HOMELAND SECURITY

US-VISIT Pilot Evaluations Offer Limited Understanding of Air Exit Options
HOMELAND SECURITY

US-VISIT Pilot Evaluations Offer Limited Understanding of Air Exit Options

What GAO Did This Study

The Department of Homeland Security’s (DHS) U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT) program is to control and monitor the entry and exit of foreign visitors by storing and processing biometric and biographic information. The entry capability has operated since 2006; an exit capability is not yet implemented. In September 2008, the Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009, directed DHS to pilot air exit scenarios with the U.S. Customs and Border Protection (CBP) and airlines, and to provide a report to congressional committees. DHS conducted CBP and Transportation Security Administration (TSA) pilots and issued its evaluation report in October 2009.

Pursuant to the act, GAO reviewed the evaluation report to determine the extent to which (1) the report addressed statutory conditions and legislative directions; (2) the report aligned with the scope and approach in the evaluation plan; (3) the pilots were conducted in accordance with the evaluation plan; and (4) the evaluation plan satisfied relevant guidance. To do so, GAO compared the report to statutory conditions, the evaluation plan, and relevant guidance.

What GAO Found

The evaluation report partially addressed statutory conditions and legislative directions and expectations. Specifically, the report addressed the statutory condition for CBP to collect biometric information on exiting foreign nationals and four legislative directions and expectations for conducting the pilots. However, DHS was unable to address the statutory condition for an airline scenario because no airline was willing to participate. Also, the report did not meet a legislative expectation for gathering information on the security of information collected from visitors subject to US-VISIT. DHS officials told us that DHS did not view the expectation in the House report as a requirement. Moreover, they said that security requirements were tested prior to the pilots and there were no reported security incidents. However, DHS did not supply documentation that demonstrated the operational verification of pilot security requirements.

The evaluation report generally aligned with the scope and approach in the evaluation plan. Specifically, the objectives and operational conditions described in the evaluation report were generally consistent with the evaluation plan. However, the report did not fully align with the evaluation plan because certain metrics, observations, and costs (e.g., percentage of system downtime or inoperability, costs for requirements analysis) were not reported as planned. Also, the reported scope and approach of the pilots included limitations not defined in the plan, such as suspending exit screening at departure gates to avoid flight delays. Such divergence was due, in part, to a desire to minimize the pilot’s impact on the airports, airlines, and travelers.

The pilots were not conducted in accordance with the evaluation plan, in that they did not meet the plan’s stated purpose of operationally evaluating the air exit requirements. More specifically, about 30 percent of the requirements were not operationally tested, either as part of the pilots or as part of another exit project. Rather, they were tested, for example, prior to commencement of pilot operations or as part of another exit project that has yet to complete operational testing. DHS officials considered such testing of requirements to be sufficient.

The evaluation plan did not satisfy relevant guidance, such as defining standards for gauging the pilots’ performance, defining a comprehensive methodology for selecting airports and flights, and planning data analysis to ensure that the results of the evaluation support air exit decision making. The evaluation plan diverged from such guidelines, in part, because DHS viewed reporting on how the pilot results would be used to be outside the scope of its report.

Collectively, the above limitations in scope, approach, and reporting restrict the pilots’ ability to inform a decision for a long-term air exit solution and point to the need for DHS to leverage compensating sources of information on air exit’s operational impacts in making air exit solution decisions.
August 10, 2010

The Honorable Frank R. Lautenberg
Interim Chairman
The Honorable George Voinovich
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
United States Senate

The Honorable David E. Price
Chairman
The Honorable Harold Rogers
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
House of Representatives

Congress and the executive branch have long sought to improve the integrity and security of U.S. borders through better ways to record and track the arrival and departure of foreign travelers through U.S. air, sea, and land ports of entry (POE). Pursuant to a series of statutory mandates, the Department of Homeland Security (DHS), in coordination with the Department of State, established the U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT) program to use biometric and biographic information to control and monitor the pre-entry, entry, status, and exit of certain foreign visitors and immigrants. This program is intended to enhance the security of U.S. citizens and visitors, facilitate legitimate travel and trade, ensure the integrity of the U.S. immigration system, and protect the privacy of visitors to the United States.

Since 2006, DHS has been operating a US-VISIT entry capability at about 300 air, sea, and land POEs, and has conducted evaluations and proof-of-concept experiments to further define a US-VISIT exit capability. In April 2008, DHS announced its intention to implement biometric exit verification at air and sea POEs in a Notice of Proposed Rule Making.1 Under this notice, commercial air and sea carriers would be responsible for developing and deploying the capability to collect the biometrics from

departing travelers and transmit them to DHS. DHS received comments on
the notice and has yet to publish a final rule. Subsequent to the rule
making notice, on September 30, 2008, the Consolidated Security, Disaster
Assistance, and Continuing Appropriations Act, 2009, was enacted, which
directed DHS to test two scenarios for an air exit solution.  The legislative
history also provided accompanying direction to DHS in carrying out the
pilot tests of the air exit solution. The act also required DHS to submit a
report on the pilot tests and required that we review this report.

The act prohibits DHS from obligating any US-VISIT funds provided in the
act for the implementation of an air exit solution until the department
provided a report to the Senate and House Committees on Appropriations
on pilot tests for the solution that addressed the two scenarios: U.S.
Customs and Border Protection (CBP) collects biometric exit data at
airport departure gates; and airlines collect and transmit such data.

The explanatory statement  that accompanied the act, and the House
Report  incorporated by reference into the explanatory statement,
provided further legislative direction for the conduct of the pilots. DHS
issued its Air Exit Pilots Evaluation Plan in May 2009 and operated two air
exit pilots from May 2009 until July 2009. DHS submitted its Air Exit Pilots
Evaluation Report to the House and Senate Appropriations
Subcommittees on Homeland Security in October 2009. According to the
US-VISIT Acting Deputy Program Director and agency documentation, the
pilot results are one of several sources of information that are to be used
to inform its decision about a long-term air exit capability.

Pursuant to the act’s requirement that we review DHS’s US-VISIT pilot
evaluation report, we determined the extent to which (1) the evaluation
report addresses statutory conditions and legislative directions; (2) the
evaluation report aligns with the scope and approach in the evaluation
plan; (3) the pilots were conducted in accordance with the evaluation plan;

---


30, 2008), Section 4 of Pub. L. No. 110-329 provides that the explanatory statement shall
have the same effect with respect to the allocation of funds and the implementation of the
act as if it were a joint explanatory statement of a committee of conference.

and (4) the evaluation plan satisfies relevant guidance. To accomplish our objectives, we compared (1) the evaluation report to applicable statutory conditions and legislative directions specified in the DHS fiscal year 2009 appropriations act and the accompanying explanatory statement and House report; (2) the evaluation's reported objectives, scope, approach, and limitations with those found in the pilots' plan (including its evaluation framework\(^5\)); (3) planned evaluations and tests with pilot execution documentation, including business and system requirement test results; and (4) the evaluation plan to relevant guidance for evaluation planning that we had previously identified during reviews of federal pilot projects.\(^6\)

On June 10, 2010, we briefed your staffs on the results of our review. This report summarizes and transmits the presentation slides we used to brief the staff, which included a recommendation to the Secretary of Homeland Security. The full briefing materials, including details on our scope and methodology, are reprinted as appendix I.\(^7\)

We conducted this performance audit at US-VISIT program offices in Arlington, Virginia, from November 2009 to August 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

### Results in Brief

The two US-VISIT Air Exit Pilots that DHS planned, executed, and reported to the House and Senate Appropriations Committees were

\(^5\)The Air Exit Pilots' evaluation framework consisted of metrics, observations, and cost elements; associated data sources; and other data collection specifications.


\(^7\)The briefing in appendix I contains a minor change from the version provided to the committees on June 10, 2010, to recognize that TSA collected data from certain passengers ages 14 to 18.
limited in the information that they contributed toward the department’s understanding of an air exit solution’s operational impacts. Specifically,

- The evaluation report addressed one statutory requirement for a CBP scenario to collect biometric information on exiting foreign nationals, and four of the legislative directions and expectations for conducting the pilots. However, DHS was unable to address the statutory requirement for an airline scenario because no airline was willing to participate. Also, the report did not meet a legislative expectation for gathering information on the security of information collected from visitors subject to US-VISIT during the pilots. DHS officials told us that DHS did not view the expectation of the House report as a requirement. Moreover, they said security requirements were tested prior to the pilots and there were no reported security incidents. However, DHS did not supply documentation that demonstrated the operational verification of pilot security requirements. 8

- The objectives and operational conditions described in the evaluation report were generally consistent with the evaluation plan. However, the report did not fully align with the evaluation plan because certain metrics, observations, and costs (e.g., percentage of system downtime or inoperability, costs for requirements analysis) were not reported as planned. Also, the reported scope and approach of the pilots included limitations not defined in the plan, such as suspending exit screening at departure gates to avoid flight delays. Such divergence was due, in part, to a desire to minimize the pilots’ impact on airports, airlines, and travelers.

- The pilots were not conducted in accordance with the evaluation plan’s stated purpose of operationally evaluating the air exit requirements. More specifically, about 30 percent of the requirements were not operationally tested, either as part of the pilots or as part of another exit project. Rather, they were tested, for example, prior to commencement of pilot operations or as part of another exit project that has yet to complete operational testing. DHS officials considered such testing of requirements to be sufficient.

- The evaluation plan did not implement relevant pilot project guidance, such as defining standards for gauging the pilots’ performance, defining a comprehensive methodology for selecting airports and flights, and

---

8This summary clarifies our findings for the first objective by using “evaluation report” and “report” in place of “pilots,” the term used in the corresponding paragraph of the briefing in appendix I.
planning data analysis to ensure that the results of the evaluation support air exit decision making. The pilots’ evaluation plan diverged from such guidelines, in part, because DHS viewed reporting on how the pilot results would be used to be outside the scope of its report.

Collectively, these limitations in the pilots’ scope, approach, and reporting restrict the pilots’ ability to inform a decision for a long-term air exit solution and highlight the need for compensating sources of information on air exit’s operational impacts.

DHS has long been challenged in its ability to deliver the exit portion of US-VISIT and thereby have a biometrically-based capability for knowing the status of foreign nationals who have entered the country. To help address these challenges, Congress directed DHS to conduct two pilot tests so that the department might gain a better understanding of the operational impact of implementing different exit solutions at air ports of entry. However, the degree to which the results of these pilots can inform DHS’s future decisions was limited because the department was unable to test one scenario and did not meet a congressional expectation. Further, it was limited in the extent to which it followed defined pilot plans and reported all expected results in the evaluation report. Moreover, the scope and approach defined in the plans that governed the pilots’ execution were also limited by conditions disclosed in the plan and the report, as well as by the extent and timing of requirements testing. DHS officials attributed key limitations to schedule constraints and decisions to intentionally limit the pilots’ scope and impacts on travelers, air carriers, and airports. However, the collective result is that the pilots cannot alone adequately inform future DHS decisions on an exit solution for air ports of entry. If these limitations in the pilots are not otherwise compensated with other information sources on operational impacts of implementing an air exit solution, such as comments on the Notice of Proposed Rule Making, then the department will continue to be challenged in its ability to deliver US-VISIT exit capabilities in airports.

To the extent that the limitations in the Air Exit Pilots are not addressed through other information sources, we recommend that the Secretary of Homeland Security direct the Under Secretary for National Protection and Programs to have the US-VISIT Program Director identify additional sources for the operational impacts of air exit not addressed in the pilots’
In written comments on a draft of this report, signed by the Director, Departmental GAO/OIG Liaison Office and reprinted in appendix II, DHS concurred with our recommendation and clarified its statements regarding a congressional report expectation. DHS also provided technical comments and suggested corrections, which we have incorporated into the report as appropriate.

We are sending copies of this report to the Secretary of Homeland Security, appropriate congressional committees, and other interested parties. In addition, the report is available at no charge on the GAO Web site at http://www.gao.gov.

Should you or your staffs have questions on matters discussed in this report, please contact me at (202) 512-3439 or hiter@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff that made major contributions to this report are listed in appendix III.

Randolph C. Hite
Director, Information Technology Architecture and System Issues
Appendix I: Briefing to Staff of Congressional Committees


Briefing for staff members of the
Subcommittees on Homeland Security
Senate and House Committees on Appropriations

June 10, 2010*

* Slides 31, 64, 67 and 69 of this briefing were amended after the date it was provided to the committees to make a technical correction to reflect updated information.
Appendix I: Briefing to Staff of Congressional Committees

Briefing Overview

Introduction
Objectives
Results in Brief
Background
Results
  • Objective 1
  • Objective 2
  • Objective 3
  • Objective 4
Conclusions
Recommendation for Executive Action
Agency Comments and Our Evaluation
Appendix I: Briefing to Staff of Congressional Committees

Briefing Overview

Attachment 1: Objectives, Scope, and Methodology
Attachment 2: Detailed US-VISIT Processes and Systems
Attachment 3: Detailed Description of Air Exit Pilots
Attachment 4: Limitations in Pilot Data Collection
Introduction

Congress and the executive branch have long sought to improve the integrity and security of U.S. borders through better ways to record and track the arrival and departure of foreign travelers through U.S. air, sea, and land ports of entry (POE).

Pursuant to a series of statutory mandates, the Department of Homeland Security (DHS), in coordination with the Department of State, established the U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT) program to use biometric and biographic information to control and monitor the pre-entry, entry, status, and exit of certain foreign visitors and immigrants. This program is intended to:

- enhance the security of U.S. citizens and visitors,
- facilitate legitimate travel and trade,
- ensure the integrity of the U.S. immigration system, and
- protect the privacy of visitors to the United States.
Introduction

Since 2006, DHS has been operating a US-VISIT entry capability at about 300 air, sea, and land POEs, and has conducted evaluations and proof-of-concept experiments to further define a US-VISIT exit capability.

In April 2008, DHS announced its intention to implement biometric exit verification at air and sea POEs in a Notice of Proposed Rule Making.\(^1\) Under this notice, commercial air and sea carriers would be responsible for developing and deploying the capability to collect the biometrics from departing travelers and transmit them to DHS. DHS received comments on the notice and has yet to publish a final rule.

Subsequent to the rule making notice, on September 30, 2008, the Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009, was enacted, which directed DHS to test two scenarios for an air exit solution.\(^2\) The legislative history also provided accompanying direction to DHS in carrying out the pilot tests of the air exit solution. The act also required DHS to submit a report on the pilot tests and required that we review this report.

---

Introduction

The act prohibits DHS from obligating any US-VISIT funds provided in the act for the implementation of an air exit solution until the department provided a report to the Senate and House Committees on Appropriations on pilot tests for the solution that addressed the two scenarios:

- U.S. Customs and Border Protection (CBP) collects biometric exit data at airport departure gates; and
- airlines collect and transmit such data.

The explanatory statement\(^3\) that accompanied the act, and the House Report\(^4\) incorporated by reference into the explanatory statement, provided further legislative direction for the conduct of the pilots.

---


DHS issued its Air Exit Pilots Evaluation Plan in May 2009 and operated two air exit pilots from May 28, 2009, until July 2, 2009. DHS submitted its Air Exit Pilots Evaluation Report to the House and Senate Appropriations Subcommittees on Homeland Security on October 26, 2009. According to the US-VISIT Acting Deputy Program Director and agency documentation, the pilot results are one of several sources of information that are to be used to inform its decision about a long-term air exit capability.
Appendix I: Briefing to Staff of Congressional Committees

Objectives

As agreed, our objectives were to determine the extent to which (1) the evaluation report addresses the statutory condition and legislative directions; (2) the evaluation report aligns with the scope and approach in the evaluation plan; (3) the pilots were conducted in accordance with the evaluation plan; and (4) the evaluation plan satisfies relevant guidance.

To accomplish our objectives, we compared (1) the evaluation report to applicable statutory conditions and legislative directions specified in the DHS fiscal year 2009 appropriations act and the accompanying explanatory statement and House report; (2) the evaluation’s reported objectives, scope, approach, and limitations with those found in the pilots’ plan (including its evaluation framework); (3) planned evaluations and tests with pilot execution documentation, including business and system requirement test results; and (4) the evaluation plan to relevant guidance for evaluation planning that we had previously identified during reviews of federal pilot projects. Details of our scope and methodology are described in attachment 1.

---

5 The Air Exit Pilots’ evaluation framework consisted of metrics, observations, and cost elements; associated data sources; and other data collection specifications.
Objectives

We conducted this performance audit at US-VISIT program offices in Arlington, Virginia, from November 2009 to June 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.
Appendix I: Briefing to Staff of Congressional Committees

Results in Brief

The two US-VISIT Air Exit Pilots that DHS planned, executed, and reported to the House and Senate Appropriations Committees were limited in the information that they contributed toward the department’s understanding of an air exit solution’s operational impacts. Specifically,

- The pilots addressed one statutory requirement for a CBP scenario to collect information on exiting foreign nationals, and four of the legislative directions and expectations for conducting the pilots. However, DHS was unable to address the statutory requirement for an airline scenario because no airline was willing to participate. Also, the pilots did not meet a legislative expectation for gathering information on the security of information collected from visitors subject to US-VISIT during the pilots.

- The objectives and operational conditions described in the evaluation report were generally consistent with the evaluation plan. However, the report did not fully align with the evaluation plan because certain metrics, observations, and costs (e.g., percentage of system downtime or inoperability, costs for requirements analysis) were not reported as planned. Also, the reported scope and approach of the pilots included limitations not defined in the plan, such as suspending exit screening at departure gates to avoid flight delays. Such divergence was due, in part, to a desire to minimize the pilots’ impact on airports, airlines, and travelers.
Results in Brief

- The pilots were not conducted in accordance with the evaluation plan’s stated purpose of operationally evaluating the air exit requirements. More specifically, about 30 percent of the requirements were not operationally tested, either as part of the pilots or as part of another exit project. Rather, they were tested, for example, prior to commencement of pilot operations or as part of another exit project that has yet to complete operational testing. DHS officials considered such testing of requirements to be sufficient.

- The evaluation plan did not implement relevant pilot project guidance, such as defining standards for gauging the Air Exit Pilots’ performance, defining a comprehensive methodology for selecting airports and flights, and planning data analysis to ensure that the results of the evaluation support air exit decision making. The Air Exit Pilots’ evaluation plan diverged from such guidelines, in part, because DHS viewed the use of pilot results to be outside the scope of its report.
Collectively, these limitations curtail the pilots’ ability to inform a decision for a long-term air exit solution and point to the need for compensating sources of information on air exit’s operational impacts.

Accordingly, we are making a recommendation to the Secretary of Homeland Security aimed at identifying and leveraging other sources of information, such as comments from the Notice of Proposed Rule Making, to better inform a strategic air exit solution decision.

In oral comments on a draft of this briefing, DHS officials agreed with our recommendation, but did not agree with our point that the evaluation report omitted a number of planned evaluation metrics and observations. In this regard, the officials cited information in the report and provided oral explanations for some, but not all, of these omissions to counter our position that the metrics and observations, as defined in the evaluation plan, were missing from the report. While we acknowledge that most of the citations and explanations provide information that was related to the missing metric or observation, in no instance was this information sufficient to satisfy the planned metric or observation. To clarify the basis for our finding about these results, we have added an example to the briefing that describes how the citations and explanations that were provided by DHS officials fall short of actually reporting results as planned.
DHS officials also provided a range of other comments, including providing additional information about the testing of the air exit requirements that were applicable to the pilots and emphasizing that the scope of the pilots was intentionally limited in order to respond to the timeframes specified in legislative direction. We have incorporated these comments into the briefing, as appropriate.
Appendix I: Briefing to Staff of Congressional Committees

Background
US-VISIT Purpose and Goals

The purpose of US-VISIT is to provide biometric (e.g., fingerprint) identification—through the collection, maintenance, and sharing of biometric and selected biographic data—to authorized DHS and other federal agencies. In this regard, US-VISIT supports a series of homeland security-related mission processes that cover hundreds of millions of foreign national travelers who enter and leave the United States at about 300 air, sea, and land POEs.¹ An overview of these five processes is depicted in figure 1; the processes are described in attachment 2.

¹US-VISIT currently applies to a certain group of foreign nationals—nonimmigrants from countries whose residents are required to obtain nonimmigrant visas before entering the United States and residents of certain countries who are exempt from U.S. visa requirements when they apply for admission to the United States for up to 90 days for tourism or business purposes under the Visa Waiver Program. US-VISIT also applies to (1) lawful permanent residents; (2) Mexican nonimmigrants traveling with a Border Crossing Card, who wish to remain in the United States longer than 30 days, or who declare that they intend to travel more than 25 miles into the country from the border; and (3) Canadians traveling to the United States for certain specialized reasons. See 8 C.F.R. § 235.1(f).
Background
US-VISIT Purpose and Goals

Figure 1: Mission Processes Supported by US-VISIT

The US-VISIT program’s goals\(^6\) are to (1) enhance the security of U.S. citizens and visitors, (2) facilitate legitimate travel and trade, (3) ensure the integrity of the U.S. immigration system, and (4) protect the privacy of visitors. The program is to achieve these goals by

- collecting, maintaining, and sharing information on certain foreign nationals who enter and exit the United States;

\(^6\)US-VISIT program documentation now refers to these as “principles.”
Background
US-VISIT Purpose and Goals

- identifying foreign nationals who (1) have overstayed or violated the terms of their visit; (2) can receive, extend, or adjust their immigration status; or (3) should be apprehended or detained by law enforcement officials;

- detecting fraudulent travel documents, verifying visitor identity, and determining visitor admissibility through the use of biometrics (digital fingerprints and a digital photograph); and

- facilitating information sharing and coordination within the immigration and border management community.
Background
Prior DHS Efforts to Evaluate Exit Solutions

Since 2004, DHS has evaluated options for recording the exit of travelers in the air, sea, and land environments by means of several initiatives.

- **January 2004 to May 2007.** DHS operated biometric exit pilots at 14 U.S. air and sea POEs to evaluate three technology solutions: self-service kiosk, mobile device, and a combination of the two. The pilots established the technical feasibility of a biometric exit solution at air and sea POEs and identified issues that limited the operational effectiveness of the solution (e.g., low traveler compliance rates).

- **August 2005 to November 2006.** DHS operated land entry/exit proof-of-concept demonstrations at five ports of entry to examine the feasibility of using passive radio frequency identification (RFID) technology\(^9\) for recording travelers’ entry and exit via RFID tags embedded in the Form I-94 and to provide CBP officers in pedestrian lanes with biographic, biometric, and watch list data. The demonstrations showed that RFID technology was too immature to meet the requirements of a land exit solution.

---

\(^9\)Radio frequency technology relies on proximity cards and card readers. Radio frequency devices read the information contained on the card when the card is passed near the device. The information can contain personal identification of the cardholder.
The Air Exit Pilots are one component of a larger US-VISIT project known as Comprehensive Exit, which is to, in part, plan, develop, and deploy an air and sea exit capability.\(^{10}\)

According to DHS, the purpose of the Air Exit Pilots was to evaluate the impact on airport exit operations of identifying, verifying, and collecting information from passengers who were subject to US-VISIT and leaving the United States.

To accomplish this, the pilots were to

- evaluate identity verification and exit-recording capabilities when used with existing POE operations and infrastructure;
- biometrically and biographically verify the identity of in-scope travelers departing the United States at the pilot locations; and
- record the exit of, and update the IDENT and Arrival and Departure Information System (ADIS) records for, each subject traveler.

---

\(^{10}\)Other Comprehensive Exit projects include modification of IDENT to collect, validate, and store biometric and biographic data for travelers exiting the United States; enhancement of IDENT’s reporting capabilities to support the analysis and evaluation of the Air Exit Pilot results; and recording the departure of certain temporary agricultural and nonagricultural workers at two Arizona land POEs.
Background
Overview of Air Exit Pilots

DHS conducted two pilots from May 2009 until July 2009:

- a CBP pilot at Detroit Metropolitan Wayne County Airport and
- a Transportation Security Administration (TSA) pilot at Hartsfield-Jackson Atlanta International Airport.

The pilots utilized two types of portable biometric collection devices, as described in table 1. For a detailed description of the pilots, see attachment 3.

<table>
<thead>
<tr>
<th>Type of Device</th>
<th>Description</th>
<th>Pilot Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>Hand-held device that scanned information on travel documents and collected biometrics one fingerprint at a time</td>
<td>Detroit, Atlanta*</td>
</tr>
<tr>
<td>Portable</td>
<td>Small suitcase that contained a laptop computer, document scanning device, and a biometric scanner that collected a four-print slap</td>
<td>Detroit</td>
</tr>
</tbody>
</table>

Source: DHS.

*According to a TSA operations official, only the mobile device was used in Atlanta because of the limited space available within the checkpoint area.
According to US-VISIT officials and the Air Exit Pilots documents, pilot results were to be one of several sources of information to inform rule making and decisions for a long-term air and sea exit capability. In this regard, the US-VISIT director also stated that the scope of the pilots was intentionally limited in order to respond to the timeframes specified in legislative direction.
Appendix I: Briefing to Staff of Congressional Committees

Background

Over the past several years, we have identified a range of broad management challenges and issues associated with DHS’s prior efforts to develop and deploy an air exit solution.

- In August 2007,\(^{11}\) we reported that US-VISIT had not developed a complete schedule for biometric exit implementation.

- In February 2008,\(^ {12}\) we reported that the Comprehensive Exit project had not been adequately defined, citing a lack of analytical basis for high-level project milestones.

- In September 2008,\(^ {13}\) we reported that DHS was unlikely to meet its timeline for implementing an air exit system with biometric indicators, such as fingerprints, by July 1, 2009, due to several unresolved issues, such as opposition to the department’s published plan by the airline industry.

---


Appendix I: Briefing to Staff of Congressional Committees

Background

GAO Reports on Prior US-VISIT Exit Efforts

- In December 2008,\textsuperscript{14} we reported that DHS still had not developed a schedule for the full implementation of a comprehensive exit solution.

- Most recently, in November 2009,\textsuperscript{15} we reported that DHS had not developed a master schedule for Comprehensive Exit that was integrated or derived in accordance with relevant guidance.

In each of these reports, we made recommendations to ensure that US-VISIT exit was planned, designed, developed, and implemented in an effective and efficient manner. DHS generally agreed with our recommendations.


Objective 1 - Results

Evaluation Report Satisfied Most, but Not All, Statutory Conditions and Legislative Directions and Expectations

The act required the department to provide a report to the Committees on Appropriations that addressed a test of two scenarios, in which: (1) CBP collects biometric exit data at airport departure gates; and (2) airlines collect and transmit such data. To DHS’s credit, its evaluation report addresses the results of the first scenario. However, the report does not provide results for the second scenario. As the report states, and the US-Visit Program Director and airline officials confirmed, no airlines agreed to participate in the pilots, thus precluding DHS from testing the second scenario.

In lieu of this second scenario, DHS pilot tested a third scenario in which TSA collected biometric exit data at a security checkpoint. According to the pilots’ evaluation report, this scenario was added because it had already been examined as an exit alternative in the Notice of Proposed Rule Making and because TSA was part of the traveler departure process.

Notwithstanding the addition of this third scenario, because DHS was unable to test a scenario where airlines collect and transmit traveler biometric data, the department’s understanding of the impact of this previously-proposed air exit solution is limited.
Objective 1 - Results
Satisfaction of Legislative Directions and Expectations

The explanatory statement and House report that accompanied the act provided six legislative directions and expectations for the conduct of the pilots. In summary, the evaluation report met four and partially met one of these directions and expectations, and did not meet the remaining one (see table 2).

Table 2: Air Exit Pilots’ Satisfaction of Legislative Directions and Expectations

<table>
<thead>
<tr>
<th>Legislative Directions and Expectations</th>
<th>Met</th>
<th>Partially Met</th>
<th>Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pilots shall be completed not later than January 31, 2009</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The pilots should be conducted over a time period of not less than 30 days</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The pilots are expected to gather</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- workload information,</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- cost data,</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- information on the impact on passenger processing time, and</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- data related to the quality and security of traveler information collected</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: GAO analysis of DHS data.

Notes: “Met” means that DHS fully satisfied the direction or expectation. “Partially met” means that DHS satisfied some, but not all, aspects of the direction or expectation. “Not met” means that DHS did not satisfy any aspect of the direction or expectation. Our assessment of the data gathered by the pilots was based on whether the evaluation report presented metrics or observations related to each information category.
Objective 1 - Results
Satisfaction of Legislative Directions and Expectations

More specifically, the pilots operated for a period of 36 days (longer than the minimum legislatively-directed duration) and while in operation, collected most of the types of data. The evaluation report presented

- workload information, such as average wait times for the pilots and total field collector and non-field support staff hours needed to operate the pilots;
- cost data, such as pre-deployment costs, operational support costs, and CBP and TSA labor and expenses;
- information on the impact of passenger processing time, such as comparing pilot to baseline wait and processing times for both CBP and TSA; and
- data on the quality of traveler information collected, such as fingerprint quality scores.

However, the pilots were completed on July 2, 2009, about 5 months after the deadline. The Air Exit Pilots project manager told us that the January 31, 2009, deadline, which allowed US-VISIT 4 months to complete the pilots, was not enough time for the pilots to be executed in accordance with the US-VISIT life cycle methodology.

---

This date was included in the explanatory statement that accompanied the Department of Homeland Security Appropriations Act, 2009, which was enacted on September 30, 2008.
Further, while the House report expected the pilots to gather data related to the security of traveler information collected, the evaluation report only stated that all pilot-specific security requirements were fully met and did not present any data on the security of the information collected during pilot operations. According to the US-VISIT director, DHS was not required to fulfill the expectations of the House report. The US-VISIT Privacy Officer told us that security requirements were tested prior to the pilots and that there were no reported security incidents. However, we have yet to receive any documentation demonstrating the operational verification of security requirements. As a result, DHS’s understanding of the effectiveness and impact of operational security controls on air exit processing is limited.
Objective 2 - Results

Pilot Evaluation Report Was Aligned with Key Aspects of the Evaluation Plan, but Important Differences Highlight Pilot Limitations

The evaluation plan defined the pilots’ scope, approach, objectives, and conditions and defined an evaluation framework that included quantitative metrics, qualitative observations, and cost elements for which results were expected to be gathered during the pilots.

To DHS’s credit, the pilots’ three objectives17 were consistently described in the plan and report. Further, the operational conditions (e.g., airport locations, passenger screening locations, biometric collection devices, and duration of the pilots) described in the plan and report were generally consistent. In addition, the majority of metrics, observations, and cost elements that the plan defined for data collection and reporting were addressed in the report. Specifically, 79 percent of the metrics, 79 percent of the observations, and 71 percent of the cost elements defined in the plan were represented in the evaluation report.

---

17The pilots were to (1) evaluate identity verification and exit-recording capabilities when used with existing POE operations and infrastructure; (2) biometrically and biographically verify the identity of in-scope travelers departing the United States at the pilot locations; and (3) record the exit of, and update the IDENT and ADIS records for, each subject traveler.
Nevertheless, the planned metrics, observations, and cost elements that were omitted from the report were significant in that each offered potential insights into the operational impact of the air exit solution options. Examples of these missing evaluation results include:

- percentage of system downtime or inoperability,
- time needed to address device problems,
- cost for requirements analysis,
- cost for development of IDENT and ADIS reports,
- time needed to instruct travelers,
- effectiveness of airport signs,
- depth and clarity of collector training sessions, and
- percentage of collectors trained during the pilot.
The report did not explain why these cost elements, metrics, and observations were not captured and reported as planned, other than to state that planned metrics were revised due to operational constraints or unavailable data. DHS officials attributed certain differences between planned and reported metrics and observations to errors in the evaluation framework. They also explained that certain cost elements were not reported as planned because they were too small to identify or applied to items that were not procured as planned.

For some, but not all, of the missing metrics and observations, DHS officials provided citations in the report and oral explanations that they viewed as addressing the omissions. However, in each case the information provided did not satisfy the planned metric or observation. For example, regarding the metric “percentage of collectors trained during the pilots,” a DHS official referred us to the reported results for a different metric in the plan entitled “percentage of collectors trained prior to the pilots” and stated that because this latter metric was reported and because they knew that 100 percent of officers were trained prior to operating any pilot devices, then the omitted metric could be derived.
However, the oral information needed to derive the metric was, nevertheless, not verifiable and the derivation could not be arrived at based on the information in the report. Moreover, the oral explanation conflicted with a statement in the report that CBP and TSA each had an officer who performed biometric processing without completing a formal training class.

These omissions limit the ability of the reported results of the pilots to fully inform DHS’s understanding of the operational impacts and costs of implementing an air exit solution.
In addition to specifying aspects of the pilots’ scope and approach, the evaluation plan also identified a variety of associated limitations that were expected to affect the execution and results of the pilots, and these limitations were reiterated in the evaluation report. For example, both documents disclosed that the pilots were not intended to fully assess existing systems or biometric devices.

However, the report also identified scope and approach limitations that were not specified in the plan. For example, TSA did not

- collect identification from all in-scope travelers ages 14 to 18,\(^\text{18}\)
- collect flight information from in-scope travelers, or
- perform biometric collection during the main security checkpoint’s peak period.

---

\(^{18}\)The evaluation report stated that visibility into the US-VISIT traveler status of travelers ages 14 to 18 was limited because of conflicting TSA and US-VISIT policies. According to a TSA official, data were collected on these travelers only when they were with in-scope adults.
Objective 2 - Results
Reported Limitations Were Not Specified in Evaluation Plans

Additionally, TSA and CBP suspended exit processing to address situations that could have negatively impacted travelers or flights. See attachment 4 for greater detail on these and other reported limitations.

While the report appropriately disclosed these additional limitations, it did not address their operational impacts. Moreover, it shows that the pilot was even more limited than planned. For example, the report did not

- describe the operational impacts or costs to TSA operations associated with a recognized need for automated collection of flight information from in-scope travelers at TSA security checkpoints;

- discuss the implications of the project’s decisions to abort biometric data collection when potential airline and passenger delays became apparent or its conclusion that the pilots had “no conclusive impact on flight delays, delay durations, boarding times or number of passengers who missed flights;”

- explain how the implied deficiencies in IDENT and ADIS matching and overstay identification capabilities affected reported matching and overstay pilot results; and
Objective 2 - Results
Reported Limitations Were Not Specified in Evaluation Plans

- explain how the reported percentages of biometrically-processed travelers or total flow times would be affected if TSA and CBP had selected other screening periods, including periods during peak operations.

According to the evaluation report, some of the additional limitations were the result of DHS’s desire to minimize the impact of the pilots on airlines, airports, and travelers. The Air Exit Pilots project manager stated that the impact of these decisions on the evaluation results was not addressed in the report because the pilots were to only document discovered limitations, not to extrapolate data based on them.

Collectively, the limitations cited in the plan and report restrict the pilots’ ability to fully inform DHS’s understanding of the operational impact of implementing an air exit solution.
Objective 3 - Results

Pilots Were Not Conducted in Accordance With Key Aspect of the Evaluation Plan

A key aspect of the pilots’ scope, as defined in the evaluation plan, was that 7 metrics\(^{19}\) to be analyzed during the pilots were linked to 99 air exit business requirements\(^{20}\) (i.e., operational requirements). Of the 99 requirements, the project office designated 84 as being applicable to the pilots.

DHS tested 54 of the 84 requirements in the pilots’ operational settings as part of operational readiness testing (41 requirements) or in conjunction with the deployment of a US-VISIT exit-related reporting capability (13 requirements). However, 25 requirements that were applicable to the pilots were not tested in the operational setting associated with the pilots, as provided for in the plan (6 security requirements and 19 requirements assigned to another exit project). Testing for the remaining 5 requirements was either not performed (1 requirement) or DHS reported successful testing but has yet to provide documentation to reflect this (4 requirements).

\(^{19}\)These metrics corresponded to the business requirement categories of data capture, transmission, data linkage, search and match, reporting, interoperability, and non-technical.

\(^{20}\)One of the business requirements applied only to the CBP pilot—that the air exit solution shall operate with existing CBP policies, processes, and systems.
Objective 3 - Results
Pilots Deviated From Key Aspect of Evaluation Plan

As a result, the impact of 26 requirements on pilot operations and pilot results was neither evaluated nor reported. The testing status of these 84 in-scope requirements is summarized in table 3 and described in greater detail following the table.

Table 3: In-scope Requirements Testing Status

<table>
<thead>
<tr>
<th>Designated test environment</th>
<th>Operationally tested</th>
<th>Not operationally tested</th>
<th>Not tested</th>
<th>No documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested with pilots</td>
<td>41</td>
<td>6</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Tested with other projects</td>
<td>13</td>
<td>19</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total requirements</td>
<td>54</td>
<td>25</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: GAO analysis of DHS data.

Six security requirements were not part of the pilots’ final operational readiness test. Rather, these six were tested several weeks prior to the final operational readiness test as part of security testing, which was not performed in the pilots’ operational environment. As a result, the legislative expectation to gather information on the security of traveler data, as discussed earlier, was not met.
Objective 3 - Results

Pilots Deviated From Key Aspect of Evaluation Plan

For 32 requirements, testing was conducted in conjunction with other exit projects related to exit record processing and reporting. According to air exit project officials, since the capabilities associated with these requirements were delivered by projects other than the pilots, they relied on the testing results from those projects as verification of the requirement. However, while one of these two projects was operationally tested, we have previously reported\(^\text{21}\) that the processing capability associated with the other project has yet to be deployed and will not be completely tested until data from US-VISIT’s long-term air/sea exit solution are available. Further, program officials also previously told us that this processing capability was not used by the pilots because the required technology infrastructure was not in place at the pilot locations. As a result, 19 of the 32 pilot-related requirements that were tested as part of other projects were not operationally tested.

Four additional requirements were reportedly tested, but we have yet to receive verifiable test results to confirm this. Further, the project office has acknowledged that one additional requirement was not part of any phase of the pilot testing process.\(^\text{22}\)

\(^{21}\)GAO-10-13.

\(^{22}\)This operational requirement is to be able to generate a report on attempts of unauthorized access or requests of US-VISIT systems or data. According to the program office, this requirement was not tested because the pilot was scoped to only allow certain individuals to log into the system. In our view, this does not alleviate the need to test whether persons other than those allowed attempted to access the systems or data.
Objective 3 - Results
Pilots Deviated From Key Aspect of Evaluation Plan

Collectively, this means that about 30 percent of in-scope requirements were not operationally tested. The Air Exit Pilots project manager told us that given that the focus of the pilots’ operational evaluation was the impact of air exit on agency operations and traveler processing, the testing that was performed to demonstrate satisfaction of the 7 metrics and applicable requirements was considered sufficient. Nevertheless, the evaluation report states that 100 percent of the operational requirements that were relevant to the pilots were met. It does not disclose the number of requirements that were not tested in the pilots’ operational setting, and it does not cite the associated limitations of not doing so.

In light of these requirements that were not operationally tested, the extent to which the pilots provide a full understanding of DHS’s air exit operational impact is diminished.
Objective 4 - Results

Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance

As we have previously reported,²³ a key to effectively conducting pilot projects is having a well-defined evaluation plan. Among other things, such a plan should

- define performance standards,
- describe a comprehensive methodology for conducting the pilot, and
- specify required data analysis.

The Air Exit Pilots’ evaluation plan, which was intended to direct the evaluation of all aspects of the pilots, did not satisfy these key aspects of relevant guidance. Supporting project documents also did not fully address these key aspects. Specifically, they did not define standards against which pilot performance could be assessed; describe the basis for selecting airports and flights; or specify the analysis needed to determine pilot effectiveness and inform decision making. The air exit project manager stated that, in general, DHS used the air exit Notice of Proposed Rule Making,²⁴ congressional direction, and US-VISIT’s project life cycle methodology for guidance in planning the evaluation.

---

²³GAO-09-45 and GAO-10-43.
Objective 4 - Results
Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance

*Performance standards.* Although the air exit requirements discussed earlier included performance requirements—such as the requirement to transmit traveler data within 24 hours—these requirements were not specified in the evaluation plan as standards against which to gauge pilot performance. Moreover, certain planned metrics that could have provided performance standards by measuring baseline operational data (e.g., pre-pilot average boarding time) were not identified as bases for determining whether the pilots met operational needs. The evaluation report did cite one performance standard that was not met (TSA’s service goal to check documents within 10 seconds), but this standard was not defined as an air exit pilots requirement.

DHS officials said that they did not include performance standards in their evaluation planning because they expected to use the pilot results to set new performance standards. However, they acknowledged that the report should have discussed how well the pilot met existing performance requirements, such as the 24 hour data transmission requirement.

By not clearly defining performance standards in the pilots’ evaluation plan, the pilots were limited in the extent to which they could definitively determine the operational impacts and results of each air exit scenario.
Objective 4 - Results

Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance

Comprehensive methodology. The evaluation plan and supporting documents did not explain key aspects of the methodology for conducting the pilots. Specifically, the methodology for selecting pilot airports and flights from their respective populations was not adequately defined.

According to a DHS official, TSA and CBP were each allowed to select a pilot airport from the 12 airports listed in the Notice of Proposed Rule Making.\textsuperscript{25} To select the specific airport, CBP and TSA considered such factors as airport size and flight destinations (a mix of international and domestic flights). However, the initial constraint of 12 airports was not documented in the evaluation plan, and neither agency fully documented the selection factors or criteria to be used in making their eventual airport choice, as described below.

Objective 4 - Results
Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance

- A TSA official told us that TSA sought to pilot an airport from the Notice of Proposed Rule Making list with a medium-size checkpoint (5-10 lanes), a strong mix of domestic and international air carriers (90:10 ratio), and at least one U.S. and one international carrier. However, TSA then used the number of airport security checkpoints as a basis for changing its airport selection from Chicago to Atlanta. Moreover, this basis for selection is contradicted by information in the evaluation report, which stated that Atlanta had three checkpoints, and that 32 percent of travelers originating in Atlanta went through alternate checkpoints and thus were not processed by the pilot.

- CBP documented two factors as the basis for airport selection, namely carrier diversity and inbound-outbound scheduling flexibility. However, the agency did not document how it would apply these factors for each airport or how airports would be selected or eliminated based on these factors.

TSA told us that Atlanta was selected because it had a single security checkpoint for international travelers, resulting in a 100 percent probability of capturing exit data from travelers subject to US-VISIT who originated in Atlanta. In contrast, Chicago had two checkpoints, thus providing a 50 percent probability of processing the exiting international travelers who originated there.
Appendix I: Briefing to Staff of Congressional Committees

**Objective 4 - Results**

**Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance**

In addition, CBP did not fully document the selection factors or criteria to be used in choosing flights for air exit screening.

- CBP documentation specified the air carriers that would be subject to the pilot, but did not explain why these carriers were chosen. Regarding flight selection, the evaluation plan stated an assumption that CBP would use a “risk selection factor” derived from a flight’s number of visa waiver participants and other criteria. However, the plan did not specify the other criteria or how these criteria would contribute to making a flight selection decision. For example, while the evaluation report stated that CBP chose 91 flights based on their volume of travelers subject to US-VISIT, neither the evaluation plan nor CBP’s documentation specified the volume threshold that was used to trigger flight selection, and neither specified whether other criteria, such as destination, was relevant to selection. Also, while the evaluation report stated that the 91 flights represented 14.6 percent of all the international flights departing from the Detroit airport during pilot hours, neither the plan nor related pilot documents explained why this sample size was sufficient for understanding air exit’s operational impacts on flights.

---

27 Flights to English-speaking countries, or countries with positive relations with the United States, are examples of characteristics that might influence how quickly travelers move through the data collection process. CBP documentation did state that flights to Canada would be excluded because they primarily consisted of travelers not subject to US-VISIT processing.
Objective 4 - Results
Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance

Without a comprehensive methodology that includes explicit criteria for selecting the pilots’ airports and flights, DHS lacks sufficient assurance that the scope of its pilots provided a meaningful understanding of air exit operational impacts.

Data analysis. The evaluation plan did not specify how data would be analyzed to determine pilot effectiveness and determine how the results would inform decision making.

Although the evaluation plan stated that both the plan and the evaluation report would describe how pilot results would inform air exit decision making, neither addressed how to analyze the collected data to produce inputs for such decision making. The evaluation report concluded that the pilot data provided insight into traveler impacts, biometric capture procedures, traveler compliance, and staffing needs, and would support further economic analysis for an air exit solution decision, but did not identify the framework elements or analysis of pilot results needed to support the economic analysis. The report also stated that the results of the pilots would be combined with a review of public comments on the proposed air exit rule to inform the solution decision, but did not identify which pilot results were needed for this effort, or the analysis required to compensate for the known limitations of the pilots. Figure 2, from the pilots’ evaluation report, illustrates DHS’s view of the pilots in relation to follow-on air exit activities.
Objective 4 - Results
Evaluation Plan Did Not Reflect Key Aspects of Relevant Guidance

Figure 2: DHS’s Air Exit Next Steps Roadmap

A DHS official told us that specifying how the pilots’ results would be used was beyond the scope of the pilots and declined to describe the relationship of the pilot evaluation to air exit decision making.

By not specifying the data analysis required to clearly link the evaluation results to their intended use, DHS was limited in its ability to measure the pilots’ effectiveness, and thus ensure that they provided the requisite basis for informing a final air exit solution decision.
DHS has long been challenged in its ability to deliver the exit portion of US-VISIT, and thereby have a biometrically-based capability for knowing the status of foreign nationals who have entered the country. To help address these challenges, Congress directed DHS to conduct two pilot tests so that the department might gain a better understanding of the operational impact of implementing different exit solutions at air ports of entry. However, the degree to which the results of these pilots can inform DHS’s future decisions was limited because the department was unable to test one scenario and did not meet a key congressional expectation. Further, it was limited in the extent to which it followed defined pilot plans and reported all expected results in the evaluation report. Moreover, the scope and approach defined in the plans that governed the pilots' execution were also limited by conditions disclosed in the plan and the report, as well as by the extent and timing of requirements testing. DHS officials attributed key limitations to schedule constraints and decisions to intentionally limit the pilots’ scope and impacts on travelers, air carriers, and airports. However, the collective result is that the pilots cannot alone adequately inform future DHS decisions on an exit solution for air ports of entry. If these limitations in the pilots are not otherwise compensated with other information sources on operational impacts of implementing an air exit solution, such as comments on the Notice of Proposed Rule Making, then the department will continue to be challenged in its ability to deliver US-VISIT exit capabilities in airports.
Recommendation for Executive Action

To the extent that the limitations in the Air Exit Pilots are not addressed through other information sources, we recommend that the Secretary of Homeland Security direct the Under Secretary for National Protection and Programs to have the US-VISIT Program Director identify additional sources for the operational impacts of air exit not addressed in the pilots’ evaluation and to incorporate these sources into its air exit decision making and planning.
Agency Comments and Our Evaluation

We provided a draft of this briefing to DHS officials, including the US-VISIT director and the Air Exit Pilots project manager, for review and comment. In their oral comments, the officials agreed with our recommendation. However, they took issue with our finding that the reported pilot results omitted a number of planned metrics and observations. Specifically, they cited information in the report and provided explanations that they said addressed the metrics and observations in question. We reviewed each of these citations and explanations and acknowledge that while most of this information is related to the omitted metrics or observations, it did not supply the missing evaluation results as defined in the plan. To clarify the basis for our finding about these results, we have added an example to the briefing that describes how the information that DHS provided falls short of actually reporting all results as planned.

DHS officials also provided a range of other comments, to include providing additional information about the testing of the air exit requirements that were applicable to the pilots and emphasizing that the scope of the pilots was intentionally limited in order to be responsive to the timeframes specified in legislative direction. We have incorporated these comments into the briefing, as appropriate.
Attachment 1
Objectives, Scope, and Methodology

Our objectives were to determine the extent to which (1) the evaluation report addresses the statutory condition and legislative directions, (2) the evaluation report aligns with the scope and approach in the evaluation plan, (3) the pilots were conducted in accordance with the evaluation plan, and (4) the evaluation plan satisfies relevant guidance.

We focused our review on the Air Exit Pilots Evaluation Plan, published by the United States Visitor and Immigrant Status Indicator Technology (US-VISIT) program on May 14, 2009, and the US-VISIT Air Exit Pilots Evaluation Report, submitted to Congress on October 26, 2009. We supplemented these documents with other pilot project plans and records provided by the Department of Homeland Security (DHS), including documentation and interviews we obtained from our prior review of the US-VISIT Comprehensive Exit project.\(^2^8\)

---

To accomplish the first objective, we compared the information provided in the evaluation report with the applicable statutory condition in the Department of Homeland Security Appropriations Act, 2009,\(^{29}\) and the legislative directions and expectations specified in the explanatory statement\(^{30}\) that accompanied the act and the House report\(^{31}\) incorporated by reference into the explanatory statement, and determined the extent to which the report addressed all aspects of each applicable condition, direction, or expectation. We then characterized each condition, direction, and expectation as satisfied, partially satisfied, or not satisfied\(^{32}\) and interviewed DHS officials about their reasons for not fully satisfying the condition, direction, or expectation.


\(^{32}\)“Satisfied” means that the report met all aspects of the direction or expectation. “Partially satisfied” means that the report met some, but not all, aspects of the direction or expectation. “Not satisfied” means that the report did not satisfy any aspects of the direction or expectation.
To accomplish the second objective, we compared the pilots’ reported objectives, scope and limitations, and the evaluation approach described in the pilots’ evaluation framework with the equivalent components defined in the evaluation plan to identify any differences. We also compared reported pilot data with the evaluation framework components specified in the plan to determine whether all planned results were presented. We then interviewed program officials to determine the reasons for identified variations, and categorized the identified differences as either reporting omissions or limitations not specified in the plan. With the assistance of US-VISIT officials and contractors, we also performed a walk through of the files used to compile and aggregate pilot results in order to understand how the reported results were derived from the raw data collected for the pilots and to confirm that the reported results corresponded to aggregate data.

33The air exit pilots evaluation framework consisted of metrics, observations, and cost elements; associated data sources; and other data collection and analysis specifications.
34We did not verify that all raw data and analyses supported the aggregate data that we reviewed.
To accomplish our third objective, we identified aspects of pilot execution that were not otherwise reviewed for the second objective. Based on this determination, we identified the Air Exit Pilots’ requirements testing and execution as the focus of this objective. We compared the pilots’ evaluation report and supporting project test reports with supporting project execution plans—such as pilot business and system requirements—to determine the extent to which business and system requirements were incorporated into the pilot as planned. We also determined whether testing of those requirements was performed as planned, including the time frames for testing and the extent to which testing was successfully completed. Based on this analysis, we categorized the discrepancies we identified according to whether they related to the pre-operational testing or operational verification of pilot system capabilities. We then interviewed DHS officials to understand the projects’ approach to pilot requirements verification, and to clarify and correct the discrepancies, where appropriate.

---

35We did not verify whether the planned tests or test results were sufficient to demonstrate satisfaction of pilot requirements.
To accomplish our fourth objective, we identified key evaluation plan components based on our previous reviews of federal pilot projects. We then analyzed the contents of the Air Exit Pilots’ evaluation plan with respect to the key components in order to determine the extent to which the plan addressed the components. For components not fully addressed in the plan, we reviewed the evaluation report and the pilots’ project documents—such as the project’s management plan and tailoring plan—to determine the extent to which these components were addressed outside the plan. We also interviewed DHS officials about the guidance they used to develop the pilots evaluation plan and the reasons for the weaknesses we identified.

For each of our objectives, we assessed the reliability of the data we analyzed by reviewing existing documentation related to the data sources and interviewing knowledgeable agency officials about the data that we used. We found the data sufficiently reliable for the purposes of this review.

We conducted this performance audit at the US-VISIT program offices in Arlington, Virginia, from November 2009 to June 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.
Attachment 2
Detailed US-VISIT Processes and Systems

The United States Visitor and Immigrant Status Indicator Technology (US-VISIT) program provides biometric (e.g., fingerprint) identification—through the collection, maintenance, and sharing of biometric and selected biographic data—to, among others, authorized Department of Homeland Security (DHS) and other federal agencies, such as U.S. Customs and Border Protection, U.S. Citizenship and Immigration Services, U.S. Coast Guard, Department of Defense, Department of State, Department of Justice, Transportation Security Administration, and the intelligence community. In fulfilling its mission, US-VISIT supports a series of homeland security-related mission processes that cover hundreds of millions of foreign national travelers who enter and leave the United States. An overview of these five processes is depicted in figure 3 and described following the figure.
Figure 3: Mission Processes Supported by US-VISIT

- **Pre-entry**: the process of evaluating a traveler’s eligibility for required travel documents, enrolling travelers in automated inspection programs, and prescreening travelers entering the United States.

- **Entry**: the process of determining a traveler’s admissibility into the United States at air, sea, or land ports of entry.
Attachment 2
Detailed US-VISIT Processes and Systems

- **Status management**: the process of managing and monitoring the changes and extensions of the visits of lawfully admitted nonimmigrant foreign nationals to ensure that they adhere to the terms of their admission and that they notify appropriate government entities when they do not.

- **Exit**: the process of collecting information on travelers departing the United States.

- **Analysis**: the process of continuously screening against watch lists of individuals enrolled in US-VISIT for appropriate reporting and action and by matching information on arrival and departure and change or adjustment of status to identify individuals who have overstayed the terms of their admission.\(^{37}\)

---

\(^{37}\)Travelers who remain in the country beyond their authorized period of stay are referred to as “overstays.”
Attachment 2
Detailed US-VISIT Processes and Systems

To support these processes, data must be exchanged among a variety of systems owned by several agencies. Two key US-VISIT systems are:

- The Automated Biometric Identification System (IDENT), which collects and stores biometric data about foreign visitors, including information from the Federal Bureau of Investigation, U.S. Immigration and Customs Enforcement information on deported felons and sexual offender registrants, and DHS information on previous criminal histories and previous IDENT enrollments.

- The Arrival and Departure Information System, which stores noncitizen traveler arrival and departure biographic data received from air and sea carrier manifests. It matches entry, immigration status updates, and departure data to provide immigration status, including whether the individual has overstayed his or her authorized period of stay. This system contributes information used to support the analysis mission process described above.
As we have previously reported, the Air Exit Pilots are one component of a larger United States Visitor and Immigrant Status Indicator Technology (US-VISIT) project known as Comprehensive Exit, which is to plan, develop, and deploy an air, sea, and land exit capability.

The purpose of the Air Exit Pilots was to evaluate the impact on airport exit operations of identifying, verifying, and collecting information from passengers who were subject to US-VISIT and leaving the United States. To accomplish this, the pilots were to:

- evaluate identity verification and exit-recording capabilities when used with existing port operations and infrastructure;
- biometrically and biographically verify the identity of travelers subject to US-VISIT departing the United States at the pilot locations; and
- record the exit of, and update the Automated Biometric Identification System (IDENT) and Arrival and Departure Information System (ADIS) records of, each subject traveler.

---

39Other Comprehensive Exit projects include the modification of IDENT to collect, validate, and store biometric and biographic data for travelers exiting the United States; enhancement of IDENT’s reporting capabilities to support the analysis and evaluation of the Air Exit Pilot results; and recording the departure of certain temporary agricultural and nonagricultural workers at two Arizona land POEs.
Attachment 3
Detailed Description of Air Exit Pilots

DHS conducted two pilot scenarios from May 2009 until July 2009:

- a U.S. Customs and Border Protection (CBP) pilot at Detroit Metropolitan Wayne County Airport, and
- a Transportation Security Administration (TSA) pilot at Hartsfield-Jackson Atlanta International Airport.

The Air Exit Pilots used two types of portable biometric collection devices:

- a hand-held device ("mobile device") that scanned information on travel documents and collected biometrics one fingerprint at a time, and

- a small suitcase ("portable device") that contained a laptop computer, document scanning device, and a biometric scanner that collected a four-print slap.

The CBP pilot in Detroit used both devices. According to a TSA operations official, only the mobile device was used in Atlanta because of the limited space available within the checkpoint area.
The pilot process consisted of four phases:

1. **Identification.** For the CBP pilot, CBP officers prescreened passengers after they provided their boarding passes to airline employees to identify passengers who were subject to US-VISIT and to then direct them to a CBP processing station in the jetway. For the TSA pilot, a TSA Ticket Document Checker prescreened every passenger entering the checkpoint to identify subject passengers who were escorted to a processing station manned by Transportation Security Officers equipped with mobile devices.

2. **Collection.** Both CBP and TSA officers scanned a machine-readable travel document presented by a passenger to collect biographic data. If the document did not scan correctly, the officers were instructed to enter the biographic data manually into the device. The officers then used the mobile or portable device to collect an index and middle fingerprint or a four-print image, respectively.

3. **Processing.** Once the device indicated that the collected prints were of sufficient quality, the CBP and TSA officers directed the passenger to continue onto the departing aircraft or through the normal checkpoint security screening.
Attachment 3
Detailed Description of Air Exit Pilots

4. **Transmission.** US-VISIT staff uploaded the information from the devices to a dedicated workstation and transmitted the data to IDENT via a secure network connection. Once transmitted, the data were matched to existing records.

Figure 4 depicts the relationships of the equipment and systems used in phases 2, 3, and 4 of the pilot process.

**Figure 4: Illustration of Air Exit Pilots Biometric Data Collection and Transmission Process**

![Diagram illustrating the flow of data from air exit pilots to IDENT via a secure network connection.](image-url)
CBP Pilot Operations. As reported by DHS, CBP pilot operations were conducted at departure gates of selected international flights and usually occurred in the jetway between the air carrier boarding pass collector and the aircraft itself. The CBP pilot also tested several biometric collection configurations in the terminal itself, directly outside the jetway. CBP pilot operations generally consisted of four steps.

- CBP officers, who were designated as “sorters,” inspected travel documents.
- Sorters directed travelers not subject to US-VISIT to bypass the biometric collection area and to board the aircraft.
- If travelers were identified as subject to US-VISIT, the sorters directed them to one of the four or five CBP officer collectors.
- Collectors gathered biographic and biometric information and then directed the travelers to board the aircraft.

In cases where less physical space was available, CBP used a different configuration where the sorters were located just inside the doorway of the boarding area. The CBP data collectors then positioned themselves behind the sorters along the far wall of the boarding area. Once travelers were processed, they were directed to the jetway.
Attachment 3  
Detailed Description of Air Exit Pilots

TSA Pilot Operations. TSA pilot operations were conducted at the Atlanta airport’s main security checkpoint. TSA operations generally consisted of five steps.

- TSA Travel Document Checkers reviewed travel documents and interviewed travelers about their final destination.
- The Travel Document Checkers directed travelers not subject to US-VISIT to proceed to security screening.
- If travelers were identified as subject to US-VISIT, the Travel Document Checkers called for a Control Transportation Security Officer escort.
- The Control Transportation Security Officers then escorted these travelers to one of three biometric collection areas where Biometric Collection Transportation Security Officers collected biographic and biometric information.
- Once traveler biometric and biographic data collection was complete, travelers were directed to the metal detector queues where they completed the security screening process.
DHS reported several constraints on TSA’s traveler processing for the pilot.

- Air exit pilot operations were not conducted at the other two security checkpoints in the Atlanta airport.
- TSA did not process travelers who flew into the Atlanta airport and then departed on an international flight without leaving the airport’s sterile area.
- TSA pilot did not process all travelers ages 14 to 18. Although travelers in this age group may be subject to US-VISIT, TSA policy does not require travelers under the age of 18 to present photo identification.\(^{40}\)

In its Air Exit Pilots Evaluation Report, DHS presented a variety of information that characterized the CBP and TSA pilots. Elements of that information that help to understand the scope and context of the pilots are presented in table 4.

---

\(^{40}\)The evaluation report stated that visibility into the US-VISIT traveler status of travelers ages 14 to 18 was limited because of conflicting TSA and US-VISIT policies. According to a TSA official, data were collected on these travelers only when they were with in-scope adults.
## Attachment 3
Detailed Description of Air Exit Pilots

### Table 4: DHS-reported Information on the Air Exit Pilots

<table>
<thead>
<tr>
<th>Pilot Characteristic</th>
<th>CBP</th>
<th>TSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport</td>
<td>Detroit Metropolitan Wayne County Airport</td>
<td>Hartsfield-Jackson Atlanta International Airport</td>
</tr>
<tr>
<td>Physical location</td>
<td>Departure gates for selected flights at McNamara and North Terminals</td>
<td>Main TSA security checkpoint</td>
</tr>
<tr>
<td>Technologies used</td>
<td>Mobile and portable collection devices</td>
<td>Mobile collection device</td>
</tr>
<tr>
<td>Flights inspected</td>
<td>2-4 international flights per day (excluding flights to Canada and Mexico, pre-cleared and chartered flights)</td>
<td>Unreported, as TSA did not record individuals' flight departure information</td>
</tr>
<tr>
<td>Number of affected flights</td>
<td>91</td>
<td>Unreported, as TSA did not record individuals' flight departure information</td>
</tr>
<tr>
<td>Number of passengers checked for biometric collection eligibility</td>
<td>27,111</td>
<td>476,168</td>
</tr>
<tr>
<td>Number of passengers processed by pilots</td>
<td>9,448</td>
<td>20,296</td>
</tr>
<tr>
<td>Number of passengers that refused to provide biometric data</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
### Attachment 3
**Detailed Description of Air Exit Pilots**

#### Table 4: DHS-reported Information on the Air Exit Pilots (cont.)

<table>
<thead>
<tr>
<th>Pilot Characteristic</th>
<th>CBP</th>
<th>TSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average impact to boarding flow time (CBP) or security check flow time (TSA), per passenger</td>
<td>None</td>
<td>2 min 8 sec. for travelers subject to US-VISIT 17 sec. for travelers not subject to US-VISIT</td>
</tr>
<tr>
<td>Biographic and biometric data collection times</td>
<td>49 sec. for mobile device 30 sec. for portable device</td>
<td>68 sec. for mobile device (portable device not used)</td>
</tr>
<tr>
<td>Labor hours over 35-day operations</td>
<td>1,292 hours</td>
<td>6,423 hours</td>
</tr>
<tr>
<td>Labor costs and expenses over 35-day operations</td>
<td>$77,501</td>
<td>$393,410</td>
</tr>
<tr>
<td>Number of watchlist hits(^a)</td>
<td>44</td>
<td>131</td>
</tr>
<tr>
<td>Number of suspected overstays(^b)</td>
<td>60</td>
<td>90</td>
</tr>
</tbody>
</table>

Source: DHS.

\(^a\)DHS reported CBP reviewed each of these watchlist hits and immediately demoted 145. Further review by CBP concluded that none of the 175 hits would have resulted in prevention of departure.

\(^b\)DHS reported that these system-generated results are overstated due to system limitations related to instances where ADIS records did not reflect up-to-date traveler status due to recent changes or extensions of status. Further, the report noted that the biometric and biographic data reconciliation between IDENT and ADIS needed to be enhanced to improve record matching.
The evaluation plan specified a variety of limitations that were expected to affect the execution of the pilots. For example, the pilots were not intended to fully assess existing systems or biometric devices, would minimize interference with air carrier boarding processes, and would rely on subject matter experts for cost data not available during the pilot, and these limitations were generally reiterated in the evaluation report. However, the report also identified other limitations not called out in the plan, as identified in table 5.

Table 5: Selected Limitations in Pilot Data Collection

<table>
<thead>
<tr>
<th>Limitation Area</th>
<th>Evaluation Report Examples</th>
<th>Impact on Pilot Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data from travelers subject to United States Visitor and Immigrant Status Indicator Technology (US-VISIT)</td>
<td>Transportation Security Administration (TSA) did not collect identification from all travelers subject to US-VISIT ages 14 to 18.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSA did not collect flight information from travelers subject to US-VISIT.</td>
<td>Required data on travelers subject to US-VISIT was not collected. Report stated that automation would be required to collect flight information, but operational impact of the automation was not described.</td>
</tr>
<tr>
<td>U.S. Customs and Border Protection (CBP) did not regularly collect identification from airline crew members subject to US-VISIT who boarded their plane prior to the start of CBP exit processing at the departure gates.</td>
<td>Metrics and observations did not reflect all airline crew members subject to US-VISIT.</td>
<td></td>
</tr>
<tr>
<td>Limitation Area</td>
<td>Evaluation Report Examples</td>
<td>Impact on Pilot Results</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Impact on travelers and flights</td>
<td>TSA suspended exit processing to address queues at other TSA posts unrelated to the pilot. CBP suspended processing and data collection from boarding passengers and crew when such collection would have delayed flight departures.</td>
<td>Report stated that the pilots were designed to avoid impact on air carrier and airport operations and had no conclusive impact on flight delays, delay durations, boarding times, or number of passengers who missed flights.</td>
</tr>
<tr>
<td>Facility and infrastructure needs</td>
<td>No data was reported on the costs of airport electricity, device storage, or network circuits for the pilots.</td>
<td>Upgrade and recurring costs of exit processing for airports and Department of Homeland Security (DHS) telecommunications were not described.</td>
</tr>
<tr>
<td>Acquisition and development</td>
<td>The costs for design, development, and testing were not individually measured, but were derived by evenly dividing a single reported value three ways.</td>
<td>Accurate costs for product design, development, and test planning and execution activities were not reported.</td>
</tr>
<tr>
<td></td>
<td>Arrival and Departure Information System and Automated Biometric Identification System need to be enhanced to match biometric and biographic data.</td>
<td>Shortcomings of biometric and biographic matching were not described. Needed improvements and their operational impacts were not described.</td>
</tr>
<tr>
<td></td>
<td>Overstay results did not reflect recent changes to or extensions of traveler status.</td>
<td>Report stated that more analysis would be required to confirm the system-generated overstay results, but did not describe the analysis or its results.</td>
</tr>
</tbody>
</table>
### Table 5: Selected Limitations in Pilot Data Collection (cont.)

<table>
<thead>
<tr>
<th>Limitation Area</th>
<th>Evaluation Report Examples</th>
<th>Impact on Pilot Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition and development (cont.)</td>
<td>Mobile device did not report finger scan quality score to collectors.</td>
<td>Pilot could not assess how operational conditions affected fingerprint quality.</td>
</tr>
</tbody>
</table>

Source: GAO analysis of DHS data.

*The evaluation report stated that visibility into the US-VISIT traveler status of travelers ages 14 to 18 was limited because of conflicting TSA and US-VISIT policies. According to a TSA official, data were collected on these travelers only when they were in-scope adults.*
Appendix II: Comments from the Department of Homeland Security

July 27, 2010

Mr. Randolph C. Hite
Director, Information Technology Architecture
and System Issues
441 G Street, NW
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Hite:


The Department of Homeland Security (DHS/Department) appreciates the opportunity to review and comment on the U.S. Government Accountability Office’s (GAO) draft report referenced above. GAO made one recommendation regarding the evaluation report of the air exit pilots that the United States Visitor and Immigrant Status Indicator Technology (US-VISIT) Program submitted to Congress in October 2009.

That recommendation reads as follows:

To the extent that the limitations in the Air Exit Pilots are not addressed through other information sources, we recommend that the Secretary of Homeland Security direct the Under Secretary for National Protection and Programs to have the US-VISIT Program Director identify additional sources for the operational impacts of air exit not addressed in the pilots’ evaluation and to incorporate these sources into its air exit decision making and planning.

DHS readily concurs with GAO’s recommendation. The pilots that US-VISIT conducted from May to July 2009 were never intended to be the sole source of information for the Department to consider in making a decision on a final air exit solution, but rather are only one source of information that DHS has taken into account.

While we separately are providing a comment matrix that addresses several technical points and suggested corrections that the Department wishes to share with GAO, one minor clarification is worth highlighting here. The report states that “DHS officials told us that DHS did not view the expectation in the House report as a requirement.” DHS certainly takes seriously, and endeavors to comply with, the guidance provided by Congress in committee reports; however, the point of the Department’s statements on this matter was merely that congressional reports do not, technically speaking, have the force of law. See, e.g., Hein v. Freedom From Religion Foundation, Inc., 551 U.S. 587, 608 n.7 (2007) (“[I]ndicia in
committee reports and other legislative history as to how the funds should or are expected to be spent do not establish any legal requirements on the agency.").

Thank you for the opportunity to comment on this Draft Report and we look forward to working with you on future homeland security issues.

Sincerely,

Jerald E. Levine
Director
Departmental GAO/OIG Liaison Office
Appendix III: GAO Contact and Staff Acknowledgments

<table>
<thead>
<tr>
<th>GAO Contact</th>
<th>Randolph C. Hite, (202) 512-3439 or <a href="mailto:hiter@gao.gov">hiter@gao.gov</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>In addition to the contact name above, individuals making contributions to this report included Paula Moore (Assistant Director), Neil Doherty, Rebecca Eyler, Claudia Fletcher, Dave Hinchman, and Daniel Swartz.</td>
</tr>
</tbody>
</table>
GAO’s Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO’s commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO’s Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select “E-mail Updates.”

Order by Phone

The price of each GAO publication reflects GAO’s actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO’s Web site, http://www.gao.gov/ordering.htm.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548