntarily or involuntarily bumped from adoption of these requirements. The increases in the DBC amounts may induce carriers to reduce the number of oversales, which will provide benefits to passengers who are involuntarily bumped, but will reduce the welfare of other passengers who will no longer be able to get seats on fully-booked flights that depart with empty seats.

[39] The Final Rule stipulates that a zero-fare ticket does not include free or reduced rate air transportation provided to airline employees and guests.

The impact of the additional notice requirements on volunteers is also difficult to assess, because it depends in large part on how many potential excess volunteers there are for any particular oversold flight. If there are few or no excess volunteers, the expanded explanations may cause more of these passengers to force involuntary bumping to receive more compensation or compensation in a more desirable form (e.g., cash instead of travel vouchers). On the other hand, if there are a sufficiently large number of volunteers in relation to the number of oversold seats, these requirements may simply result in different specific individuals accepting the compensation being offered by the carrier.

It is also possible that some of these requirements may extend the time required to resolve oversales situations and lengthen boarding times.

4.6.3. Benefits of Area 6 Requirements

Several of the changes in the Rule from current DBC policy will increase the amounts paid by carriers to passengers who are bumped involuntarily from oversold flights. However, any benefit to passengers in the form of higher DBC compensation payments (and higher voluntary compensation by the airline to avoid DBC payments) will be offset by an equivalent cost to carriers that is likely to be reflected ultimately in higher airfares. In the end, therefore, these additional payments represent a form of insurance shared by all passengers. The small costs borne by many would offset a significant share of the loss imposed on a few. Assuming that passengers are risk-averse, the rule will afford a small potential increase in aggregate welfare and redistribute the burden of involuntary denial of service more fairly among passengers.

It is also possible that carriers may reduce overbooking rates on some flights in response to the potential increase in DBC compensation costs. While fewer passengers would be involuntarily bumped, it is possible that maintenance of lower average load factors would permit fewer passengers to travel on their preferred flights. At the same time, if increased airfares (resulting from higher DBC payments and voluntary compensation) coincide with a perception of a reduced likelihood of involuntary bumping, airlines might find it possible to add flights without sacrificing profits. The costs and benefits of the potential impact of the rule on ticket prices and overbooking rates cannot be estimated and are not included in this evaluation.

Adoption of the new DBC requirements is expected to provide additional categories of potential benefits that could not be quantified in this regulatory evaluation, including the following:

- ***Decrease in Confusion Regarding Denied Boarding Compensation Provisions***. The requirement that carriers must provide information regarding customer DBC rights in the same manner as other compensation is offered (such as a carrier coupon) should decrease confusion among passengers. When passengers are presented information in different formats (such as orally and written), there are ample opportunities for confusion.

- ***Decreased Resentment among Some Passengers Regarding Different Compensation Received***. Under current guidelines, some passengers on the same flight and entitled to the same amount of compensation may unwittingly choose different methods of compensation and resent what other passengers received (such as cash).

4.6.4. Cost of Area 6 Requirements

As noted in Section 4.6.3, the DBC provisions of this Rule will cause changes in the level of payments from carriers to passengers and some redistribution of the compensation received for both voluntary and involuntary bumping among passengers themselves. In addition to these monetary transfers, there are also real economic costs associated with implementing changes in the DBC policy and updating the maximum amounts payable on a biannual basis. These costs will be higher in the first year than in subsequent years because the Rule changes to the current DBC policy include new provisions relating to zero-fare tickets and verbal explanations provided to passengers who may be bumped involuntarily from oversold flights.

Changes in the DBC policy will require training and communications with gate agents for carriers in each airport they serve using aircraft with 30 or more seats. The BLS Occupational Employment Statistics estimate that in May 2009, approximately 92,000 people were employed as "Reservation and Transportation Ticket Agents and Travel Clerks," a category that includes reservations staff (both onsite at airports and in call centers), ticket agents, gate or boarding attendants, but not flight-related or baggage handling employees.

In this analysis, we have assumed that one-quarter of these employees are gate agents who will need to receive training and information on changes in the current DBC policy.[40] We have assumed that substantially less time per-employee will be needed to train and communicate with gate attendants and other relevant carrier employees when the threshold amount of DBC is increased biennially in alternating future years.[41]

Unit costs for the steps that will be required to achieve compliance with the Rule provisions in Requirement Area 6 are estimated as follows:

[40] Most air carriers with fewer than 2,000 employees report passenger handling personnel under the more general category of "Passenger/General Services & Administration." However, the total number of employees reported in this category by smaller carriers is about 7,400, the majority of whom are not likely to have responsibilities associated with boarding passenger flights.

[41] For this analysis, the Department has assumed that any biannual changes in the maximum DBC limit will be made using the July CPI-U and become effective on January 1 of the following year. These costs may be increased if the adjustments must be made more rapidly, because it reduces the opportunities for carriers to communicate changes to gate agents and other passenger-handling personnel who must be informed.

Table 28 - Unit Costs for Requirement Area 6

	Direct Labor Hours	Mean Wage Rate*	Full Cost per Hour**	Unit Cost
Initial per-carrier programming and per-employee training costs				
programming hours	20	$35.67	$102.00	$2,040
gate attendants (incl. in ticket agents)	0.5	$16.68	$48.00	$24
Bi-annual update per-carrier programming and per-employee training costs				
programming hours	4	$35.67	$102.00	$408
gate attendants (incl. in ticket agents)	0.05	$35.67	$102.00	$5

*Wages rate for reservation and transportation ticket agents and travel clerks, NAICS 481000, BLS Occupational Employment Statistics, May 2009.

**Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

Based on these estimates and assumptions, costs incurred by affected carriers to comply with Rule provisions in Requirement Area 6 in the base case are expected to be approximately $0.6 million in 2012 and $1.0 million for the entire 10-year period from 2012 through 2021.

Table 29 - Estimated Compliance Costs for Requirement Area 6

	2012	DBC Update Years*	2012-21
Programming costs to calculate DBC revisions			
Number of marketing U.S. carriers	24	24	24
Cost per carrier	$2,040	$408	
Cost of programming DBC calculations	**$48,960**	**$9,792**	**$88,128**
Gate agent training costs			
Number of gate agents**	22,980	22,980	
Training costs per employee	$24	$5	
Total cost of training gate agents and CSRs	**$551,520**	**$117,198**	**$1,020,312**
Total Compliance Costs (millions)	$0.55	$0.12	$1.02
Discounted Total Compliance Costs (millions)			*$0.97*

* "DBC Update Years" are those years in which the maximum amount of DBC will be adjusted, starting 2014 and biennially thereafter.

** Assumes 1/4 of ticket agents must be trained.

4.7. Required Disclosure of Full Fares in Advertising and Prohibition on Opt-Out Provisions in Ticket Sales

4.7.1. Current Requirements, Industry Practices, and Need for Additional Regulation

Existing regulations require that advertising of air travel prices must include all fees, surcharges, and taxes. However, the Department has a longstanding enforcement policy that permits carriers and other sellers of air transportation to break out from the advertised price any airport or government fees and taxes that are charged on a fixed or per-segment basis.[42]

In February 2010, we conducted a review of the prices advertised on the websites of five mainline carriers, three low-cost carriers, and the four largest online travel agencies (OTAs).[43] Of the eight carrier websites, only Delta's displayed the full-fare prices along with the pre-tax prices at the flight selection stage. All eight carrier websites displayed the additional fees and taxes at the flight booking stage.[44] In contrast, full-fare prices were displayed for each available option at the flight selection stage on all four OTA sites, along with prices that did not include the additional fees and taxes. However, the full-fare prices were shown more prominently on the Expedia and Orbitz flight selection pages than on those for Priceline and Travelocity.

[42] The 7.5 percent Federal tax on fares must be included in the price displayed under the current enforcement policy.
[43] For each of these sites, we requested two round-trip fares from Baltimore-Washington International Airport (BWI) to the George W. Bush Houston International Airport (IAH) departing on March 26, 2010, and returning on March 29, 2010. The review included capture of screen displays at the flight selection and booking stages.
[44] The United Airlines flight selection page displayed only the fare for a specific combination of outbound and return flights at a single time, so determining the full-fare price for each combination of available flights required return trips to the flight selection and booking pages.

At present, there are also no specific prohibitions on the ability of carrier, travel agency, and tour operator website purchase engines to include and charge for services in addition to the fare unless the purchaser takes affirmative action to opt-out of paying for these services. The most common charges added on this basis are for travel insurance and preferred seating assignments.[45]

Advertised prices that do not include the full amount of the fare being charged, including all mandatory fees and taxes, complicate consumer comparison of alternative travel itineraries to reach the same destination, which may involve different amounts of these mandatory fees and taxes. For example, booking a flight with a connection will incur additional airport departure and security fees that may partially or even totally offset the price advantage of a flight with one or more connections. Experienced travelers will incur longer search times to confirm that they have found the lowest or most appropriate fare when searching on multiple carrier or OTA sites. Inexperienced travelers may find themselves purchasing tickets at prices that are higher than those for other alternatives they reviewed once the charges for all mandatory fees and taxes are included. They may also unwittingly purchase optional services at prices that exceed what they would be willing to pay for these additions.[46]

In addition, substantial Department resources are required to review carrier, travel agent, and tour operator solicitations that have fees and taxes broken out of the advertised prices to determine if these advertisements comply with current enforcement policy. As noted in Section 2.4, more than one-third of the consent orders entered into by the Department during the 3-year period from 2008 through 2010 involved non-compliance with established rules and policy relating to the advertising of air fares.

4.7.2. Area 7 Requirements to Address Identified Needs

The Department is amending its current enforcement policy on full-fare advertising requirements, which permits carriers and other sellers of air transportation to break out from the advertised price any mandatory airport or government fees that are charged on a fixed or per-segment basis. The Rule specifically prohibits break-out of these charges and fees from advertised fares. This has the effect of reaffirming the stated policy and eliminating the variance from stated policy that limits consumers' access to full fare information when they are in the process of making air travel purchase decisions.[47]

This requirement applies to any advertising or solicitation by "a direct air carrier, indirect air carrier, an agent of either, or a ticket agent, for passenger air transportation, a tour (i.e., a combination of air transportation and ground or cruise accommodations), or a tour component (e.g., a hotel stay) that must be purchased with air transportation that states a price for such air transportation, tour, or tour component." The Rule provision will apply to all carriers, travel

[45] Our research on full-fare advertising did not in most cases proceed to the step (after entry of credit card information) at which some booking engines may add charges for optional services on an opt-out basis. However, one large OTA site (Travelocity) added travel insurance at the flight booking stage on an opt-out basis.
[46] While consumers may report that they would not have purchased services such as travel insurance or preferred seating assignment on an opt-in basis, it is likely that many would do so if the prices of these services were lower. For example, it is possible that nearly all passengers would purchase travel insurance if it were offered for $1 or less.
[47] A previous reconsideration of this enforcement policy was conducted in Docket No. OST–2005–23194, which ended with the Notice of Proposed Rulemaking being withdrawn.

agencies, and tour operators and will cover both print and online advertising, as well as online travel booking engines.

In addition, advertising and solicitations that display one-way fares for air transportation that are conditional on purchase of a round-trip ticket will be required to display in a conspicuous manner that they are "each-way fares."

The Rule also prohibits covered entities from requiring customers to purchase additional optional services in connection with air transportation (such as travel insurance or preferred seating assignment) unless a consumer affirmatively chooses to have any such services included in the purchase price.

Because of the long lead times involved in some forms of print media advertising vehicles (e.g., annual visitors' guides, promotional brochures for spring break travel packages), the Department is permitting covered entities to distribute or post advertising materials booked or produced before the rule date that comply with the current enforcement policy standards for a short period of time after the rule is published. The final RIA assumes that all print advertising which is created after the effective date of the Rule will need to comply with the requirement and that all online and print solicitations still in circulation will need to comply with the new requirement within 60 days of the effective date for the Rule.

4.7.3. Benefits of Area 7 Requirements

Consumers are likely to benefit in several ways from this provision. The first benefit is the time saved for those consumers beginning a ticket purchase that is later abandoned once the full fare is known. These beneficiaries see a fare advertised (in print, on television, etc.) that does not include all taxes and fees and decide to make the effort to purchase a ticket based on the advertised price, only to find that the full-fare price is "too high" and no longer worth purchasing. While advertising provides information to consumers that can facilitate the purchase of desired goods and services, incomplete pricing information in advertisements generates wasted effort by some consumers who begin to make purchase decisions that are later abandoned once full information is received. However, the value of this benefit could not be quantified because adequate data are not available on the number of these consumers and the average amount of time lost.

Passengers who purchase tickets from websites that did not previously present full fares ***up front*** will benefit by (1) saving time that would previously have been spent searching for the full fare on single or multiple websites to be able to compare full-fare prices or (2) avoiding being attracted by lower, incomplete fares and then not fully taking into account the full fare when it is subsequently revealed, which in turn may lead to less than optimal purchasing decisions. The separation of a price into its components (often called "partitioned pricing") that are presented at different times in the purchasing process has been found in many cases to affect demand. The benefits to the former group of consumers, those who save time reviewing multiple websites, are estimated below. The estimated benefits to those consumers who may make suboptimal purchasing decisions based on the fact that the full-fare is presented only at the end of the purchase is not included in the main analysis. A discussion and estimation of this benefit is presented in Appendix 2.

Those passengers who visit multiple travel websites to ensure that they can adequately compare prices with all fees and taxes across the universe of websites (some of which may include all taxes and fees but at least some of which do not) are referred to in this evaluation as “Full-Fare Comparison Shoppers.”

Under the rule, these Full-Fare Comparison Shoppers will avoid the additional time needed to ensure that they are looking at comparable prices and are making decisions based upon the actual final cost of purchase. Note that this provision will not eliminate the value of comparison shopping across websites for prices. Rather, it will simply eliminate the need to search additional websites for the best fares including all taxes and fees or to spend additional time to be able to locate full-fare information on websites that do not provide full-fare prices up-front.

The typical Full-Fare Comparison Shopper is assumed to be shopping for an average of 1.4 people, which is the average travel party size on commercial airlines.[48] The number of tickets purchased online is therefore divided by 1.4 to arrive at an estimate of the number of persons searching multiple web sites and making purchases. The analysis assumes that these purchasers will save an average of 3 minutes of search and estimation time if all fares displayed on travel websites included all required government taxes and fees up front.[49] This time saving was multiplied by a value of time derived from Department of Transportation data developed for estimating air travelers’ value of time and uses a weighted average of the estimated non-work value of time of leisure travelers and the average hourly earnings of business travelers ($24.14 per hour; see Appendix 1 for greater detail).

While independent data are available on the percentage of air passengers who purchase tickets online and for the value of time for air travelers, independent estimates have not yet been found for the percent of online air tickets purchased by consumers who search and examine multiple websites to compare fares and who spend time specifically examining prices including all taxes and fees while shopping for the best price. A conservative estimate of 2 percent of online purchasers searching multiple websites was used for this analysis.

[48] Estimate from a 2007 Travel Industry Association study cited in the ATA comments.

[49] Independent data on the potential search time saved were not located. We have therefore re-estimated the amount of time saved to 3 minutes based on a series of user time trials. The revised estimate measures only the portion of time spent searching on additional websites to find full-fare prices as opposed to the time that would be required to complete the entire purchasing process (entering names, credit cards, seat preference, etc.) on more than one site. However, it should be noted that this value could not be estimated for a representative sample of all online ticket purchasers.

Table 30 - Benefits Estimates for Requirement Area 7

	2012	2012-2021
Tickets for Domestic Flights Sold by Reporting Carriers	260,838,061	2,962,820,014
Percent of Passengers on Domestic Flights using Reporting Carriers	87%	87%
Number of Total Passengers on Domestic Flights	300,055,656	3,408,286,734
Percentage of Domestic Passengers to Total Passengers on U.S.	88%	88%
Number of Total Tickets for U.S. Carriers	340,845,677	3,871,614,405
Percentage of Passengers using Internet for Airfare Purchase	52%	62%
Tickets Purchased on Websites	177,239,752	2,396,529,316
Average Travel Trip Party Size	1.4	1.4
Purchasers of Tickets on Websites	**126,599,823**	**1,711,806,655**
Full-Fare Comparison Shoppers		
Assumed Percent of Online Purchasers Who Shop on Multiple Travel Websites without Full Fares Displayed	2%	2%
Purchasers Benefiting from Up-Front Posting of Full-Fare	2,531,996	34,236,133
Value of Time for Passenger (Personal Non-Traveling)	$24.15	$24.15
Average Time Saved by Purchasers Due to Up-Front Posting of Full-Fares (3 minutes = 0.05 hours)	0.05	0.05
Value of Average Time Saved Per Purchaser	$1.21	$1.21
Total Value of Time Saved from Reduction in Search Cost	**$3,057,386**	**$41,340,131**
Total Benefits (millions)	$3.06	$41.34
Total Component Benefits (millions) Discounted		*$28.97*

The full-fare advertising requirement may also improve customer good will toward carriers. With all carriers consistently providing full-fare advertising to consumers, customers may perceive the carriers as treating them more "honestly." Some customers may have more positive experiences purchasing tickets than otherwise, making them slightly more likely to travel by air in the future or to avoid the carriers or websites used previously.

By requiring that a customer take a specific action to opt-out of the purchase of an additional service or amenity, some customers mistakenly make a purchase they did not want or intend. Some customers may misunderstand or simply miss the fact that an opt-out feature is an additional, optional purchase. By prohibiting opt-outs for additional services and amenities, this provision will increase consumer welfare by decreasing unwanted purchases. While the nature of this effect is well understood, adequate information needed to estimate these benefits has not yet been found.

The Department expressly solicited comments regarding the estimation of several factors in the estimation of benefits for this provision, including the average search time saved for passengers who already search for full fare information; the percentage of passengers who spend time searching websites to find full fare ticket information; the percentage of online ticket purchasers who purchase only from websites that provide full-fare pricing up-front; the percentage of passengers who are fully aware of added fees and taxes when purchasing tickets from travel sites that do not automatically display that data up front; the likely change in demand for those passengers who are not aware of the full amount of taxes and fees until later in the purchase process; and the percentage of travelers who inadvertently purchase additional services and amenities as a result of opt-out features who would otherwise not have made these purchases.

4.7.4. Cost of Area 7 Requirements

Carriers, travel agents, and tour operators that do not currently display fares which include all applicable taxes and fees in their advertising and solicitations will incur costs to comply with this requirement. The extent of these costs will depend in part on the length of time between the date on which the rule is published and the effective date of this requirement. We have assumed for this analysis that sellers of air transportation will need to ensure that any new print advertising developed after the effective date of the Rule will need to comply with the Rule requirement, but they will be able to distribute advertising already in production or distribution until 60 days after the effective date of the Rule. In this scenario, most (90 percent) print advertising materials will not require revisions, either because they do not display prices, display prices that include full fares for any air transportation being sold, or are not expected to remain in circulation for more than 60 days after the effective date of the Rule.[50]

For this analysis, large travel agencies and tour operators are defined as those with 20 or more employees. Our cost estimates assume that these companies will incur larger per-firm costs to revise online and print media advertising and solicitations that do not display full fares for air transportation. Small travel agents and tour operators with fewer than 20 employees are assumed to incur smaller per-firm costs to revise print advertising materials.

The unit costs for revising online and print advertising materials to comply with the Rule provisions in Requirement Area 7 are estimated as follows:

[50] For example, advertising for spring break travel packages that does not reflect full fares for air travel could be distributed after an assumed Rule publication date of January 1, 2012, as long as it did not offer tours that could be booked 180 days later.

Table 31 - Unit Costs for Requirement Area 7

	Direct Labor Hours	Mean Wage Rate*	Full Cost per Hour**	Cost per Firm
Reprogram website flight quotation pages				
Large carriers/ 4 largest OTAs	80	$35.91	$103.00	$8,240
Small carriers/ large travel agencies/tour operators (20+ employees)	20	$35.91	$103.00	$2,060
Small travel agencies/tour operators (<20 employees) with online booking capability	10	$35.91	$103.00	$1,030
Modify print advertising				
Large carriers/travel agencies/tour operators	8	$22.99	$66.00	$528
Small carriers/travel agencies/tour operators	2	$22.99	$66.00	$132

*Rates for computer programmers and graphic designers, BLS Occupational Employment Statistics, May 2009.

**Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

It should be noted that these estimates do *not* include costs for carrier, travel agency, and tour operator websites to bring price displays on their online flight selection pages and online and print media advertising into compliance with *current* Department guidelines and enforcement policy (See the discussion in Section 4.7.1).

Based on these estimates and assumptions, costs incurred by affected carriers to comply with the Rule provisions in Requirement Area 7 are expected to be $6.8 million in 2012. No additional compliance costs will be incurred in subsequent years, as sellers of air transportation will have the option of displaying full-fare prices in all future advertising and solicitations without first preparing versions of these materials that do not include all relevant government taxes and fees.

Table 32 - Estimated Compliance Costs for Requirement Area 7

	2012 only
Reprogramming websites to show full fares	
Number of large U.S. carriers offering tickets for purchase	18
Number of large foreign carriers offering tickets for purchase	87
Largest 4 online travel agencies (OTAs)	4
Unit cost to reprogram websites, large carriers/large OTAs	$8,240
Number of small/very small U.S. carriers	33
Number of small/very small foreign carriers	2
Other travel agencies/tour operators (20+ employees)	893
Unit cost to reprogram websites, small/very small carriers	$2,060
Small travel agencies/tour operators (<20 employees) with online booking capability	1,567
Unit cost to reprogram websites, small/very small carriers	$1,030
Total cost of reprogramming websites	**$4,423,850**
Modification of print advertising to reflect full fares	
Number of large U.S. carriers offering tickets for purchase	18
Number of large foreign carriers offering tickets for purchase	87
Largest 4 online travel agencies (OTAs)	4
Other travel agencies/tour operators (20+ employees)	893
Unit cost to modify large firm print advertising	$528
Number of affected small/very small U.S. carriers	33
Number of small/very small foreign carriers	2
Number of travel agencies/tour operators (<20 employees)	13,597
Unit cost to modify small firm print advertising	$132
Total cost of revising print advertising	**$2,328,480**
Total cost of revising websites and advertising	**$6,752,330**
Total Compliance Costs (millions)	$6.75
Discounted Total Compliance Costs (millions)	*$6.75*

4.8. Expanded Disclosure of Baggage Fees and Other Optional Fees

4.8.1. Current Requirements, Industry Practices, and Need for Additional Regulation

In recent years, many of the major U.S. carriers have instituted separate charges for checked baggage and other services. While consumer awareness of the existence of checked baggage fees is increasing rapidly, the major carrier and other online booking engines currently do not have an option that allows purchasers to calculate these fees and incorporate them into the prices displayed in flight search results. This complicates purchaser price comparisons and reduces the likelihood that advertised fares accurately represent the actual cost of air travel.

DOT issued guidance on May 19, 2008, published in the Federal Register at 73 F.R. 28854, which was designed to ensure that prospective air travelers receive timely and effective notice about charges for checked bags. The guidance references the steps needed to meet "implicit requirements" relating to the avoidance of unfair and deceptive practices with respect to disclosure of checked baggage fees. Specifically, DOT advised that:

> …air carriers and foreign air carriers should place a notice regarding the above-described additional baggage charges on the first screen in which the carrier offers a fare quotation of a specific itinerary selected by a consumer… Airline reservations agents should disclose these baggage charges and limitations during telephone or counter sales prior to completing a sale.[51]

The method by which notice must be provided is also specified in the guidance.

Based on a February 2010 review of reporting carrier websites, information on baggage fees and some other optional fees appears to be available to most passengers on major airlines. In addition, information about the many of the fees charged by major U.S. and foreign carriers are readily available on several OTA websites, including Expedia, Travelocity, and Kayak, in formats that facilitate cross-carrier comparisons by consumers.

However, it is possible that a significant number of travelers may visit only the site of the carrier on which they purchased a flight.[52] In many cases, these passengers would not be aware of the amounts of baggage fees and optional fees charged in the absence of notices on these sites, consequently incurring more charges for checked baggage and other optional services than if they had known about the additional costs for these items.

4.8.2. Area 8 Requirements to Address Identified Needs

The Rule requires that each covered U.S. and foreign carrier disclose applicable baggage fees on e-ticket confirmations; post notice of any increases in baggage fees on its home page and maintain any such notice for at least 3 months after the increase; and provide a link from its home page to a page that contains a full disclosure of all baggage and other optional fees for services that passengers may be charged by the airline. These requirements also apply to online travel agencies and other sellers of air transportation.

The regulatory language currently defines covered carriers as those that have ticket-capable websites accessible to the general public. Following this definition, we have assumed that carriers which operate flights only on a contract basis for other carriers will not incur costs to comply with these requirements.

[51] Department of Transportation, "Guidance on the Disclosure of Policies and Charges Associated with Checked Baggage," 73 F.R. 28854, May 19, 2008.
[52] This is particularly likely to be true for passengers on low-cost airlines. About 75 percent of JetBlue and Southwest passengers book flights directly on the carrier websites, according to these carriers' most recent annual reports.

4.8.3. Benefits of Area 8 Requirements

Insufficient data were found to adequately estimate the benefits from these requirements. As with the analysis for other portions of this Rule for which robust estimates of benefits have not been found, a cost-per-passenger analysis was conducted. The results are presented in Section 5.3 below.

However, provisions included in Requirement Area 8 may provide potential benefits that could not be quantified in this regulatory evaluation, including the following:

- ***Decrease in Time at Check-in.*** Some consumers are not fully aware of their carrier's baggage fees until they arrive for check-in, even though all the information is available online at the time of purchase. In such cases, some passengers may be delayed at check-in as they attempt to repack so as to reduce their checked-in baggage. Such situations not only increase the amount of time spent checking-in, but also increase time spent waiting for those later in line. Ensuring that baggage fees are prominently displayed will minimize such problems.
- ***Improved Customer Good Will toward Carriers***. With all carriers consistently providing full information regarding baggage fees to consumers in a conspicuous place, customers may perceive that carriers are treating them more "honestly." Some customers may have more positive experiences than otherwise, making them slightly more likely to travel by air in the future.

It should also be noted that if some passengers are not fully aware of baggage fee changes currently and become so due to the requirements in the Rule, some of these passengers may decide to pack differently. These passengers would be more likely to take more into the cabin with them, which may lead to further crowding in the cabin.

4.8.4. Cost of Area 8 Requirements

Because most carriers already post notices on their websites with current fees for baggage and other optional products and services, the compliance costs for the provisions of this requirement that apply to carrier websites are limited to the incremental costs of updating and posting notices when these fees change. While carriers may incur more significant costs to program e-ticket generators to display any baggage fees that may apply, the Department does not have extensive information about the likely magnitude of these costs.

Travel agents and tour operators that provide online booking will also need to locate applicable links to baggage and other fee disclosures on carrier websites. It is reasonable to assume that these links will be compiled into some type of reference sheet or guide that is available to firms in these sectors. Individual firms will incur costs to add these links to their current online booking engines and to update these links periodically.

The following estimates of per-firm costs that will be incurred to achieve compliance with the Rule provisions in Requirement Area 8 were utilized in this analysis:[53]

Table 33 - Unit Costs for Requirement Area 8

	Direct Labor Hours	Mean Wage Rate*	Full Cost per Hour**	Cost per Firm
Website/E-ticket programming				
Modify e-tickets (large marketing carriers/ 4 largest OTAs)	40	$35.91	$103.00	$4,120
Small carriers/large travel agencies/tour operators (20+ employees)	20	$35.91	$103.00	$2,060
Small travel agencies/tour operators (<20 employees) with online booking capability	10	$35.91	$103.00	$1,030
Post/update links to optional fees (twice per year)				
Large marketing carriers/ 4 largest OTAs	8	$35.91	$103.00	$824
Small carriers/large travel agencies/tour operators (20+ employees)	4	$35.91	$103.00	$412
Small travel agencies/tour operators (<20 employees) with online booking capability	2	$35.91	$103.00	$206

*Rates for computer programmers, BLS Occupational Employment Statistics, May 2009.

**Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

Based on these estimates and assumptions, costs incurred by affected carriers, travel agents, and tour operators to comply with Rule provisions in Requirement Area 8 are expected to be $4.8 million in 2012 and $9.1 million for the entire 10-year period from 2012 through 2021.

[53] The assumed frequencies of posting notices about baggage fees and optional fees on carrier websites (and the accompanying unit cost estimates) were doubled from those used in the preliminary RIA in response to comments received on the NPRM.

Table 34 - Estimated Compliance Costs for Requirement Area 8

	2012	2012-21
Programming/updating e-tickets to display baggage fees/links		
Large marketing U.S. carriers	18	
Large marketing foreign carriers	87	
4 largest OTAs	4	
Unit cost, large marketing carriers/largest OTAs	$4,120	$7,828
Small/very small marketing U.S. carriers	33	
Small/very small marketing foreign carriers	2	
Large travel agencies/tour operators (20+ employees)	893	
Unit cost, small/very small marketing carriers/large travel agencies/tour operators (20+ employees)	$2,060	$3,914
Small travel agencies/tour operators (<20 employees) with online booking capability	1,567	
Unit cost, small travel agencies/tour operators (<20 employees) with online booking capability	$1,030	$1,566
Total cost of reprogramming e-tickets	**$3,974,770**	**$7,552,063**
Programming/updating websites to display optional fees/links		
Large marketing U.S. carriers	18	
Large marketing foreign carriers	87	
4 largest OTAs	4	
Unit cost, large marketing carriers/largest OTAs	$824	$1,566
Small/very small marketing U.S. carriers	33	
Small/very small marketing foreign carriers	2	
Large travel agencies/tour operators (20+ employees)	893	
Unit cost, small/very small marketing carriers/large travel agencies/tour operators (20+ employees)	$412	$783
Small travel agencies/tour operators (<20 employees) with online booking capability	1,567	
Unit cost, small travel agencies/tour operators (<20 employees) with online booking capability	$206	$391
Total cost of optional fee disclosure updates	**$795,778**	**$1,511,978**
Total cost to post bag/optional fee information	**$4,770,548**	**$9,064,041**
Total Compliance Costs (millions)	$4.77	$9.06
Discounted Total Compliance Costs (millions)		*$7.88*

Note: Cost of annual updates/validations for baggage and optional fee links assumed to be 10 percent of base year implementation cost

4.9. Prohibition on Post-Purchase Fare Increases

4.9.1. Current Requirements, Industry Practices, and Need for Additional Regulation

The Department is aware of several instances in the past few years in which tour operators have imposed post-purchase increases in the prices for air travel or combined travel packages on their customers. Consumers could also possibly find themselves incurring higher costs for air travel than were contracted for at the time of purchase because of increases in baggage fees, notwithstanding the May 19, 2008, DOT guidance on baggage fees, which states that:

> Internet displays and airline agents should also make clear when the added charges or revised policies are to take effect. In no case should more restrictive baggage policies or additional charges be applied retroactively to a consumer who purchased his or her ticket at a time when the charges did not apply, or when a lower charge applied.

A February 2010 review of reporting carrier websites indicated that all reported increases in baggage fees were accompanied by effective dates for the change specified in terms of when tickets were purchased.

It is possible that the current DOT guidance would not have continued to be effective for enforcing the current prohibition on post-purchase price increases. Codifying this policy also reduces the amount of resources and effort required for the Department to determine if entities are complying with its provisions.

4.9.2. Area 9 Requirements to Address Identified Needs

The Rule prohibits any "seller of scheduled air transportation, or of a tour or tour component that includes the price of scheduled air transportation" from making any post-purchase increases in the price of that air transportation, except in the case of an increase in a government-imposed tax or fee. The Rule also includes a provision that requires sellers to notify consumers of the potential for any price increases that could take place prior to the time that the services purchased have been paid in full.

The Department does not believe that air carriers, travel agencies, and tour operators currently attempt to impose post-purchase fare increases on prior purchasers of air transportation, but it lacks adequate information to confirm this assessment.

4.9.3. Benefits of Area 9 Requirements

Benefits from this provision accrue from the increased certainty of price (level of comfort) when purchasing packages include air travel. The benefit of this provision in addition to the value of the price increase is some level of comfort or certainty to the passenger. The estimated number of potentially impacted travelers was derived using data from two larger tour operator travel associations. For this analysis, a provisional estimate of incremental benefit was made by adding a premium to the value of search time and purchase time of travelers on package tours, as follows:

Table 35 - Benefits Estimates for Requirement Area 9

	2012	2012-2021
Number of Air Tour Package Travelers Who May Benefit from Prohibition of Post-Purchase Increase	21,135,680	240,076,987
Benefits of Certainty		
Value of Time for Passenger (Personal Non-Traveling)	$24.15	$24.15
Premium on Certainty of Purchase	0.01	0.01
Incremental Savings per Passenger per Hour	0.24	0.24
Average Amount of Time Spent Purchasing Airfare	0.17	0.17
Average Savings per Passenger	$0.04	$0.04
Monetized Benefits of Certainty	**$850,711**	**$9,663,099**
Total Benefits (millions)	$0.85	9.66
Total Component Benefits (millions) Discounted		*7.15*

Some consumers will also benefit from increased security that tour package prices will not be increased; a benefit experienced during the entire period from time of travel purchase until the trip is completed. It is similar to an insurance value, the value to the consumer of knowing that even if fees increase, the consumer will not be liable for them. This benefit may also be considered in place of the benefit measured above.

In addition to the benefits for which quantitative estimates could be developed, a prohibition on post-purchase increases may well lead to an improvement in consumer good will toward non-carrier travel organizations such as ticket agents and tour operators.

The Department expressly solicited comments regarding the estimation of the appropriate premium on the value of air ticket purchasers' time from the certainty that there will be no post-purchase price increase, as well as the estimation of the average amount of time to purchase ticket. In addition, the Department requested comments on other methodologies to value the benefit to consumers of knowing that their tour package price is a final price.

4.9.4. Cost of Area 9 Requirements

Most, if not all, domestic and foreign carriers are believed to be currently complying with this requirement. Some tour operators may not be following current Department guidelines that prohibit post-purchase price increases without prior disclosure to, and agreement by, customers at the time of purchase. In any event, it is unlikely that there are significant compliance costs associated with refraining from imposing post-purchase price increases on future purchasers of air transportation and travel packages.

However, tour operators will incur web programming and printed notice development costs to comply with the Final Rule requirement for *pre-purchase* disclosure of the possibility of price increases before the tour has been paid in full. The unit costs used to developing and displaying these disclosures are estimated as follows:

Table 36 - Unit Costs for Requirement Area 9

	Direct Labor Hours	Mean Wage Rate*	Full Cost per Hour**	Cost per Firm
Reprogram website flight confirmation pages				
Large tour operators	20	$35.91	$103.00	$2,060
Small tour operators	10	$35.91	$103.00	$1,030
Develop printed disclosure form				
Large tour operators	4	$22.99	$66.00	$264
Small tour operators	2	$22.99	$66.00	$132

*Rates for computer programmers and graphic designers, BLS Occupational Employment Statistics, May 2009.

**Full cost includes benefits and other direct labor costs (43 percent of mean wage rate) and cost for time associated with supervisor/management review (100 percent of direct labor cost).

Based on these estimates and assumptions, costs incurred by affected tour operators to comply with Rule provisions in Requirement Area 9 are expected to be $1.1 million in 2012. No additional costs are expected to be incurred during the remainder of the entire 10-year period from 2012 through 2021.

Table 37 - Estimated Compliance Costs for Requirement Area 9

	2012 only
Reprogramming websites to display disclosure form	
Large tour operators (20+ employees)	267
Unit cost to reprogram websites, large tour operators	$2,060
Small tour operators (< 20 employees) with online booking	190
Unit cost to reprogram websites, small tour operator	$1,030
Total cost of reprogramming	**$745,720**
Development of printed disclosure statements	
Large tour operators (20+ employees)	267
Unit cost to develop disclosure statements (large firms)	$264
Small tour operators (< 20 employees)	2,420
Unit cost to develop disclosure statements (small firms)	$132
Total cost of revising print advertising	**$389,928**
Total cost of revising websites and advertising	**$1,135,648**
Total Compliance Costs (millions)	$1.14
Discounted Total Compliance Costs (millions)	*$1.14*

4.10. Prompt Passenger Notification of Flight Status Changes

4.10.1. Current Requirements, Industry Practices, and Need for Additional Regulation

Passengers learn about changes in flight status (most importantly, delays or cancellations) through gate announcements, electronic displays at airports, checking carrier websites, and, increasingly, automated notifications sent to cell phones or e-mail accounts. At present there are no regulatory requirements relating to the methods of provision, accuracy, or timeliness with which carriers inform passengers about flight status changes.

In particular, carriers are not currently required to offer passengers the option to subscribe to e-mail or text messaging services that provide automatic notification of flight status changes. However, it is possible to sign up to receive these notifications on the websites of all but two reporting carriers that currently sell tickets directly to the public. Flight status updates are also available from a number of third-party providers, including FlightStats.com, 4Info, and Google. A review of some airline passenger forums and other online sources indicates that, in some instances, certain third-party notification services provide more timely updates on flight delays and cancellations than some of the carrier messaging systems.

Because of the increasingly widespread provision of real-time updates, passengers may reasonably expect that all of the channels from which they learn about flight status changes provide prompt updates as new information becomes available. In the absence of regulatory requirements, the speed of updates being posted could vary substantially among carriers or notification channels, and many consumers may not have sufficient information to assess which methods of notification provide relatively more prompt updates.

4.10.2. Area 10 Requirements to Address Identified Needs

The Rule requires that reporting carriers provide information on flight status changes to passengers through whatever means they use (electronic messaging services, website flight status tools, departure/arrival boards at airports, and gate attendant announcements) within 30 minutes of when that information either becomes available or should have become available to the carrier.

No information is currently available on the extent to which flight status updates are now disseminated to passengers by various communications channels within 30 minutes of new information becoming available.[54]

4.10.3. Benefits of Area 10 Requirements

Conceptually, being assured that carriers will promptly disseminate information about flight status changes may reduce the time and amount of effort that passengers expend to check on possible flight delays and cancellations; allow passengers (and those meeting arriving

[54] The Department solicited comments on this issue in the NPRM but did not receive any information that could be used to quantify the impact of the Rule requirements in this area.

passengers) to leave a smaller margin of safety in choosing what time to leave for the airport; and help travelers feel more secure while traveling to the airport, knowing that they will be promptly updated if the status of their flight changes.

The Department currently does not have information on the extent to which reporting carriers currently comply with this requirement. Consequently, it is not possible to develop quantitative estimates of the benefits that passengers will receive from any changes in the promptness with which carriers notify travelers about flight status changes.

4.10.4. Cost of Area 10 Requirements

The Department does not have information on the extent to which reporting U.S. carriers currently comply with these requirements. Consequently, it is not possible to develop quantitative estimates of the compliance costs, if any, that will be incurred by the carriers to which these requirements will apply.

4.11. Limitations on Venue Provisions in Contracts of Carriage

4.11.1. Current Requirements, Industry Practices, and Need for Additional Regulation

There are currently no specific regulatory restrictions on the inclusion of venue provisions in carrier contracts of carriage. However, OST considers the inclusion of restrictive venue provisions in contracts of carriage to be an unfair and deceptive trade practice. The Aviation Enforcement Office has threatened enforcement action against carriers that have previously included restrictions precluding passengers from filing suit in jurisdictions other than those in which the carriers were headquartered.

A February 2010 review of the contracts of carriage for the largest U.S. carriers indicated that only Spirit Airlines included a limitation on the venue for filing claims in its contract of carriage.

The absence of a prohibition on venue restrictions means that passengers traveling on the same flight with the same complaint or claim may face very different costs to pursue the matter, depending on their proximity to the carrier's headquarters. In the case of Spirit Airlines, a passenger residing in Miami who had a claim arising from a round-trip flight to Los Angeles would need only make a short drive for a court appearance, while a passenger residing in southern California with the same type of claim on the same round-trip flight may need to incur substantially higher travel costs associated with pursuing a claim that must be filed in southeastern Florida.

4.11.2. Area 11 Requirements to Address Identified Needs

The Rule codifies current Department enforcement policy on permissible restrictions imposed by venue provisions in carrier contracts of carriage. Provisions that eliminate the right of consumers to bring claims against the carrier in any competent court with jurisdiction are banned and will be treated by the Department as an unfair and deceptive trade practice.

4.11.3. Benefits of Area 11 Requirements

Some claimants will benefit from this provision by avoiding costs that they would otherwise have had to incur to travel to other States or to hire out-of-state lawyers. In addition, some lawsuits with merit may not be filed because the financial and time costs of filing in another State and potentially having to travel there for adjudication exceed the expected value of pursuing the claim.

To the extent that legitimate lawsuits act as a deterrent to unlawful corporate behavior, it is possible that prohibiting venue restrictions will increase the effectiveness of this deterrent.

4.11.4. Cost of Area 11 Requirements

Air travelers can be expected to be somewhat more likely to pursue claims against carriers in the absence of venue restrictions in carrier contracts of carriage because they will be able to avoid the time and financial costs of out-of-state travel to adjudicate these claims. However, the Department does not possess adequate information to estimate the additional costs that will be incurred by carriers to defend any lawsuits that may be filed. Potential litigation cost savings to consumers and cost increases borne by carriers are included as unquantifiable costs of the Rule in the summary presented in Section 5.2 below.

5. Results and Discussion of the Benefit and Cost Analysis

The goal of a regulatory impact analysis is to estimate the incremental benefits and costs of adopting the Rule. The difference between benefits and costs quantified over the planning horizon lifecycle and discounted to the present represents the primary indicator of regulatory value.[55] A present value (PV) of net benefits greater than zero indicates that measured benefits exceed measured costs and that the regulation is likely to increase the general level of economic welfare accordingly. A PV of net benefits that is less than zero means that measured costs exceed measured benefits. This section summarizes the benefits, costs, and net benefits estimated for the requirements included in the Rule.

5.1. Overall Net Benefits of the Rule

All quantified benefits and costs estimated for individual requirements were translated into current values for each year in the 10-year period beginning with calendar year 2012.[56] In

[55] This follows the guidance of OMB Circular A-4, which stipulates that this difference—the net present value (NPV)—should be regarded as the principal measure of value produced by a benefit-cost analysis. Further, Executive Order 12866 states that agencies should attempt to maximize the net benefits of their rulemakings, subject to statutory requirements.

[56] The affected parties are assumed to be fully compliant with the Rule by January 1, 2012. The expected effective data for all Rule requirements, with the exception of the full-fare advertising provision of Requirement Area 7, will be 60 days earlier. We have aligned the effective dates in the RIA to simplify the presentation and explanation of the benefit and cost estimates.

accordance with OMB guidelines, a real discount rate of 7 percent is used in the primary analysis and is supplemented with overall estimates using a 3 percent discount rate**.**

The expected PV of passenger benefits from the requirements included in the Rule is estimated at $45.0 million using a 7 percent discount rate over the 10-year period of analysis. The expected present value of costs incurred by carriers and other sellers of air transportation to comply with these requirements is estimated at $30.7 million, discounted at 7 percent over the same 10-year period. The PV of net benefits for this 10-year period at a 7 percent discount rate is thus $14.3 million. Using a 3 percent discount rate, the PV of net benefits for 2012 through 2021 is estimated at $20.3 million.

Table 38 - Present Value of Net Benefits for the Rule, 2012-2021

		PV (millions)
Monetized Benefits	10 Years, 7% discounting	$45.0
	10 Years, 3% discounting	$53.5
Monetized Costs	10 Years, 7% discounting	$30.7
	10 Years, 3% discounting	$33.2
Monetized Benefits	10 Years, 7% discounting	$14.3
	10 Years, 3% discounting	$20.3

Table 39 provides estimates of the annualized dollar amounts of these monetized benefits and costs expressed in 2012 dollars at 7 percent and 3 percent discount rates. Annualized benefits of the Rule are estimated at $5.99 million at a 7 percent discount rate and $6.09 million at a 3 percent discount rate over a 10-year period of analysis. Annualized costs of the Rule are estimated at $4.09 million at a 7 percent discount rate and $3.78 million at a 3 percent discount rate over a 10-year period of analysis.

Table 39 – Accounting Statement: Annualized Value of Rule Benefits and Costs, 2012-2021

		2012 $millions
Monetized Benefits	10 Years, 7% discounting	$5.99
	10 Years, 3% discounting	$6.09
Monetized Costs	10 Years, 7% discounting	$4.09
	10 Years, 3% discounting	$3.78
Monetized Benefits	10 Years, 7% discounting	$1.90
	10 Years, 3% discounting	$2.31

5.2. Net Benefits of Specific Sets of Requirements

A requirement area-by-requirement area summary of benefit and cost estimates, as well as benefits and costs that were identified but could not be quantified, is provided in the table below.

Table 40 - Comparison of Requirement Area Benefits and Costs, 2012-2021
(Discounted at 7 percent annually to 2012 $ millions)

Area 1: Expansion of tarmac contingency plan requirements and extension of EAPP1 requirements to cover foreign carriers	**Total**
Monetized Benefits	$1.2
Monetized Costs	$3.0
Monetized Net Benefits	**-$1.8**
Additional unquantifiable benefits and costs that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Improved Management of Flight Delays	
Decreased Anxiety with Regard to Flying	
Reduced Stress among Delayed Passengers and Crew	
Improved Overall Carrier Operations	
Improved Customer Good Will toward Carriers	
Additional Gate Return Costs Incurred by Carriers	
Time Required for Airport/Terminal Authorities, CBP/TSA to Coordinate Plans	
Area 2: Expanded tarmac delay reporting and application to foreign carriers	**Total**
Monetized Benefits*	$0.0
Monetized Costs	$0.8
Monetized Net Benefits	**-$0.8**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Increased Efficiency of US DOT Oversight and Enforcement Office Operations	
Improved Management of Flight Delays	
Area 3: Establishment of minimum standards for customer service plans (CSPs) and extension of EAPP1 Final Rule Areas to cover foreign carriers	**Total**
Monetized Benefits	$7.7
Monetized Costs	$7.4
Monetized Net Benefits	**$0.3**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Decreased Confusion and Uncertainty Regarding Department CSP Requirements	
Improved Customer Service from Foreign Carrier Self-Auditing of Adherence to CSPs	
Improved Customer Good Will toward Carriers	

*Monetized estimates could not be developed from the information available on the record.

Table 40 - Comparison of Requirement Area Benefits and Costs, 2012-2021
(Discounted at 7 percent annually to 2012 $ millions)

Area 4: Foreign carrier posting of tarmac delay contingency plans, CSPs, and contracts of carriage on websites	Total
Monetized Benefits*	$0.0
Monetized Costs	$1.0
Monetized Net Benefits	**-$1.0**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Decreased Occurrence of and Improved Resolution of Customer Complaints	
Area 5: Extension of EAPP1 Final Rule Areas for carriers to respond to consumer complaints to cover foreign carriers	**Total**
Monetized Benefits	$0.0
Monetized Costs	$1.9
Monetized Net Benefits	**-$1.9**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Decreased Anger toward Carriers During Resolution of Complaints	
Area 6: Changes in denied boarding compensation (DBC) requirements	**Total**
Monetized Benefits*	$0.0
Monetized Costs	$1.0
Monetized Net Benefits	**-$1.0**
Additional unquantifiable benefits and costs that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Decreased Confusion Regarding DBC Provisions	
Decreased Resentment among Some Passengers Regarding Different Compensation Received	
Programming and Training Costs for Foreign Carriers	
Area 7: Full-fare advertising and prohibition on opt-out provisions	**Total**
Monetized Benefits	$29.0
Monetized Costs	$6.8
Monetized Net Benefits	**$22.2**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Travelers Less Likely to Mistakenly Purchase Unwanted Services and Amenities	
Improved Customer Good Will toward Carriers	

*Monetized estimates could not be developed from the information available on the record.

Table 40 - Comparison of Requirement Area Benefits and Costs, 2012-2021
(Discounted at 7 percent annually to 2012 $ millions)

Area 8: Expanded disclosure of baggage and other optional fees	**Total**
Monetized Benefits*	$0.0
Monetized Costs	$7.9
Monetized Net Benefits	**-$7.9**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Decreased Time at Check-in	
Improved Customer Good Will toward Carriers	
Area 9: Limitations on post-purchase price increases	**Total**
Monetized Benefits	$7.2
Monetized Costs	$1.1
Monetized Net Benefits	**$6.1**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Improved Customer Good Will toward Carriers	
Area 10: Prompt passenger notification of flight status changes	**Total**
Monetized Benefits*	$0.0
Monetized Costs*	$0.0
Monetized Net Benefits	**$0.0**
Additional unquantifiable benefits that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Greater Comfort and Certainty from Knowing that Information Will Be Available In Timely Manner	
Area 11: Limitations on venue provisions in contracts of carriage	**Total**
Monetized Benefits*	$0.0
Monetized Costs*	$0.0
Monetized Net Benefits	**$0.0**
Additional unquantifiable benefits and costs that are directly or indirectly related to this rulemaking, which result in benefits that the Department has determined justify the costs:	
Improved Customer Good Will toward Carriers	
Reduced Costs for Consumers to File/Adjudicate Claims	
Increased Costs for Carriers to Settle/Adjudicate Claims	
Requirement Areas 1 -11 Total	**Total**
Monetized Benefits	$45.0
Monetized Costs	$30.7
Monetized Net Benefits	**$14.3**

*Monetized estimates could not be developed from the information available on the record.

Substantial portions of the estimated benefits, costs, and net benefits from the Rule are attributable to the full-fare advertising provision of Requirement Area 7. The expected benefits estimated for this single provision total $29.0 million over the entire 10-year period from 2012 through 2021 using a discount rate of 7 percent. Benefits estimated for the full-fare advertising provision represent 64 percent of the total benefits estimated for the Rule provisions in all 11 requirement areas during the period from 2012 through 2021.

The expected costs of complying with the full-fare advertising provision of Requirement 7 are estimated at $6.8 million. All of these costs will be incurred in 2012. Costs estimated for the full-fare advertising provision represent 22 percent of the total costs estimated for the Rule provisions in all 11 requirement areas during the period from 2011 through 2020.

None of the present values for quantified benefits or costs associated with any of the other 10 requirements from 2012 through 2021 (discounted at 7 percent) are estimated to exceed $10 million.

5.3. Cost-per-Passenger Analysis

Because there are potentially significant but unquantifiable benefits that may be realized by passengers as a result of these requirements, a cost-per-passenger analysis was conducted for each Requirement Area in which the benefits either could not be monetized or the monetized benefits were smaller than the estimated costs. The results of these calculations are as follows:

Requirement Area 1: A cost-per-passenger analysis was conducted in which we divided the net cost of this component (total costs less estimated benefits of greater comfort due to access to food, water, and clean lavatories) by the number of passengers. The resulting figure represents the minimum level of the insurance value of these requirements that would be necessary for the benefits (including the components for which estimates could be developed) to exceed the estimated costs. Costs of the provisions included in Requirement Area 1 are estimated at $3.2 million over the entire 10-year period from 2012 through 2021. Dividing this total cost (less the measured benefits noted above) by the corresponding affected passenger volume of 887 million over those 10 years results in a threshold value of $0.003, or one-third of one cent. The benefits of the Rule requirements in this area will exceed the costs if air travelers would be willing to pay, on average, at least this amount per trip to be protected by these requirements.

Requirement Area 3: To estimate the minimum amount of consumers' willingness to pay for this assurance that would bring the estimated benefits to an amount equal to costs, the total costs for this component of the Rule are divided by the total number of passengers. The resulting figure from this estimate is approximately $0.001, or one-tenth of one cent per passenger.

Requirement Area 4: To estimate the minimum amount of the value to consumers for this increased accessibility to customer service plan information (for measured benefits to equal cost), the total costs for this component of the Rule are divided by the total number of passengers. The resulting figure from this estimate is about $0.002, or one-fifth of one cent per passenger.

Requirement Area 5: The net costs of the requirement (total costs, net of the monetized benefits from the more accessible information for filing complaints) were divided by the number of passengers on covered flights by international carriers. The resulting figure of less than one-third of one cent per passenger represents the minimum average value to consumers of this portion of the requirement that would cause total benefits to exceed estimated costs.

Requirement Area 8: To estimate the minimum amount of the value to consumers from greater disclosure of baggage and other optional fees, the total costs for this component of the Rule are divided by the total number of passengers on domestic and foreign carriers. The resulting figure from this estimate is about $^{3}/_{100}$ of one cent per passenger.

5.4. Conclusion

This regulatory analysis indicates that adoption of the new requirements will result in projected benefits to the public that outweigh the estimated costs of the Rule.

Appendix 1: Notes on Estimation of Benefits and Data Sources Used

Requirement Area 1: Tarmac Delay Plans for Foreign Carriers

The formula below illustrates the inputs and calculations used to estimate benefits for this provision. The abbreviation PAX is used for the word passenger(s).

Overall Assumptions

(1) Passengers Who May Benefit=	PAX using Foreign Carriers (Dom & Int'l), Segment – #PAX on Foreign Carriers already in Compliance
(2) Flights That May Benefit=	No. of Foreign Carrier Flights (Dom & Int'l) – #No. of Flights on Foreign Carriers already in Compliance
(3) Avg. No. of PAX Who May Benefit Per Flight That May Benefit=	Passengers Who May Benefit *(1)* ÷ Flights That May Benefit *(2)*

Benefit from Provision of Adequate Food, Drink, and Lavatory

In-Scope Passengers (Arrivals) =	Number of Flights w/ Long Tarmac Delays Two+ Hours on Foreign Carriers Not already Compliant X % of 2+ Hr Delays that are Arrivals X Avg. No. of PAX Who May Benefit per Potential Flight *(3)*
In-Scope Passengers (Departures) =	Number of Flights w/ Long Tarmac Delays Two+ Hours on Non-Compliant Carriers X % of 2+ Hr Delays that are Departures X Avg. No. of PAX Who May Benefit per Potential Flight *(3)*
Incremental Savings per Hour from Food, Drink, Lavatory=	Value of Time X Premium of Comfort
Total Savings from Arrivals=	In-Scope Passengers (Arrivals) X Incremental Savings per Hour from Food, Drink, Lavatory X Avg. Wait Time after 2 Hour Tarmac Delay (Arrivals)
Total Savings from Departures=	In-Scope Passengers (Departures) X Incremental Saving per Hour from Food, Drink, Lavatory X Avg. Wait Time after 2 Hour Tarmac Delay (Depart)
Calculation of Benefits=	Total Savings from Arrivals + Total Savings from Departures

Requirement Area 7: Full-Fare Prices in Advertising

The formula below illustrates the inputs and calculations used to estimate benefits for this provision:

Overall Assumptions

No. of Round Trip Purchases=	No. of PAX Who Use U.S. Carriers (Dom & Int'l), Market X % of PAX Who Purchase Airfare via Internet = No. of PAX who Purchase Airfare via the Internet

Benefits to Passengers who already search for full fare information

In-Scope Passengers=	(1) Passengers Who May Benefit X % of On-Line Customers Who Research Multiple Websites (one of which does not use full-fare advertising up-front) ÷ Average Number of People in Travel Party
Calculation of Benefits=	**In-Scope Passengers** X Avg. Extra Time Spent on Internet Searching for Taxes/Fees X Value of Time

Benefits to Passengers Who Do Not Currently Compare Full Fares (Elimination of Dead-Weight Loss)

In-Scope Passengers=	Passengers Who May Benefit X (1- On-Line Customers Who Research on Multiple Websites (one of which uses hidden fees) X (1-% of PAX Who Use Website Already Showing Full Fare)
Decrease in Price=	Weighted Average Price of Airfare X % of Airfare that Make-Up Hidden Fees
Increase in Market Demand=	**In-Scope Passengers** X Decrease in Price X Elasticity of Air Travel Demand
Calculation of Benefits=	(In-Scope Passengers X Decrease in Price) + (Increase in Market Demand X ½ X Decrease in Price)

Requirement Area 9: Prohibition on Post-Purchase Increase

The formula below illustrates the inputs and calculations used to estimate benefits for this provision:

Overall Assumptions

In-Scope Passengers= Estimated number of travelers on tour packages

Benefits of Uncertainty

Calculation of Benefits= **In-Scope Passengers**
X Value of Time
X Premium for Increased Comfort from Knowing Will Be Notified

Source Notes

Multiple Requirement Areas

Forecast Average Growth of Airline Passenger Traffic per Year

Variable Description: This is the estimated annual growth in airline passenger traffic transported on domestic and international trips from and to airports in the U.S. forecast for the future. These rates are applied in the year 2011 and beyond.

Source: U.S. Department of Transportation, Federal Aviation Administration, Aerospace Forecast Fiscal Years 2010–2030.

Forecast Growth of Airline Passenger Traffic (per Year) on U.S. Airlines

Year	All Flights	Domestic Flights	International Flights
2010	0.5%	0.4%	0.9%
2011 and future	2.8%	2.6%	4.2%

Passenger Value of Time

Variable Description: This is the monetized value of time for air passengers. This estimate is used to calculate time savings and increased level of comfort.

Estimates of the value of time for air travelers while traveling are those prepared by the Department of Transportation for economic analyses. The value of time for air travelers while not traveling was estimated using earnings estimates used by the Department of Transportation for calculation of the above estimates as follows: a weighted average (by proportion of all travelers) of (1) 100 percent times the average hourly earnings of those traveling by air on business and (2) 50 percent times the average hourly earnings of those traveling by air for personal trips.

Source: U.S. Department of Transportation, "Revised Departmental Guidance Valuation of Travel Time in Economic Analysis", 2003.

Value of Time

	Lower 10% Limit	Median	Upper 10% Limit
Value of Time for Passenger (Personal Non-Traveling)	$21.74	$24.15	$26.57
Value of Time for Passenger (Average for All Travelers)	$23.80	$28.60	$35.60

Value of Time Premiums for Differing Qualitative Levels of Service

Variable Description: Requiring foreign carriers to set and adhere to limits on lengthy tarmac delays will shift part of the total trip time currently spent in less comfortable conditions (such as the fifth hour on a plane waiting on the tarmac) to time spent in more comfortable conditions (the fifth hour spent in the terminal). The value of the difference in comfort is by applying a value-of-service premium to the base value of travel time saved (see above). Estimates for this comfort premium were developed from economic literature on transportation. Premiums have been derived from survey-based data that reflect travel time values which incorporate the quality waiting, walking, and transfer conditions. Level of service ratings were rider-determined and are used to determine the value of different levels. The values used are shown in the table below.

Source: Level of service estimates of value of travel time from Todd Litman, "Valuing Transit Service Quality Improvements," the Victoria Transport Policy Institute, 2007.

Value of Time Premiums for Differing Qualitative Levels of Service

Category	LOS A - C	LOS D	LOS E	LOS F	*Ratio of A-C to D (Proxy for 2-5 Hours Delay)*	*Ratio of A-C to E (Proxy for >5 Hours Delay)*
Adult transit passenger - seated	35%	47%	58%	70%	1.34	1.68
Adult transit passenger - standing	50%	67%	83%	100%	1.34	1.68

Note: LOS refers to level-of-service and incorporates qualitative factors such as comfort, convenience, and reliability for various modes' waiting, walking, and transfer conditions. LOS A refers to the best conditions and F to the worst. The difference in the value of time between the average for LOS rating A-C and LOS rating D is used to estimate a premium for the greater comfort from access to food, water and clean lavatory facilities. The difference in the value of time between the average for LOS rating A-C and LOS rating E for transit passengers is used to estimate a premium for the greater comfort of waiting in the terminal instead on in the plane on the tarmac.[57]

Requirement Area 1

Number of Flights and Passengers with Extended Tarmac Delays

Variable Description: The number of flights and passengers for foreign carriers by amount of tarmac delay time is estimated using the distribution of flights by tarmac delay for domestic "reporting carriers" (those with 1 percent or more of scheduled passenger service) since foreign carriers do file the necessary detailed statistics with the Federal Government. To estimate delays, the ratios of each delay, by length, for reporting domestic carriers were used on the foreign carrier flight population to estimate number of delays at each time interval.

Source: Econometrica tabulations of BTS Form 234 data.

[57] These premiums are similar to premiums estimated for the value of sitting instead of standing during a transit trip, which have ranged from 20 percent to 50 percent. See Marcus von Wartburg and W.G. Waters II, "Chapter 2: Congestion Externalities and the Value of Travel Time Savings," in *Towards Estimating the Social and Environmental Costs of Transportation in Canada*, Anming Khang, et al eds., Center for Transportation Studies, University of British Columbia, August 2004 and P.B. Goodwin, "Human Effort and the Value of Travel Time," *Journal of Transport Economics and Policy*, January 1976.

Cost of Posting a Contingency Plan Dealing with Flight Delays on an Airline's Website

Variable Description: This is the cost of posting a contingency plan dealing with flight delays on an airline website.

Source: Estimate provided by subject matter experts among HDR IT staff compared against figures provided by reporting carriers to modify computer systems to provide additional reporting data to BTS regarding cancellations, diversions, and gate returns, as reported in Regulatory Evaluation on Revision or Airline Service Quality Performance Reports, US Department of Transportation, Docket No OST 2007-28522 for reasonableness.

Cost of Posting a Contingency Plan Dealing with Flight Delays on an Airline's Website

Source	Lower 10% Limit	Median	Upper 10% Limit
Regulatory Evaluation on Revision of Airline Service Quality Performance Reports*	$10,000	$22,500*	$30,000
Subject Matter Expert	$15,000	$22,500	$30,000
In Use	$15,000	$22,500	$30,000

*Median estimated based upon high and low.

Cost of an Average Airline Meal

Variable Description: This is the average national cost of an airline meal per passenger in the U.S. in 2007.

Data Sources: Karen Aho, "The Death of the Airline Meal," MSN Money, Feb. 22, 2008.

Cost of an Average Airline Meal per Passenger (2009 Dollars)

	Lower 10% Limit	Median	Upper 10% Limit
Cost of Average Airline Meal Per Passenger	$2.65	$3.71	$4.77

Cost of Deplaning Passengers (per Passenger)

Variable Description: This is the cost of deplaning passengers on a per passenger basis. The cost is what an airport would charge airlines to deplane passengers. This is assumed to be $1.37 per passenger (in 2008 dollars). This is the fee that Atlanta International Airport charged airlines to deplane passengers.

Source: Paul Meyer, Operations Department, Atlanta International Airport.

Requirement Areas 3 and 5

Number of Air Carrier Complaints

Variable Description: This is the annual number of complaints filed with an air carrier. Complaints can relate to flight problems, oversales, customer service, lost baggage, etc. Baseline figures are taken from data compiled by the U.S. Department of Transportation. However, because carriers receive many more complaints than are filed with the U.S. Department of Transportation, a complaint “multiplier” is used to calculate the actual number of “ground-level” complaints received by carriers from passengers.

Source: U.S. Department of Transportation, Office of Aviation Enforcement and Proceedings, “Air Travel Consumer Report”, January 2008–December 2008; Final Report on Airline Customer Service Commitment,” Office of the Inspector General, U.S. Department of Transportation, report AV-2001-020, February 12, 2001, and “Air Travel Consumer Report, U.S. Department of Transportation.

2008 Filed Complaints

	Lower 10% Limit	Median	Upper 10% Limit
Number of Complaints (Both U.S. and Foreign Carriers)	10,473	9,426	11,520
Number of Complaints (Foreign Carriers)	1,275	1,148	1,403
Complaint Multiplier (# of Complaints not filed actually received by Carriers)*	61	61	61

* Multiplier Source: “Final Report on Airline Customer Service Commitment,” Office of the Inspector General, U.S. Department of Transportation, report AV-2001-020, February 12, 2001, and “Air Travel Consumer Report, U.S. Department of Transportation.

Factor to Adjust Number of Annual Complaints to Covered Carriers that Do Not Already Self-Audit Adherence to Customer Service Plans

Variable Description: This the average number of complaints received by covered carriers that are not already self-auditing adherence to customer service plans, which is measured using complaint data reported for domestic carriers as proxy for foreign carriers. The DOT Air Travel Consumer Reports lists complaints received by the Department, but not complaints directly to the carriers. The DOT Inspector General found in 2001 that it received 1,352 complaints for the 10 major airlines, but that those carriers received 82,587 complaints, or 61 times the number of complaints recorded by DOT. To arrive at a total number of complaints for covered carriers, the number of complaints in DOT Air Travel Consumer Reports for covered carriers that are not already self-auditing adherence to customer service plans was multiplied by 61.

Source: “Final Report on Airline Customer Service Commitment,” Office of the Inspector General, US Department of Transportation, report AV-2001-020, February 12, 2001, and “Air Travel Consumer Report, U.S. Department of Transportation.

Change in Complaints Due to Self Auditing of Customer Service Plans

Variable Description: This variable measures the decrease in customer complaints that would occur due to self-auditing of adherence to customer plans. For those four carriers that have already implemented self audits (Alaska in 2000, Continental in 2001, Northwest in 1999, Southwest in 1999), the average change in complaints in the 2 years following implementation was calculated to be –39 percent. During those same periods, the change in complaints to carriers that did not self audit was calculated to be –19 percent, a difference of 20 percentage points from self-auditing carriers. Under the conservative assumption that those carriers most likely to benefit from self audits of customer service plans were the first to implement them, remaining carriers that will now implement self audits as a result of the Final Rule are expected to realize an improvement in complaint rates equal to half of difference in comparative complaint rates noted above, i.e., a 10 percent decrease in complaints.

Source: Calculations based on data from DOT Air Travel Consumer Report, 1998 through 2007. Information on self auditing of customer service plans from DOT and e-mail communication.

Summary of Annual Costs for Self-Auditing Service for Reporting and Non-Reporting Carriers

Variable Description: This is the annual cost to reporting carriers of self-auditing additional service (customer complaint) calls stemming from the implementation of the new regulations. The mean annual salary of a customer service representative in 2007, according to the BLS, was $31,040. The Department of Homeland Security 2006 Cost-Benefit Analysis Guidebook[58] recommends using a mark-up of 32.8 percent to wages to take into account benefits received over and above wages.

In addition to the costs of the customer representative, it is assumed that the airlines also hire a contractor to test the quality of the customer service representatives. Northwest contracted with a third party to place "mystery calls" to five reservations centers to test DOT mandates and other compliance issues. The Northwest Airlines customer service plan described that this service is extrapolated to include 100 calls per center per quarter (500 calls per quarter) to test their customer service plan compliance and adjust training/coaching accordingly. Extrapolating further, 2,000 external audit calls need to be made each year. Each of these is assumed to cost $15 per hour and last an average of 30 minutes. The total annual cost of this external audit process is estimated at $15,000 per airline.

Because reporting carriers have much larger operations, on average, than non-reporting carriers, it is assumed that the implementation costs for non-reporting carriers would be proportionally smaller. The average cost for non-reporting carriers to self-audit is at 11 percent of that for reporting carriers, reflecting the portion of passengers on non-reporting carrier flights, or $6,248.

Data Sources: Mean starting salary of customer service representative was from the Bureau of Labor Statistic's *May 2007 National Occupational Employment and Wage Estimates*; Benefits

[58] Page 15.

multiplier from U.S. Department of Homeland Security, *2006 Cost-Benefit Analysis Guidebook*; Data regarding Northwest external audit costs a subject matter expert.

Annual Costs to Airlines of Self-Auditing Customer Complaint Calls

	Cost
Customer Service Cost	$41,798
Mystery Calling Contract	$15,000
Total	**$56,798**

Source: Bureau of Labor Statistics' May 2007 National Occupational Employment and Wage Estimates; Benefits multiplier from U.S. Department of Homeland Security, 2006 Cost-Benefit Analysis Guidebook; Data regarding Northwest external audit costs from subject matter expert.

Elasticity of Demand for Complaining

Variable Description: This figure (1.0741) estimates the change in number of complaints due to a unit change in the cost of complaining.

Source: David Morris, "The Cost of Complaining and the Efficiency of Consumer Complaints Agencies," Journal of Consumer Studies and Home Economics, 1980.

Cost of Complaining

Variable Description: These are the elements that comprise the cost incurred by the passenger to file a complaint. In the absence of information breaking down complaints to carrier by method used to file, one third of complaints are assumed to be submitted online, one third via mail, and one third via phone. Cost components independent of time include: for writing a letter, $0.42 for a stamp and $.10 for paper and envelope; for making a phone call, $0.15 phone charge; for e-mailing a complaint, it was assumed that the incremental cost for those choosing the method would be $0. The value of a consumer's time is assumed at the average hourly wage rate, and the amount of time required to prepare and file a complaint varies from 10 to 30 minutes.

Value of Time to Prepare and File a Complaint

Cost Component			Lower 10% Limit (10 Minutes Spent)	Median (20 Minutes Spent)	Upper 10% Limit (30 Minutes Spent)
Materials Cost		% of complaints			
Materials cost of letter writing:					
Stamp	$ 0.42				
paper and envelope	$ 0.10				
		33%	$ 0.17	$ 0.17	$ 0.17
Equipment cost of calling:					
Phone charge	$ 0.15				
		33%	$ 0.05	$ 0.05	$ 0.05
Additional equipment/materials cost of going online:					
	$ -	33%	$ -	$ -	$ -
Time Spent (variable from 10 to 30 minutes)					
Value of Time for Air Passengers	$28.60 per hour		$9.53	$ 4.77	$14.30
Total			**$ 9.76**	**$ 4.99**	**$ 14.52**

Source: Bureau of Labor Statistics; subject matter experts.

Cost to Airlines of Providing Information to Travelers on how to File a Complaint on a Website or at Check-In Counter for Reporting Carriers and Non-Reporting Carriers (Also used as proxy for Cost to Airlines of Implementing a Customer Service Plan for Reporting Carriers and Non-Reporting Carriers)

Variable Description: The cost of modifying a website for reporting carriers would be, based on subject matter expert opinion, between $10,000 and $60,000 (with $35,000 the most likely cost and a 90 percent probability of the actual number falling within the $10,000 to $60,000 range).

The cost for reporting carriers to modify counters to provide information to customers on how to file complaints is estimated at $6,347. At OfficeDepot.com, on May 1, 2008, an acrylic engraved wall sign cost $13.99. The national median salary for a building and grounds maintenance employee, according to the BLS, was $9.75 in 2006. Inflating this to 2008 terms (using national Employment Cost Index from the Bureau of Labor Statistics) it becomes $10.26. According to the FAA "Calendar Year 2006 Passenger Activity Commercial Service Airports in U.S.," there were 566 airports in the United States that handled passenger flights. If it is assumed that each airport, on average, requires 20 signs and that it takes a maintenance employee 1 hour to put each sign up, sign costs would be $158,367 and labor costs $114,558 for a grand total of $272,925. In 2007, there were 43 air carriers in the United States with gross revenues of $20 million or higher. Dividing the total costs of $272,925 by 43 carriers, results in a mean airline cost of $6,347.

It is assumed that, since reporting carriers have much larger operations, on average, than non-reporting carriers, the implementation costs for non-reporting carriers would be proportionally smaller. Websites for some carriers could be updated with a simple link that would require less than a day of an experienced computer programmer's time (at a median hourly wage in 2008 of $33.47 an hour). The average cost for non-reporting carriers is therefore assumed to be lower than for reporting carriers and is estimated at 11 percent of that for reporting carriers, reflecting the portion of passengers on non-reporting carrier flights, or $4,261.

This cost to provide information to customers is also used as a proxy to estimate the costs of implementing a customer service plan for reporting carriers and non-reporting carriers (at the same ratios as above).

Source: Estimate for website modification provided by reporting carriers to modify computer systems to provide data for additional reporting requirements per Final Rule on Airline Service Quality Performance Reports used as a proxy. This is also used as a proxy for cost to implement the customer service plan.[59]

Additional Costs to Provide a Response to all Complaints within 60 Days Which Specifically Address Individual Passenger Complaints

Variable Description: This is the incremental cost, to airlines, of providing a response to a passenger complaint within a 60 day period from which the complaint was lodged. These responses need not be resolutions to the problems raised, but rather a targeted acknowledgement of the type/purpose of the complaint. It is assumed that carriers will be able to develop response templates which will streamline this process. This cost was assumed to be equal to the additional labor cost of handling a complaint, estimated at $1.34, when compared to a standard acknowledgement that a communication was received (for example, the difference between sending a letter that the complaint regarding a baggage delay is being examined versus sending a standard response simply thanking the customer for their letter). This number was estimated by finding the hourly wage of "Office and Administrative Support Workers" in the United States (median of $13.08 per hour in 2006 dollars), inflating it to 2008 dollars ($13.60), and adding benefits of 35 percent of wages ($18.10). Assuming that a standard, targeted response to an average complaint can be sent in 6 additional minutes yields a cost of $1.85 per hour.

Source: Office and Administrative Support Worker wage data from the Bureau of Labor Statistics, 2006 Occupational Employment Survey; Benefits for national airlines were calculated based on data from Aviation Specialists Group, Inc., *Economic Values for FAA Investment and Regulatory Decisions, A Guide*, Contract No. DFTA 01-02-C00200, p. 4-4. This report was prepared for the Federal Aviations Administration's Office of Aviation Policy and Plans, U.S. Federal Aviation Administration.

[59] Reported in Draft Regulatory Evaluation on Revision of Airline Service Quality Performance Reports, U.S. Department of Transportation, Docket No. OST 2007-28522, November 2007.

Requirement Area 7

Average Travel Trip Party Size

Variable Description: This figure is the estimated average number of people per group or trip on a commercial airline flight. This variable may also be interpreted as the average number of tickets purchased per trip or transaction. The average trip party size for flight travel is estimated at 1.4.

Source: Air Transport Association of America, comments submitted on regards to the Notice of Proposed Rulemaking on Enhancing Airline Passenger Protections II, citing the Travel Industry Association of America (2007).

Average Price of Airfare

Variable Description: Estimate of average prices for domestic and international flights. A weighted average of the two estimates is calculated to arrive at an all-purpose average price of airfare.

Source: American Express Business Travel, "Travel Fares and Rates Approaching Pre-Recession Levels: American Express Business Travel Monitor Reveals Pricing Trends Across North America," December 2010.

Average Price of Airfares

	Median
Average Price of Airfare (Domestic)	$228
Average Price of Airfare (International)	$1,781

Percentage of Passengers Purchasing Airfare Online

Variable Description: Estimate of the proportion of passengers purchasing airfares on websites.

Source: Air Transport Association (ATA), comments submitted on regards to the Notice of Proposed Rulemaking on Enhancing Airline Passenger Protections II, citing ATA survey of 2008.

Proportion of Online Consumers for Flight Travel

	Median
Percentage of Passengers Who Purchase Airfare on Carrier Websites	52%

Elasticity of Air Travel Demand

Variable Description: This elasticity estimates the percentage change in demand in relation to a change in price. The elasticity is applied to current demand in response to up-front advertising of hidden fees. Since this is a *revelation in prices* rather than an increase, a low elasticity is used to represent this change. An elasticity of –0.4 is used in the analysis.

Source: International Air Transport Association, “Air Travel Demand,” 2009.

Requirement Area 9

Number of Passengers Purchasing Tour Packages

Variable Description: This figure is the estimated number of people who travel in a tour package with an air component. The estimate was derived by combining estimates of travelers on tour packages by members of two trade associations, NTA (9 million for 2009) and United States Tour Operators Association, USTOA (11 million).

Source: For NTA, telephone conversation with NTA February 4, 2011; for USTOA, Web page accessed on February 4, 2011, http://www.ustoa.com/2009/WhoWeAre.cfm.

Appendix 2: Estimates of Additional Benefits for Requirement Area 7

As noted in the discussion regarding benefits to upfront full-fare advertising (section 4.7.3), there are other potential beneficiaries in addition to those noted in the main analysis (the Full-Fare Comparison Shoppers). Some passengers may end up purchasing tickets they otherwise would not have if the first fare they had seen on the online purchase site was a full fare, instead of one that omitted some of the required taxes and fees. Several studies and experiments have demonstrated that partitioned pricing (the separating of a price into its components) can lead to increases in consumer demand.[60] Some have explicitly looked at the impact of the timing that the different pieces of pricing information are revealed in purchasing situation, which reflects the situation to be assessed here – i.e., assessing the impact of presenting consumers with a lower, incomplete price as they begin their transaction and presenting the full price only at the moment of payment. While the reasons behind this effect are not fully understood, it has been theorized that people may "anchor" onto the first price they see, make a decision to purchase based on that price, and then have difficulty letting go of that decision. Industry commenters to the rule strongly disagreed with this theoretical assumption.

One frequently cited study used a field experiment to compare purchases at grocery stores when prices were posted with and without sales tax and found that presenting price tags including taxes on the shelf (i.e., when first encountering the opportunity to select the product for purchase) led to an overall decrease in purchases by 8 percent.[61] Although not a study of how the timing of revealing pricing information impacts purchasing decisions online, the study explicitly compared (at different establishments and for different products) how presenting a price with taxes when the consumer first "reaches" for the product versus revealing taxes at check-out leads to more purchases.

Other studies have examined eBay purchases online in an attempt to assess how consumers incorporate shipping and handling fees in that online medium. Shipping and handling fees on eBay are set by the seller and vary greatly even between identical products, and some research has found that consumers are less sensitive to shipping costs than to bidding prices.[62]

If revealing full-prices later in the purchasing process leads to more purchases than if the full price had not been seen immediately, most economists interpret this effect as purchasers making

[60] Deborah Shenck' "Exploiting the Salience Boas in Designing Taxes," (*New York University Law and Economics Working Papers*, Paper 233, 2010) has an informative and extensive review of past work in this area. See also Morwitz, Vicki, Greenleaf, Eric, Shalev, Edith and Johnson, Eric J., The Price Does Not Include Additional Taxes, Fees, and Surcharges: A Review of Research on Partitioned Pricing (February 26, 2009). Available at SSRN: http://ssrn.com/abstract=1350004. Note, though that some studies have found that partitioned pricing can also lead to negative brand recognition and may hurt sales in the future, if the fees are perceived to be excessive and within the seller's ability to control. This differs somewhat from the situation here, since the separate portions of the price are taxes imposed by state, local and federal governments (as opposed to shipping fees, etc.).

[61] Raj Chety, Adam Looney and Kory Kroft, "Salience and Taxation: Theory and Evidence," *American Economic Review*, 2009.

[62] See T. Hossain and J. Morgan, "Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiments on Ebay," *Advances in Economic Analysis and Policy*, 2006, as noted in David Gamage and Darien Shanske, "On Tax Salience: Market-Salience and Political-Salience." **tax**prof.typepad.com/files/gamage-1.pdf

“sub-optimal” choices—i.e., purchasing air travel at a price higher than they otherwise would have. In such situations, there is what economists would call a “dead-weight loss” which reflects the difference between what consumers would have purchased if they had seen the full-fare from the beginning and what they did purchase. This loss is calculated using average prices, estimates of consumer sensitivity to differences in airfares, and the newly revealed fees and taxes.

The grocery store analysis noted above measured an 8 percent decline in demand when posting prices that included taxes of 7.5 percent. The analysis used here is more conservative and uses a national elasticity for air travel of -0.4 (estimated by the International Air Transport Association) together with an average ticket price of approximately $307 and the value of those fees which are newly required to be included when prices are first posted (estimated at 5 percent).[63] This methodology leads to an estimated 2 percent decline in demand, which is one fourth of the decline noted in the groceries study, while the ratio of the revealed taxes is two thirds (7.5 percent versus 5 percent). The resulting benefit is estimated to be approximately $27 million total over 10 years.

[63] Derived from data in the BTS American Travel Survey; see source notes in the Appendix for greater detail.

Table - Illustration of Benefits Estimation of Avoided Deadweight Loss

	2012	**2012-2021**
Tickets for Domestic Flights Purchased Online	177,239,752	2,439,667,765
Average Travel Trip Party Size	1.4	1.4
Purchasers of Tickets on Websites	126,599,823	1,742,619,832
Percent of That Are Full-Fare Comparison Shoppers	2%	2%
Purchasers Who Are Not Full-Fare Comparison Shoppers	124,067,827	1,707,767,435
Percentage of Purchasers Using Websites Already Presenting Full Fare	90%	90%
Purchasers Who May Benefit from Up-Front Posting of Full-Fares During Purchasing	12,406,783	170,776,744
Taxes Now Included in Full-Fare as Percent of Total Price	5%	5%
Average Price of Airfare (Domestic)	$228	$228
Average Price of Business Airfare (International)	$1,781	$1,781
Adjusted (by half) Average Price of Business Airfare (International)	$891	$891
Percentage of Passengers in U.S. Carrier Flights that are Domestic Flights	88%	88%
Weight Average Airfare for Passengers of U.S. Domestic Carriers	$307	$308
Revelation in Price ("Increase in Price")	$15	$15
National Level Elasticity for Air Travel Demand	(0.40)	(0.40)
Percentage Decrease in Demand	-2%	-2%
Change in Purchases	347,390	4,781,749
Discounted Monetized Benefits from Elimination of Dead Weight Loss	**$2,668,678**	**$27,061,521**