United States Government Accountability Office

Report to Congressional Committees

March 2016

HOMELAND SECURITY ACQUISITIONS

DHS Has Strengthened Management, but Execution and Affordability Concerns Endure

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Why GAO Did This Study

In fiscal year 2015, DHS planned to invest about $7 billion in major acquisitions. DHS's acquisition activities are on GAO's High Risk List, in part due to program management, requirements, and funding issues.

Congress included a provision in statute for GAO to review DHS's major acquisitions. This report, GAO's second annual review, addresses the extent to which (1) DHS's major acquisition programs are on track to meet their schedule and cost goals, (2) these programs changed KPPs after initiation, and (3) DHS has addressed these programs' affordability issues.

GAO assessed DHS's 16 largest acquisition programs that were in the process of obtaining new capabilities as of June 2015, and 9 other programs that GAO or DHS identified were at risk of poor outcomes to provide additional insight into factors that lead to poor outcomes. For all 25 programs, GAO reviewed key acquisition documents and met with program officials. GAO reviewed 22 of these programs in an April 2015 report (GAO-15-171SP). GAO also met with senior acquisition and financial oversight officials, and assessed DHS's policies and practices against internal control standards and key program management practices.

What GAO Recommends

GAO recommends DHS (1) quantify information when assessing programs' funding gaps, (2) conduct these assessments in a timely manner, (3) communicate results to Congress, and (4) require components to establish formal affordability review processes. DHS concurred with GAO's recommendations.

View GAO-16-338SP. For more information, contact Michele Mackin at (202) 512-4841 or mackinm@gao.gov

What GAO Found

During 2015, 11 of the 25 Department of Homeland Security (DHS) programs GAO reviewed remained on track to meet their current schedule and cost goals. Eight programs experienced schedule slips, cost growth, or both, including 5 programs with life-cycle cost estimates that increased by a total of 18 percent. For the remaining six programs, DHS leadership had not approved baselines establishing their schedule and cost goals as of December 15, 2015. DHS leadership has since approved baselines for four of these six programs (one of the six is being discontinued). This action should enhance DHS's management efforts going forward, but GAO could not assess whether the programs were on track during 2015 because the baselines were approved so late in the year.

GAO Review of 25 Major DHS Acquisition Programs during 2015

Total number of programs GAO reviewed	Programs on track to meet schedule and cost goals	Programs with schedule slips, cost growth, or both	Programs that lacked approved schedule and cost goals
25	11	8	6

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP.

Since 2008, 12 of the 25 programs changed their key performance parameters (KPP)—the requirements a system must meet to fulfill its purpose—after DHS leadership approved them. Programs most often changed KPPs because they were poorly defined or programs decided to pursue greater capabilities. Nine programs may change their KPPs in the future, including seven that changed KPPs before. There are valid reasons to change a KPP—such as responding to emerging threats—but changes often come with schedule slips and cost growth.

DHS leadership is taking steps to improve the affordability of its major acquisition portfolio, and 14 of the programs GAO reviewed currently have funding plans covering at least 93 percent of their estimated costs through fiscal year 2020. In June 2014, DHS leadership established that components must certify programs' funding levels and identify tradeoffs necessary to address any funding gaps prior to major decisions. These efforts have generally been effective, and components have identified specific actions they can take to close three programs' funding gaps in the future. But the guidance does not require components to quantify cost estimates, funding streams, and the monetary value of proposed tradeoffs; and, in one case, the Coast Guard did not provide DHS leadership information needed to assess the National Security Cutter program's funding gap. From June 2014 through December 2015, DHS leadership assessed 14 of the programs GAO reviewed through this process, but it is uncertain whether DHS leadership will assess the remaining programs in a timely manner because the assessments are not required until major decisions, which can occur infrequently. Without timely affordability assessments, the acquisition funding plans presented to Congress are less likely to be comprehensive. That said, components do not have to wait for DHS leadership to improve the affordability of their acquisition programs. For example, the Transportation Security Administration has a formal affordability review process. However, Customs and Border Protection and the Coast Guard do not. DHS could further improve the affordability of its major acquisitions by requiring all components to create formal processes for addressing affordability.

United States Government Accountability Office

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Abbreviations

ADE	Acquisition Decision Event
APB	Acquisition Program Baseline
ARB	Acquisition Review Board
CAE	Component Acquisition Executive
CFO	Chief Financial Officer
DHS	Department of Homeland Security
DOT&E	Director of Operational Test and Evaluation
FOC	Full Operational Capability
FYHSP	Future Years Homeland Security Program
KPP	key performance parameter
LCCE	Life-Cycle Cost Estimate
MD	Management Directive
O&M	operations and maintenance
PA&E	Office of Program Analysis and Evaluation
PARM	Office of Program Accountability and Risk Management
PPBE	planning, programming, budgeting, and execution
TEMP	Test and Evaluation Master Plan
USM	Under Secretary for Management

Component Agencies

CBP	Customs and Border Protection
FEMA	Federal Emergency Management Agency
ICE	Immigration and Customs Enforcement
NPPD	National Protection and Programs Directorate
OCIO	Office of the Chief Information Officer
S&T	Science and Technology Directorate
TSA	Transportation Security Administration
USCG	U.S. Coast Guard
USCIS	U.S. Citizenship and Immigration Services

Major Acquisition Programs

ACE	Automated Commercial Environment
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CDM	Continuous Diagnostics & Mitigation
EBSP	Electronic Baggage Screening Program
FRC	Fast Response Cutter
HSIN	Homeland Security Information Network
IFT	Integrated Fixed Towers
LBI	Land Border Integration
LSCMS	Logistics Supply Chain Management System
NBAF	National Bio and Agro-Defense Facility
NCPS	National Cybersecurity Protection System
NGN-PS	Next Generation Networks Priority Services
NII	Non-Intrusive Inspection Systems Program
NSC	National Security Cutter
OPC	Offshore Patrol Cutter
PSP	Passenger Screening Program
StAMP	Strategic Air and Marine Program
TACCOM	Tactical Communications Modernization
TECS	(Not an acronym) Modernization
TIM	Technology Infrastructure Modernization

GAO

U.S. GOVERNMENT ACCOUNTABILITY OFFICE

441 G St. N.W.
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March 31, 2016

Congressional Committees

This is our second annual review of major Department of Homeland Security (DHS) acquisition programs. Each year, DHS invests billions of dollars in its major acquisition programs to help execute its many critical missions. In fiscal year 2015 alone, DHS reported that it planned to spend approximately $7.2 billion on these acquisition programs, and the department expects it will ultimately invest more than $180 billion in them.[1] DHS and its underlying components are acquiring systems to help secure the border, increase marine safety, screen travelers, enhance cyber security, improve disaster response, and execute a wide variety of other operations. Each of DHS's major acquisition programs generally costs $300 million or more and spans multiple years.

To help manage these programs, DHS has established an acquisition management policy that we have reported is generally sound, in that it reflects key program management practices.[2] However, due to shortfalls in executing the policy, we have highlighted DHS acquisition management issues in our high-risk updates since 2005.[3] Over the past decade, we have reported that department leadership has dedicated

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[1]In the fiscal year 2015 Future Years Homeland Security Program (FYHSP) report to Congress, DHS reported it planned to spend approximately $7.2 billion on 66 acquisition programs. In the fiscal year 2014 FYHSP report, DHS reported it planned to spend approximately $10.7 billion on 121 programs. DHS reduced the number of programs in the fiscal year 2015 FYHSP report for various reasons. For example, DHS removed programs that were designated non-major acquisitions, had completed all acquisition activities, or had been discontinued or combined with other programs.

[2]GAO, *Homeland Security: DHS Requires More Disciplined Investment Management to Help Meet Mission Needs,* GAO-12-833 (Washington, D.C.: Sept. 18, 2012).

[3]GAO, *High-Risk Series: An Update*, GAO-05-207 (Washington, D.C.: January 2005); and *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: February 11, 2015). In 2003, we designated implementing and transforming DHS as high risk because DHS had to transform 22 agencies into one department, and failure to address associated risks could have serious consequences for U.S. national and economic security. While challenges remain for DHS across its range of missions, it has made considerable progress. As a result, in our 2013 high-risk update, we narrowed the scope of the high-risk area to focus on strengthening and integrating DHS management functions (acquisition, human capital, financial, and information technology management).

additional resources to acquisition oversight and documented major acquisition decisions in a more transparent and consistent manner, but our work has also identified significant shortcomings in the department's ability to manage its portfolio of major acquisitions.[4] For example, last year we reported that 6 of the 22 programs we reviewed lacked a department-approved Acquisition Program Baseline (APB), which establishes a program's cost, schedule, and performance goals.[5]

We also reported that most of the acquisition programs faced funding gaps, staffing shortfalls, and requirements changes. These challenges can contribute to poor acquisition outcomes, such as cost increases or the risk of end users—such as border patrol agents or first responders in a disaster—receiving technologies that do not work as expected. We have made many recommendations to help address these challenges. For example, we recommended DHS leadership specifically assess whether adequate funding is available during all program reviews, and ensure all major programs fully comply with acquisition policy by obtaining department-level approval for acquisition documents before the programs are allowed to proceed.[6]

DHS has taken several steps to improve acquisition management in response to these and other recommendations. For example, the department has dedicated additional resources to acquisition oversight and documented major acquisition decisions in a more transparent and consistent manner. Nonetheless, DHS has not fully addressed certain recommendations, and some programs are still experiencing significant challenges. For example, in our 2015 review, we found that 14 of the 22 programs we reviewed had experienced schedule slips, cost growth, or both; and that 6 others lacked department-approved APBs.[7]

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[4]DHS defines major acquisition programs as those with Life-Cycle Cost Estimates of $300 million or more. For examples of past GAO work, see a list of related GAO products at the end of this report.

[5]GAO, *Homeland Security Acquisitions: Major Program Assessments Reveal Actions Needed to Improve Accountability*, GAO-15-171SP (Washington, D.C.: April 22, 2015).

[6]GAO, *Homeland Security Acquisitions: DHS Could Better Manage Its Portfolio to Address Funding Gaps and Improve Communications with Congress,* GAO-14-332 (Washington, D.C.: April 17, 2014); GAO-12-833.

[7]GAO-15-171SP. As we reported, 2 of the 22 programs were on track to meet cost and schedule parameters.

The Explanatory Statement accompanying the DHS Appropriations Act, 2015 contained a provision for GAO to develop a plan for ongoing reviews of major DHS acquisition programs, as directed in the Senate report.[8] This report addresses the extent to which (1) DHS's major acquisition programs are on track to meet their schedule and cost goals, (2) major acquisition programs changed key performance parameters (KPP) after initiation, and (3) DHS has addressed major acquisition programs' affordability issues. We reviewed 25 of DHS's major acquisition programs, including 22 that we reviewed in 2015.[9] We reviewed all 16 of DHS's Level 1 acquisition programs—those with Life-Cycle Cost Estimates (LCCE) of $1 billion or more—that were in the process of obtaining new capabilities at the initiation of our audit. To provide insight into some of the factors that can lead to poor acquisition outcomes, we also included 9 other major acquisition programs that we or DHS management identified were at risk of not meeting their schedules, cost estimates, or capability requirements. Two of these nine programs were Level 1 acquisitions that had entered the deployment phase of the acquisition life cycle, while seven of them were Level 2 acquisitions with LCCEs between $300 million and $1 billion. In total, the 25 programs we reviewed were sponsored by 9 different DHS components.

For each of the 25 programs, we analyzed acquisition documentation such as APBs and operational requirements documents that contain information on programs' schedules, cost estimates, and KPPs—the requirements a system must meet to fulfill its fundamental purpose. Since November 2008, these documents have required DHS-level approval; therefore, we used November 2008 as the starting point for our analysis. We used these documents to construct a data collection instrument for each program, identifying schedule slips, cost growth, and KPP changes, if any. We subsequently shared this information with each of the 25 program offices and met with program officials to identify causes and effects associated with any schedule slips, cost growth, and KPP changes since their initial baselines, and since January 2015. We also interviewed operators (such as customs officers) for the three programs with the greatest number of KPP changes—Customs and Border

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[8]Explanatory Statement submitted by Mr. Rogers of Kentucky, Chairman of the House Committee on Appropriations, regarding H.R. 240, Department of Homeland Security Appropriations Act, 2015 (published in Cong. Record, Jan. 13, 2015, at p. H276).

[9]GAO-15-171SP.

Protection (CBP) TECS (not an acronym) Modernization, Transportation Security Administration (TSA) Passenger Screening Program (PSP), U.S. Coast Guard (USCG) National Security Cutter—to identify any operational effects of those changes.

Additionally, we reviewed DHS's acquisition management and resource allocation policies and processes, and key funding documents, including affordability certification memos, resource allocation decisions memos, and the fiscal year 2015 Future Years Homeland Security Program (FYHSP) report to Congress, which presents 5-year funding plans for each of DHS's major acquisition programs. We interviewed senior financial officials at DHS headquarters and the three components—CBP, TSA, USCG—with the most expensive acquisition portfolios to identify actions taken to help ensure programs are affordable. We assessed DHS's acquisition management and resource allocation policies and practices against the *Standards for Internal Control in the Federal Government*, and GAO's key program management practices.[10]

Appendix I presents individual assessments of each of the 25 programs we reviewed. These assessments include key information such as projected funding levels, staffing profiles, and progress against schedule and cost goals. Our objective for the 2-page assessments is to provide decision makers a means to quickly gauge the programs' progress and their potential cost, schedule, performance, or funding risks. Appendix II provides detailed information on our scope and methodology.

We conducted this performance audit from June 2015 to March 2016 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.

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[10]GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999); GAO-12-833.

Background

To help manage its multi-billion dollar acquisition investments, DHS has established policies and processes for acquisition management, test and evaluation, and resource allocation. The department uses these policies and processes to deliver systems that are intended to close critical capability gaps, helping enable DHS to execute its missions and achieve its goals.

Acquisition Management Policy

DHS policies and processes for managing its major acquisition programs are primarily set forth in Acquisition Management Directive (MD) 102-01 and DHS Instruction Manual 102-01-001, Acquisition Management Instruction/Guidebook. DHS issued the initial version of this directive in November 2008 in an effort to establish an acquisition management system that effectively provides required capability to operators in support of the department's missions.[11] DHS's Under Secretary for Management (USM) is currently designated as the department's Chief Acquisition Officer and, as such, is responsible for managing the implementation of the department's acquisition policies.

DHS's Deputy Secretary and USM serve as the decision authorities for the department's largest acquisition programs: those with LCCEs of $1 billion or greater. Component Acquisition Executives (CAE)—the most senior acquisition management officials within each of DHS's component agencies—may be delegated decision authority for programs with cost estimates between $300 million and $1 billion. Table 1 identifies how DHS has categorized the 25 major acquisition programs we review in this report, and table 5 in appendix II specifically identifies the programs within each level.

Table 1: DHS Acquisition Levels for Major Acquisition Programs

Level	Life-cycle cost	Acquisition decision authority	Number of programs reviewed in this report
1	Greater than or equal to $1 billion	Deputy Secretary, Under Secretary for Management/Chief Acquisition Officer	18
2	$300 million or more, but less than $1 billion	Under Secretary for Management/Chief Acquisition Officer, or the Component Acquisition Executive	7

Source: GAO analysis of MD-102-01-001 and DHS acquisition program documentation. | GAO-16-338SP

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[11]DHS has issued multiple updates to MD 102-01 and the guidebook. DHS issued the current version of MD 102-01 on July 28, 2015.

DHS acquisition policy establishes that a major acquisition program's decision authority shall review the program at a series of five predetermined Acquisition Decision Events (ADE) to assess whether the major program is ready to proceed through the acquisition life-cycle phases. Depending on the program, these ADEs can occur within months of each other, or be spread over several years. An important aspect of an ADE event is the decision authority's review and approval of key acquisition documents, including the program baseline, which establishes a program's cost, schedule, and performance parameters. Figure 1 depicts the acquisition life cycle established in DHS acquisition policy.

Figure 1: DHS Acquisition Life Cycle and Document Requirements for Major Acquisition Programs

Acquisition phases

Need	Analyze / select	Obtain	Produce / deploy / support
DHS officials identify the need for a new acquisition program.	Program manager reviews alternative approaches to meeting the need, and recommends a best option to the decision authority.	Program manager develops, tests, and evaluates the selected option; programs may proceed through ADE 2B, which focuses on an individual project; and ADE 2C, which focuses on low rate initial production issues.	DHS pursues production and delivers the new capability to its operators, and maintains the capability until it is retired; post-deployment activities tend to account for up to 70 percent of an acquisition program's life-cycle costs.

Acquisition decision events (ADE)

ADE 1		ADE 2A	ADE 2B	ADE 2C	ADE 3

Documents requiring department-level approval[a]

ADE 1	ADE 2A	ADE 2B	ADE 3
MNS	APB	APB	APB
CDP	ILSP	ILSP	ILSP
	AP	AP	AP
	LCCE[b]	LCCE[b]	LCCE[b]
	ORD	TEMP	

AP	Acquisition Plan	LCCE	Life-Cycle Cost Estimate
APB	Acquisition Program Baseline	MNS	Mission Needs Statement
CDP	Capability Development Plan	ORD	Operational Requirements Document
ILSP	Integrated Logistics Support Plan	TEMP	Test and Evaluation Master Plan

Source: GAO analysis of MD 102-01. | GAO-16-338SP

[a]Documents identified for ADE 2B are required for capital assets. Programs providing services only require an APB and AP.

[b]Level 2 programs' Life-Cycle Cost Estimates do not require department-level approval.

See table 2 for a description of the key acquisition documents requiring department-level approval before a program moves to the next acquisition phase.

Table 2: Key DHS Acquisition Documents Requiring Department-level Approval

Document	Description
Mission Need Statement	Provides a high-level description of the mission need, whether from a current or impending gap. Outlines only the concept of the solution to fill the gap and does not provide information on specific types of acquisitions that could provide that capability.
Capability Development Plan	Serves as the agreement between the component head, program manager, and the acquisition decision authority on the activities, cost, and schedule for the work to be performed in the Analyze/Select phase.
Operational Requirements Document	Provides a number of performance parameters that must be met by a program to provide useful capability to the operator by closing the capability gaps identified in the Mission Need Statement.
Acquisition Plan	Provides a top-level plan for the overall acquisition approach. Describes why the solution is in the government's best interest, and why it is the most likely to succeed in delivering capabilities to operators.
Integrated Logistics Support Plan	Defines the strategy for ensuring the supportability and sustainment of a future capability. Provides critical insight into the approach, schedule, and funding requirements for integrating supportability requirements into the systems engineering process.
Life-Cycle Cost Estimate[a]	Provides an exhaustive and structured accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular program.
Acquisition Program Baseline	Establishes a program's critical baseline cost, schedule, and performance parameters. Expresses the parameters in measurable, quantitative terms, which must be met in order to accomplish the investment's goals.
Test and Evaluation Master Plan	Documents the overarching test and evaluation approach for the acquisition program. Describes the Developmental and Operational Test and Evaluation needed to determine a system's technical performance, operational effectiveness/suitability, and limitations.

Source: DHS Acquisition Policy MD-102-01-001. | GAO-16-338SP

[a]Level 2 programs' Life-Cycle Cost Estimates do not require department-level approval.

DHS acquisition policy establishes that the Acquisition Program Baseline (APB) is the agreement between program, component, and department level officials establishing how systems will perform, when they will be delivered, and what they will cost. Among other things, the APB establishes a program's key performance parameters (KPP). DHS policy establishes that KPPs are a program's most important and non-negotiable requirements, and that a system must meet its KPPs to fulfill its fundamental purpose. In addition to a program's APB, KPPs are also presented in a program's Operational Requirements Document, and each KPP is defined in terms of an objective and minimum threshold value. If a program cannot meet a KPP threshold, DHS policy establishes that the program shall be reevaluated by the user community and acquisition decision authority. An example of a KPP for an aircraft is airspeed. An example of a KPP for a surveillance system is detection range. An example of a KPP for an information technology system is query response time.

In addition to the acquisition decision authority, other bodies and senior officials support DHS's acquisition management function:

- **The Acquisition Review Board (ARB)** reviews major acquisition programs for proper management, oversight, accountability, and alignment with the department's strategic functions at ADEs and other meetings as needed. The ARB is chaired by the acquisition decision authority and consists of individuals who manage DHS's mission objectives, resources, and contracts.

- **The Office of Program Accountability and Risk Management (PARM)** is responsible for DHS's overall acquisition governance process, supports the ARB, and reports directly to the USM. PARM develops and updates program management policies and practices, reviews major programs, provides guidance for workforce planning activities, provides support to program managers, and collects program performance data.[12]

- **Component agencies,** such as U.S. Customs and Border Protection (CBP), the Transportation Security Administration (TSA), and the U.S. Coast Guard (USCG) sponsor specific acquisition programs. The 25 programs we review in this report are sponsored by 9 component agencies.

  - **CAEs** within the components are responsible for establishing acquisition processes and overseeing the execution of their respective portfolios.

  - **Program management offices,** also within the components, are responsible for planning and executing DHS's individual programs. They are expected to do so within the cost, schedule, and performance parameters established in their APBs. If they cannot do so, the programs' decision authorities are to terminate or rebaseline the programs; that is, establish new cost, schedule, or performance goals.

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[12]For additional information on PARM, see GAO, *Homeland Security Acquisitions: DHS Should Better Define Oversight Roles and Improve Program Reporting to Congress,* GAO-15-292 (Washington, D.C.: March 12, 2015).

GAO-16-338SP Homeland Security Acquisitions

Figure 2 depicts the relationship between acquisition managers at the department, component, and program level.

Figure 2: DHS's Acquisition Management Structure
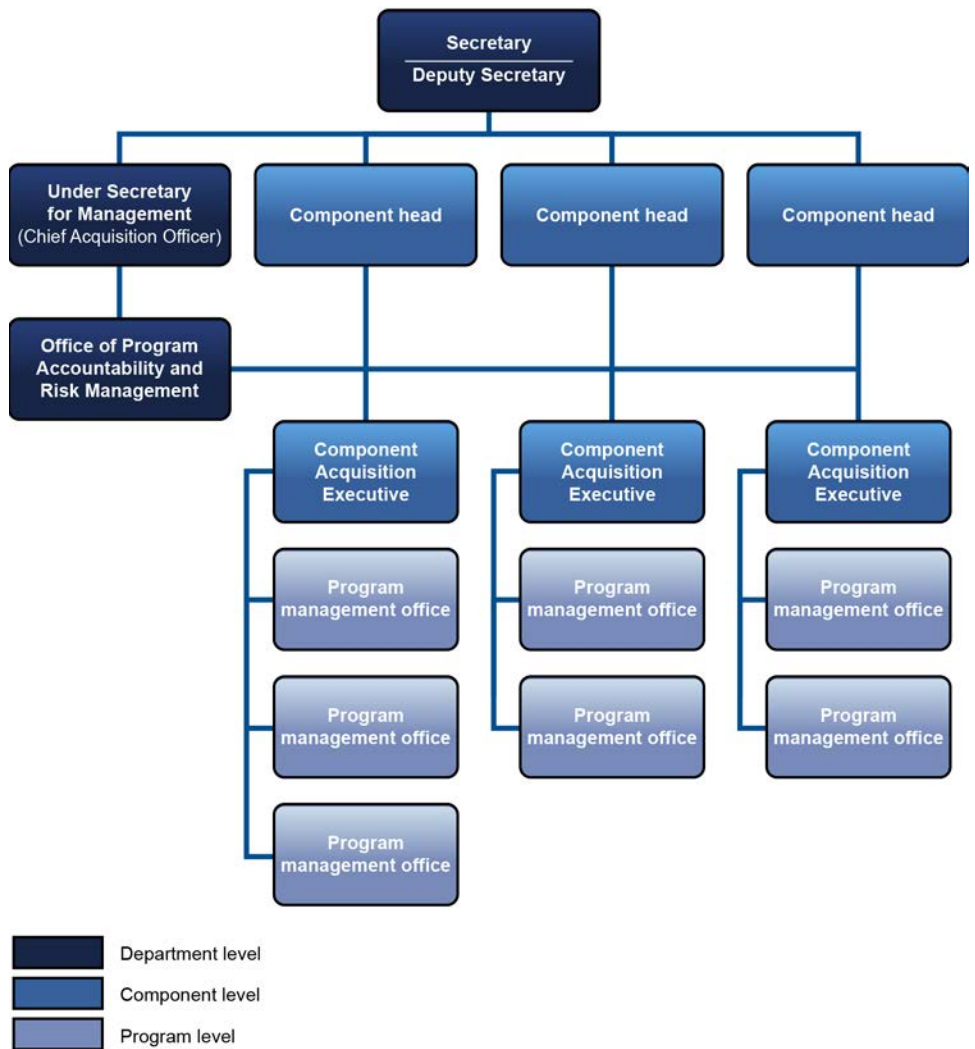
Source: DHS Acquisition Policy MD-102-01. | GAO-16-338SP

Test and Evaluation Policy

In May 2009, DHS established policies and processes for testing the capabilities delivered by the department's major acquisition programs.[13] The primary purpose of test and evaluation is to provide timely, accurate information to managers, decision makers, and other stakeholders to reduce programmatic, financial, schedule, and performance risk. We provide an overview of each of the 25 programs' test activities in the individual program assessments, presented in appendix I.

DHS testing policy assigns specific responsibilities to particular individuals and entities throughout the department:

- **Program managers** have overall responsibility for planning and executing their programs' testing strategies. They are responsible for scheduling and funding test activities and delivering systems for testing. They are also responsible for controlling developmental testing. Programs use developmental testing to assist in the development and maturation of products, product elements, or manufacturing or support processes. Developmental testing includes engineering-type tests used to verify that design risks are minimized, substantiate achievement of contract technical performance, and certify readiness for operational testing.

- **Operational test agents** are responsible for planning, conducting, and reporting on operational testing, which is intended to identify whether a system can meet its KPPs and provide the acquisition decision authority an evaluation of the operational effectiveness and suitability of a system in a realistic environment. Operational effectiveness refers to the overall ability of a system to provide desired capability when used by representative personnel. Operational suitability refers to the degree to which a system can be placed in field use and sustained satisfactorily. The operational test agents may be organic to the component, another government agency, or a contractor, but must be independent of the developer in order to present credible, objective, and unbiased conclusions. For example, the U.S. Navy Commander, Operational Test and Evaluation Force is the operational test agent for the USCG National Security Cutter (NSC) program.

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[13]Department of Homeland Security, Directive No. 026-06, Test and Evaluation, May 29, 2009.

- **The Director of Operational Test and Evaluation (DOT&E)** is responsible for approving major acquisition programs' operational test agents, operational test plans, and Test and Evaluation Master Plans (TEMP). A program's TEMP must describe the developmental and operational testing needed to determine technical performance, limitations, and operational effectiveness and suitability. As appropriate, DOT&E is also responsible for participating in operational test readiness reviews, observing operational tests, reviewing operational test agents' reports, and assessing the reports. Prior to a program's ADE 3, DOT&E provides the program's acquisition decision authority a letter of assessment that includes an appraisal of the program's operational test, a concurrence or non-concurrence with the operational test agent's evaluation, and any further independent analysis.

As an acquisition program proceeds through its life cycle, the testing emphasis moves gradually from developmental testing to operational testing.
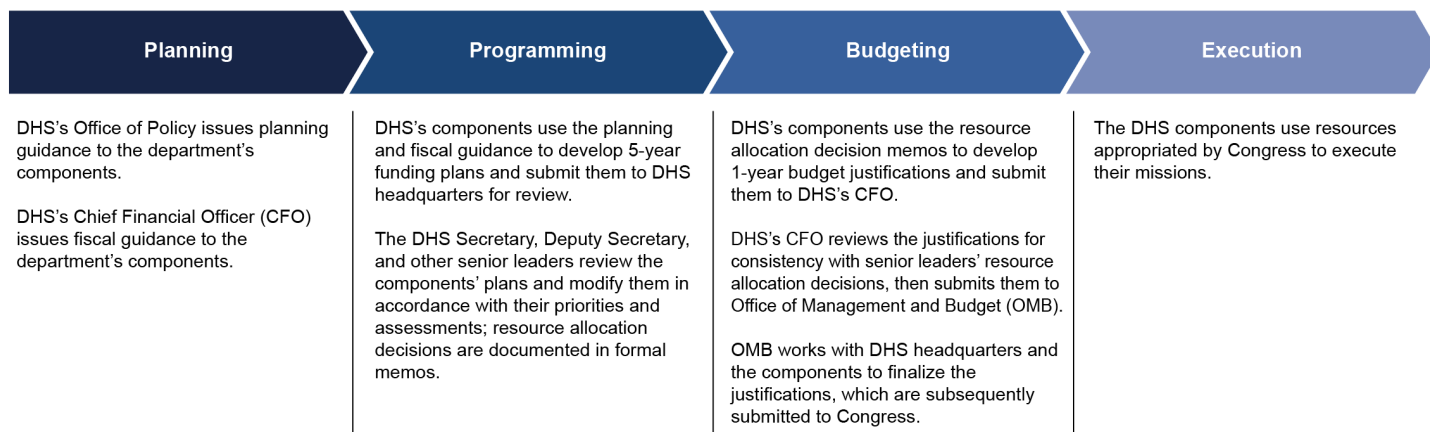
Resource Allocation Process

DHS has established a planning, programming, budgeting, and execution (PPBE) process to allocate resources to acquisition programs and other entities throughout the department.[14] DHS's PPBE process produces the multi-year funding plans presented in the FYHSP, a database that contains, among other things, 5-year funding plans for DHS's major acquisition programs. DHS guidance states that the 5-year plans in the FYHSP should allow the department to achieve its goals more efficiently than an incremental approach based on 1-year plans. DHS guidance also states that the FYHSP articulates how the department will achieve its strategic goals within fiscal constraints.

According to DHS guidance, at the outset of the annual PPBE process, the department's Office of Policy and Chief Financial Officer should provide planning and fiscal guidance, respectively, to the department's component agencies. In accordance with this guidance, the components should submit 5-year funding plans to the Chief Financial Officer; these plans are subsequently reviewed by DHS's senior leaders, including the DHS Secretary and Deputy Secretary. DHS's senior leaders are expected

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[14]Department of Homeland Security, Planning, Programming, Budgeting, and Execution System Operating Handbook, Rev. July 2015.

to modify the plans in accordance with their priorities and assessments, and they document their decisions in formal resource allocation decision memos. DHS submits the revised funding plans to the Office of Management and Budget, which uses them to inform the President's annual budget request, which is a document sent to Congress requesting new budget authority for federal programs, among other things. In some cases, the funding appropriated to certain accounts in a given fiscal year can be carried over to subsequent fiscal years. Figure 3 depicts DHS's annual PPBE process.

Figure 3: DHS's Annual Planning, Programming, Budgeting, and Execution Process

Planning	Programming	Budgeting	Execution
DHS's Office of Policy issues planning guidance to the department's components. DHS's Chief Financial Officer (CFO) issues fiscal guidance to the department's components.	DHS's components use the planning and fiscal guidance to develop 5-year funding plans and submit them to DHS headquarters for review. The DHS Secretary, Deputy Secretary, and other senior leaders review the components' plans and modify them in accordance with their priorities and assessments; resource allocation decisions are documented in formal memos.	DHS's components use the resource allocation decision memos to develop 1-year budget justifications and submit them to DHS's CFO. DHS's CFO reviews the justifications for consistency with senior leaders' resource allocation decisions, then submits them to Office of Management and Budget (OMB). OMB works with DHS headquarters and the components to finalize the justifications, which are subsequently submitted to Congress.	The DHS components use resources appropriated by Congress to execute their missions.

Source: GAO analysis of Department of Homeland Security (DHS) guidance. | GAO-16-338SP

Federal law requires DHS to submit an annual FYHSP report to Congress at or about the same time as the President's budget request.[15] This FYHSP report presents the 5-year funding plans in the FYHSP database at that time.[16]

Within DHS's Office of the Chief Financial Officer, the Office of Program Analysis and Evaluation (PA&E) is responsible for establishing policies for the PPBE process and overseeing the development of the FYHSP. In this role, PA&E reviews the components' 5-year funding plans, advises DHS's

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[15]DHS is required to include the same type of information, organizational structure, and level of detail in the FYHSP as the Department of Defense is required to include in its Future Years Defense Program. 6 U.S.C. § 454.

[16]For additional information on past FYHSP reports, see GAO-14-332.

senior leaders on resource allocation issues, maintains the FYHSP database, and submits the annual FYHSP report to Congress.

During 2015, 11 of the 25 Programs Remained on Track to Meet Their Current Schedule and Cost Goals

From January 2015 to January 2016, 11 of the 25 programs we reviewed remained on track to meet their current schedule and cost goals. Eight of the 25 programs experienced schedule slips, cost growth, or both. Major milestone dates for these programs slipped an average of 11 months, and LCCEs increased by a total of $1.7 billion. Various factors contributed to these schedule and cost issues; these are discussed below.

The 6 remaining programs continued to lack department-approved APBs as of December 15, 2015. This prevented us from assessing whether they were on track to meet their schedule and cost goals. However, DHS leadership subsequently approved 4 of the 6 programs' APBs, which should enhance DHS's management efforts going forward and provide a baseline to measure progress in the future.[17] One of the 6 programs, CBP's Strategic Air and Marine Program, is being discontinued. Figure 4 summarizes our findings, and we present more detailed information after the figure.

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[17]DHS leadership approved the CBP LBI, NII and TACCOM APBs on January 4, 2016; and the FEMA LSCMS APB on December 22, 2015.

Figure 4: Major DHS Acquisition Programs' Progress against Their Schedule and Cost Goals through 2015

Component	Program	Progress
Customs and Border Protection (CBP)	Automated Commercial Environment (ACE)	🟢
	Integrated Fixed Towers (IFT)[a]	🔴
	Land Border Integration (LBI)	⊘
	Non-Intrusive Inspection (NII) Systems Program	⊘
	Strategic Air and Marine Program (StAMP)[b]	⚪
	Tactical Communications (TACCOM) Modernization[a]	⊘
	TECS (Not an acronym) Modernization[a]	🟡
Federal Emergency Management Agency (FEMA)	Logistics Supply Chain Management System (LSCMS)[a]	⊘
Immigration and Customs Enforcement (ICE)	TECS (Not an acronym) Modernization[a]	🟡
National Protection and Programs Directorate (NPPD)	Continuous Diagnostics & Mitigation (CDM)	🔴
	National Cybersecurity Protection System (NCPS)	🟡
	Next Generation Networks Priority Services (NGN-PS)	🔴
Office of the Chief Information Officer (OCIO)	Homeland Security Information Network (HSIN)[a]	🔴
Science and Technology Directorate (S&T)	National Bio and Agro-Defense Facility (NBAF)	🟢
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)	🟢
	Passenger Screening Program (PSP)	🔴
	Technology Infrastructure Modernization (TIM)[a]	🔴
U.S. Coast Guard (USCG)	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)	🟡
	Fast Response Cutter (FRC)[a]	🟡
	HH-65 Conversion/Sustainment Projects	🟡
	Long Range Surveillance Aircraft (HC-130H/J)	🟡
	Medium Range Surveillance Aircraft (HC-144A & C-27J)	⚪
	National Security Cutter (NSC)[a]	🟡
	Offshore Patrol Cutter (OPC)	🔴
U.S. Citizenship and Immigration Services (USCIS)	Transformation	🔴

🟢 On track during 2015, and against initial schedules and cost estimates

🟡 On track during 2015, but previously experienced schedule slips, cost growth, or both

🔴 Not on track during 2015

⊘ Not assessed because DHS leadership approved a baseline after December 15, 2015

⚪ Not assessed because DHS leadership has not approved a baseline

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

[a]Program reviewed because it was at risk of not meeting cost estimates, schedule, or capability requirements.

[b]Program is being discontinued. StAMP's Multi-role Enforcement Aircraft acquisition and UH-60 helicopter conversion projects have each been designated a major program, and DHS leadership approved baselines for both programs in January 2016.

GAO-16-338SP Homeland Security Acquisitions

During 2015, 11 Programs Remained on Track

From January 2015 to January 2016, 11 programs remained on track to meet their current schedule and cost goals. DHS officials attributed the programs' recent successes to several factors, including experienced program leadership, end-user engagement during development and testing activities, and new contractors' performance. For example, officials from the Immigration and Customs Enforcement (ICE) TECS (not an acronym) Modernization program said they had remained on track recently because they had employed knowledgeable senior leaders to head individual product teams and had co-located an end-user representative with the program's development team. In another case, officials from the CBP TECS Modernization program highlighted the performance of the program's new contractor when discussing the program's recent performance.

However, only 3 of these 11 programs were also on track to meet their initial schedule and cost goals; that is, the schedules and cost estimates in the APBs that DHS leadership had initially approved after the department's current acquisition policy went into effect in November 2008. The other 8 programs had been rebaselined, revising their goals to reflect schedule slips and cost growth, and several identified risks that could lead to schedule slips and cost growth in the future.

On Track against Initial Baselines

Three of the 11 programs—the CBP Automated Commercial Environment (ACE) program, the Science and Technology Directorate (S&T) National Bio and Agro-Defense Facility (NBAF), and the TSA Electronic Baggage Screening Program (EBSP)—have remained on track to meet their initial schedule and cost goals. These are the schedules and cost estimates from the APBs that DHS leadership had initially approved after the department's current acquisition policy went into effect in November 2008. However, DHS leadership did not approve the ACE and NBAF APBs until relatively recently, and these programs previously experienced years of developmental and funding challenges.

- **CBP ACE:** We previously found that ACE—a program developing software to collect and process information from the international trade community—struggled to develop capability for several years before DHS leadership approved the program's APB in August 2013.[18] At that time, ACE adopted an agile software development

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[18]GAO-15-171SP.

methodology that has allowed the program to deliver and demonstrate capabilities to ACE end users more quickly, and program officials expect to achieve Full Operational Capability (FOC) in November 2016, as scheduled.[19]

- **S&T NBAF:** NBAF, located in Manhattan, Kansas, experienced significant schedule slips and cost growth before DHS leadership approved the program's APB in July 2014. The program had incorporated a number of design changes to mitigate its operational risks as a biocontainment facility based on a review conducted by the National Academy of Sciences in 2010.[20] NBAF officials also reported that funding constraints between 2009 and 2014 exacerbated schedule delays. However, in May 2015, the program awarded its primary construction contract in accordance with the schedule and cost goals from its 2014 APB.

- **TSA EBSP:** TSA has decreased EBSP's acquisition and life-cycle cost estimates since DHS leadership initially approved the program's APB in August 2012. EBSP acquires transportation security equipment that screens checked baggage for explosives. TSA officials said they did so by extending the useful lifespan of baggage screening systems, implementing improved field maintenance procedures, and focusing on detection capabilities rather than other priorities, such as screening efficiency. TSA officials took these actions in response to funding constraints, and it appears EBSP's projected funding levels now cover the program's estimated costs.

Programs with Schedule Slips, Cost Growth, or Both Prior to 2015

Eight of the 11 programs that remained on track during 2015 had previously experienced schedule slips. These programs had major milestones that slipped an average of 4 years. Program officials identified a number of reasons for these slips, including challenges in meeting requirements, establishing unachievable milestones, and expanding scope. For example, officials from the CBP TECS Modernization program said the program previously experienced delays due to technical

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[19]DHS policy establishes FOC as the point at which a program has deployed all functions to the designated users. DHS Instruction Manual 102-01-001: Appendix K, Acquisition Program Baseline (APB), October 1, 2011.

[20]National Research Council, *Evaluation of a Site-Specific Risk Assessment for the Department of Homeland Security's Planned National Bio- and Agro-Defense Facility in Manhattan, Kansas* (Washington, D.C.: National Academies Press, 2010).

difficulties. In another example, officials from the USCG Long Range Surveillance Aircraft program said that the program's FOC date slipped almost 10 years when the USCG decided to increase the planned quantity of HC-130J aircraft from 6 to 22.

Additionally, we found that 5 of the 8 programs with schedule slips had also experienced cost growth previously. These programs' acquisition cost estimates increased by a total of $3.3 billion, and LCCEs increased by almost $9.7 billion. Program officials attributed cost increases to various causes, such as the introduction of new capability requirements and the development of more realistic estimates. For example, USCG officials said the HH-65 Conversion/ Sustainment Projects LCCE increased by approximately $5 billion because the USCG decided to extend the aircraft's operational life by 9 years. Similarly, officials from the National Protection and Programs Directorate (NPPD) National Cybersecurity Protection System (NCPS) program said their LCCE increased by $3.7 billion when they updated it to account for costs over the program's entire life cycle.

Risks That May Cause Schedule Slips, Cost Growth, or Both in the Future

Officials from 8 of the 11 programs that remained on track during 2015 said their programs were at risk of future schedule slips, cost growth, or both due to anticipated funding constraints, workforce challenges, expanded development efforts, and other reasons. These 8 programs include 7 that previously experienced schedule slips, cost growth, or both. For example, officials from the USCG Fast Response Cutter (FRC) program said that funding shortfalls could affect the number of cutters they are able to procure each year, which could increase costs. Currently, the USCG plans to award a contract by the end of June 2016 that will allow the USCG to purchase 4 to 6 cutters per year, depending on available funding levels.[21] In June 2014, we reported that the USCG estimated a decision to order fewer ships per year would likely increase the program's costs by $600 million to $800 million beyond its current estimates.[22] In another example, officials from the NPPD NCPS program said staffing shortfalls have limited the program's ability to test the

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[21]In fiscal years 2010 and 2011, the USCG decreased FRC quantities from six cutters per year to four cutters per year.

[22]GAO, *Coast Guard Acquisitions: Better Information on Performance and Funding Needed to Address Shortfalls,* GAO-14-450 (Washington, D.C.: June 5, 2014).

system, oversee contractors, and manage finances, which may contribute to schedule slips, cost growth, or both.

Additionally, the APBs for 2 of the 11 programs—USCG's Long Range Surveillance Aircraft and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)—do not reflect the programs' current development efforts.

- In October 2014, USCG officials from the Long Range Surveillance Aircraft program told us they no longer planned to upgrade any additional HC-130H aircraft, and that they are now pursuing an all-HC-130J fleet. This approach is inconsistent with the program's current APB, which was approved in July 2012. Program officials said they plan to rebaseline the program once the USCG completes a mission needs analysis of its fixed-wing aircraft. The USCG expects to complete this analysis in fiscal year 2016.

- C4ISR program officials told us the USCG has reduced the program's scope since DHS leadership last approved its APB in December 2014, but they did not identify any specific plans to update the C4ISR APB in the future.

Senior DHS officials told us that ensuring APBs are current is one of their top priorities.

Eight Programs Experienced Schedule Slips, Cost Growth, or Both during 2015

Eight programs experienced schedule slips, cost growth, or both in the last year. Figure 5 identifies the programs that did not remain on track during 2015.

Figure 5: DHS Programs That Experienced Schedule Slips, Cost Growth, or Both during 2015
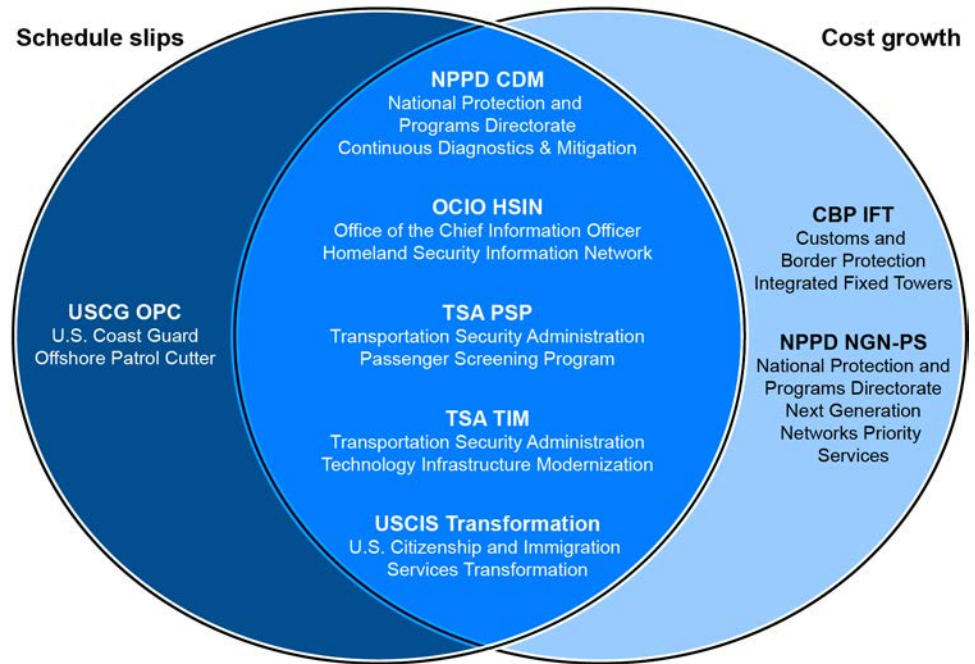
Source: GAO analysis of DHS data. | GAO-16-338SP

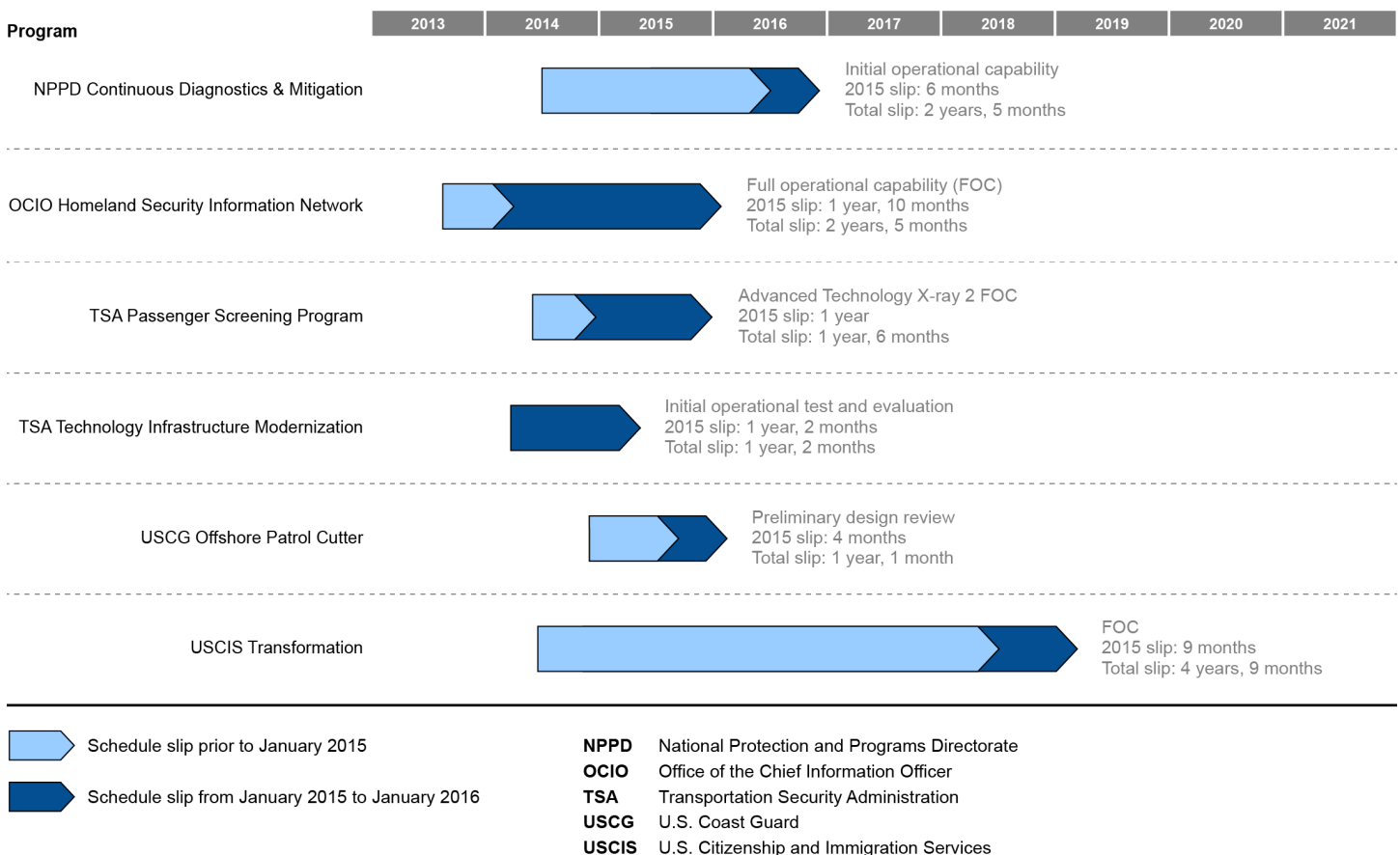### Programs with Schedule Slips during 2015

Six programs have at least one major milestone that slipped during 2015. On average, these program milestones slipped 11 months between January 2015 and January 2016. Program officials identified several reasons for the schedule slips during 2015. Two common reasons were:

- **Technical difficulties:** For example, officials from the TSA Passenger Screening Program (PSP) program attributed their schedule slip to performance issues discovered during testing. Similarly, officials from the Office of the Chief Information Officer (OCIO) Homeland Security Information Network (HSIN) program reported that they delayed declaring FOC until the program demonstrated it could meet all of its key performance requirements.

- **Contracting challenges:** For example, officials from NPPD Continuous Diagnostics & Mitigation (CDM) said their program's schedule slipped because it took longer than expected to prepare the program's initial solicitation and select vendors. Similarly, officials from USCG Offshore Patrol Cutter (OPC) reported delays in awarding three contracts. Both programs also received bid protests, which officials said exacerbated their schedule slips.

Figure 6 identifies these six programs and the extent to which their major milestones have slipped.

Figure 6: Major DHS Acquisition Programs' Schedule Slips during 2015

Program									
	2013	2014	2015	2016	2017	2018	2019	2020	2021

NPPD Continuous Diagnostics & Mitigation — Initial operational capability / 2015 slip: 6 months / Total slip: 2 years, 5 months

OCIO Homeland Security Information Network — Full operational capability (FOC) / 2015 slip: 1 year, 10 months / Total slip: 2 years, 5 months

TSA Passenger Screening Program — Advanced Technology X-ray 2 FOC / 2015 slip: 1 year / Total slip: 1 year, 6 months

TSA Technology Infrastructure Modernization — Initial operational test and evaluation / 2015 slip: 1 year, 2 months / Total slip: 1 year, 2 months

USCG Offshore Patrol Cutter — Preliminary design review / 2015 slip: 4 months / Total slip: 1 year, 1 month

USCIS Transformation — FOC / 2015 slip: 9 months / Total slip: 4 years, 9 months

Schedule slip prior to January 2015

Schedule slip from January 2015 to January 2016

NPPD	National Protection and Programs Directorate
OCIO	Office of the Chief Information Officer
TSA	Transportation Security Administration
USCG	U.S. Coast Guard
USCIS	U.S. Citizenship and Immigration Services

Source: GAO analysis of DHS data. | GAO-16-338SP

We elaborate on the reasons for all six programs' schedule slips in the individual assessments in appendix I.

Programs with Cost Growth during 2015

Seven programs' acquisition cost estimates, LCCEs, or both have grown since January 2015. In some cases, a program's acquisition cost estimate increased while its LCCE decreased, and vice versa. For example, the acquisition cost estimate for the CBP Integrated Fixed Towers (IFT) program increased while the program's LCCE decreased. DHS policy establishes that a program's progress should be tracked in terms of both acquisition cost estimates and LCCEs, and too much growth in either triggers a reevaluation of the program.

Program officials identified a number of reasons why their cost estimates increased during 2015. Two common reasons were:

- **Expanded development efforts:** For example, officials from USCIS Transformation program said their acquisition costs increased due to the 4 additional years of development work needed to execute their new plan. Similarly, officials from the TSA PSP program said they increased their capability requirements in response to emerging threats, which increased the program's cost estimates.

- **More comprehensive cost estimates:** For example, the NPPD NGN-PS LCCE increased when the program updated it to include all sustainment costs. Similarly, the NPPD CDM acquisition cost estimate increased when the program accounted for the costs to upgrade or replace deployed sensors as they become obsolete.

  Figure 7 presents the programs with cost growth during 2015, identifying whether their acquisition cost estimates, LCCEs, or both increased.

Figure 7: Major DHS Acquisition Programs' Cost Growth during 2015
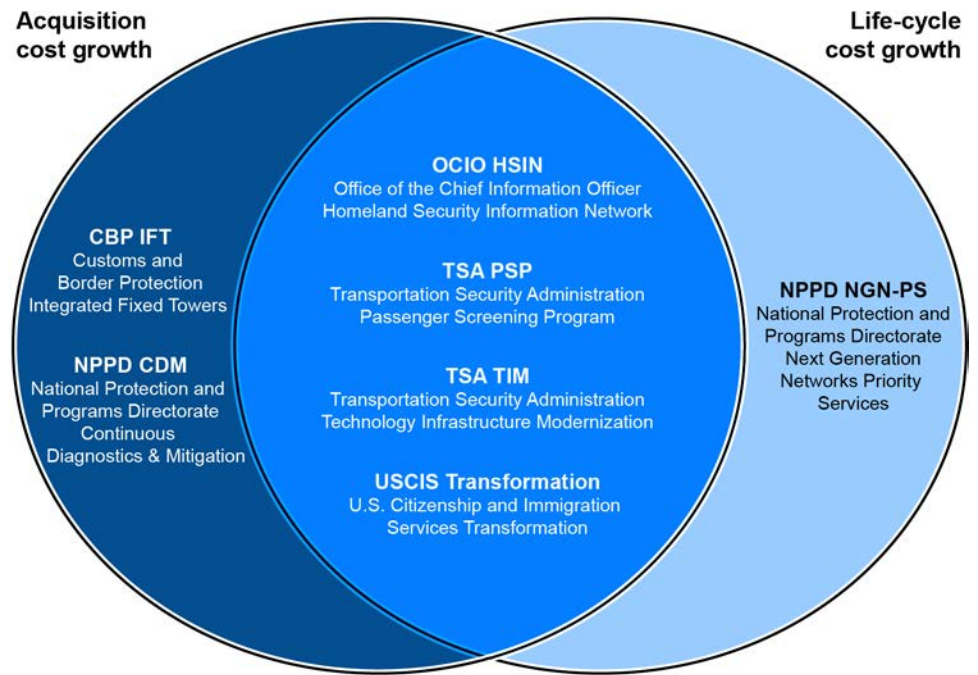
Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

During 2015, the increase in acquisition cost estimates for the six programs portrayed in figure 7 totaled $1.7 billion—approximately 24 percent. Table 3 depicts this growth in acquisition cost estimates from January 2015 to January 2016, based on our analysis of DHS documentation and data.

Table 3: Major DHS Acquisition Programs' Acquisition Cost Growth during 2015

Program	January 2015 Estimate	January 2016 Estimate	2015 Cost Growth
CBP Integrated Fixed Towers	288	341	53
NPPD Continuous Diagnostics & Mitigation	1,631	2,653	1,022
OCIO Homeland Security Information Network	151	233	82
TSA Passenger Screening Program	3,196	3,350	153
TSA Technology Infrastructure Modernization	239	344	105
USCIS Transformation	1,368	1,631	263
Total			**1,679**

CBP	Customs and Border Protection	TSA	Transportation Security Administration
NPPD	National Protection and Programs Directorate	USCIS	U.S. Citizenship and Immigration Services
OCIO	Office of the Chief Information Officer		

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

Note: Dollars in millions. 2015 Cost Growth numbers do not add to Total due to rounding.

During 2015, LCCEs increased for five programs by a total of $1.7 billion—approximately 18 percent. Table 4 depicts growth in LCCEs from January 2015 to January 2016, based on our analysis of DHS documentation and data.

Table 4: Major DHS Acquisition Programs' Life-Cycle Cost Growth during 2015

Program	January 2015 Estimate	January 2016 Estimate	2015 Cost Growth
NPPD Next Generation Networks Priority Services	1,100	1,200	100
OCIO Homeland Security Information Network	451	580	129
TSA Passenger Screening Program	4,779	5,043	264
TSA Technology Infrastructure Modernization	631	1,344	713
USCIS Transformation	2,618	3,118	501
Total			**1,707**

NPPD	National Protection and Programs Directorate	TSA	Transportation Security Administration
OCIO	Office of the Chief Information Officer	USCIS	U.S. Citizenship and Immigration Services

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

Note: Dollars in millions.

We elaborate on the reasons for all programs' cost growth in the individual assessments in appendix I.

Six Programs Still Lacked Approved Baselines during 2015 and Four Were Recently Approved

Over the past year, DHS leadership has put an emphasis on approving APBs for the six programs we identified in April 2015 that continued to lack department-approved APBs. DHS policy requires all major acquisition programs obtain department-level approval for their APBs, which serve as the agreement between the program manager and DHS leadership as to how systems should perform, when they should be delivered, and what they should cost. In September 2012, we recommended that DHS ensure all major acquisition programs obtain department-level approval for their APBs, and DHS concurred. In April 2015, we reiterated this recommendation when we found the six programs did not have the required APBs as of January 2015.[23]

While the six APBs still were not approved as of December 15, 2015, DHS subsequently approved four of them between late December 2015 and January 2016: CBP Land Border Integration (LBI), Non-Intrusive Inspection (NII) Systems Program, and Tactical Communications (TACCOM) Modernization; and Federal Emergency Management Agency (FEMA) Logistics Supply Chain Management System (LSCMS). The recent APB approvals are significant steps towards meeting the intent of our recommendations and will allow DHS to enhance its oversight of these programs going forward.

Due to how recently these APBs were approved, we were unable to assess whether the programs were on track to meet their approved schedule and cost goals during 2015. Additionally, DHS will not formally track schedule slips and cost growth that occurred prior to the APB approvals. Nonetheless, we found that all four of the programs had expanded their scope significantly during 2015 or had increased their LCCEs. For example:

- NII increased its LCCE by $233 million when it accounted for 4 additional years and increased the planned procurement quantity by more than 20 percent.

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[23]GAO-12-833, GAO-15-171SP.

- As for LBI, from October 2014 to October 2015, the program increased the number of lanes with LBI systems from 663 to 823—a 24 percent increase—despite previously declaring the program had achieved FOC in 2013.

- The third CBP program—TACCOM—increased its LCCE by more than $100 million during 2015 when the program accounted for government personnel costs.

- Similarly, the FEMA LSCMS program had increased its LCCE by more than $400 million since 2009, the year FEMA initiated efforts to enhance LSCMS. The LSCMS LCCE increased due to program shortfalls, a pause in the program, changes in the program's technical approach, and an extension of the program's life cycle.

The two programs that continue to lack department-approved APBs are the CBP StAMP and the USCG Medium Range Surveillance Aircraft programs. CBP planned to discontinue StAMP in March 2016, more than 9 years after the program was first established, and break it into three smaller programs. StAMP's Multi-role Enforcement Aircraft acquisition and UH-60 helicopter conversion projects have each been designated a major program, and the two remaining vessel acquisitions—the Coastal Interceptor Vessel and the Riverine Shallow Draft Vessel—will be designated a single non-major program. As of January 2016, DHS leadership had approved APBs for the Multi-role Enforcement Aircraft acquisition and the UH-60 helicopter conversion. As for the Medium Range Surveillance Aircraft program, the USCG is still in the process of developing the program's APB. In October 2014, DHS leadership first directed USCG to restructure its HC-144A acquisition program to accommodate 14 C-27J aircraft from the U.S. Air Force and designated this combined acquisition the Medium Range Surveillance Aircraft program. By October 2015, the USCG had received four C-27J aircraft from the U.S. Air Force. USCG officials plan to submit an APB to DHS leadership after the USCG completes a mission needs analysis of its fixed-wing aircraft. The USCG expects to complete this analysis in fiscal year 2016.

In total, more than $6 billion in appropriated funds had been allocated toward these six programs through fiscal year 2015.

KPP Changes Have Been Common and Are Likely to Continue for Several Reasons

Twelve of the 25 programs we reviewed have changed their department-approved KPPs—the requirements a system must meet to fulfill its fundamental purpose—at least once since DHS's current acquisition policy went into effect in November 2008. In addition, officials from 9 of the 25 programs told us they may change their KPPs in the future, including officials from 7 of the 12 programs that have previously changed their KPPs. We have found that the KPP changes generally come with schedule slips, cost growth, or both. DHS policy allows for KPP changes but requires that a program's acquisition decision authority and user community reevaluate a program if it cannot meet a KPP. Program officials identified several reasons for KPP changes and said they may change their KPPs in the future for some of the same reasons. For example, they explained that many KPPs were poorly defined, and that programs were pursuing greater capabilities over time. Three programs lacked department-approved KPPs as of December 15, 2015, so we could not include them in our assessment of KPP changes to date.[24] Figure 8 provides an overview of the KPP changes.

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[24]DHS leadership can approve a program's KPPs through either an Operational Requirements Document or an APB. Three of the programs that lacked department-approved APBs in December 2015 had department-approved Operational Requirements Documents.

Figure 8: Major DHS Acquisition Programs' Key Performance Parameter (KPP) Changes

Component	Program	Changed KPPs	Did not change KPPs	No department-approved KPPs as of Dec. 15, 2015	May change KPPs in the future
Customs and Border Protection (CBP)	Automated Commercial Environment (ACE)		●		
	Integrated Fixed Towers (IFT)		●		
	Land Border Integration (LBI)	●			
	Non-Intrusive Inspection (NII) Systems Program[a]			●	
	Strategic Air and Marine Program (StAMP)[b]			●	
	Tactical Communications (TACCOM) Modernization		●		
	TECS (Not an acronym) Modernization	●			
Federal Emergency Management Agency (FEMA)	Logistics Supply Chain Management System (LSCMS)[a]			●	
Immigration and Customs Enforcement (ICE)	TECS (Not an acronym) Modernization	●			
National Protection and Programs Directorate (NPPD)	Continuous Diagnostics & Mitigation (CDM)	●			
	National Cybersecurity Protection System (NCPS)	●			●
	Next Generation Networks Priority Services (NGN-PS)	●			●
Office of the Chief Information Officer (OCIO)	Homeland Security Information Network (HSIN)	●			●
Science and Technology Directorate (S&T)	National Bio and Agro-Defense Facility (NBAF)		●		●
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)		●		
	Passenger Screening Program (PSP)	●			●
	Technology Infrastructure Modernization (TIM)		●		●
U.S. Coast Guard (USCG)	C4ISR[c]	●			●
	Fast Response Cutter (FRC)		●		
	HH-65 Conversion/Sustainment Projects	●			●
	Long Range Surveillance Aircraft (HC-130H/J)		●		
	Medium Range Surveillance Aircraft (HC-144A & C-27J)		●		
	National Security Cutter (NSC)	●			●
	Offshore Patrol Cutter (OPC)		●		
U.S. Citizenship and Immigration Services (USCIS)	Transformation	●			

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

[a]Program KPPs were approved after December 15, 2015.

[b]Program officials said the StAMP program was being discontinued, and DHS leadership would not approve StAMP-specific KPPs.

[c]C4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.
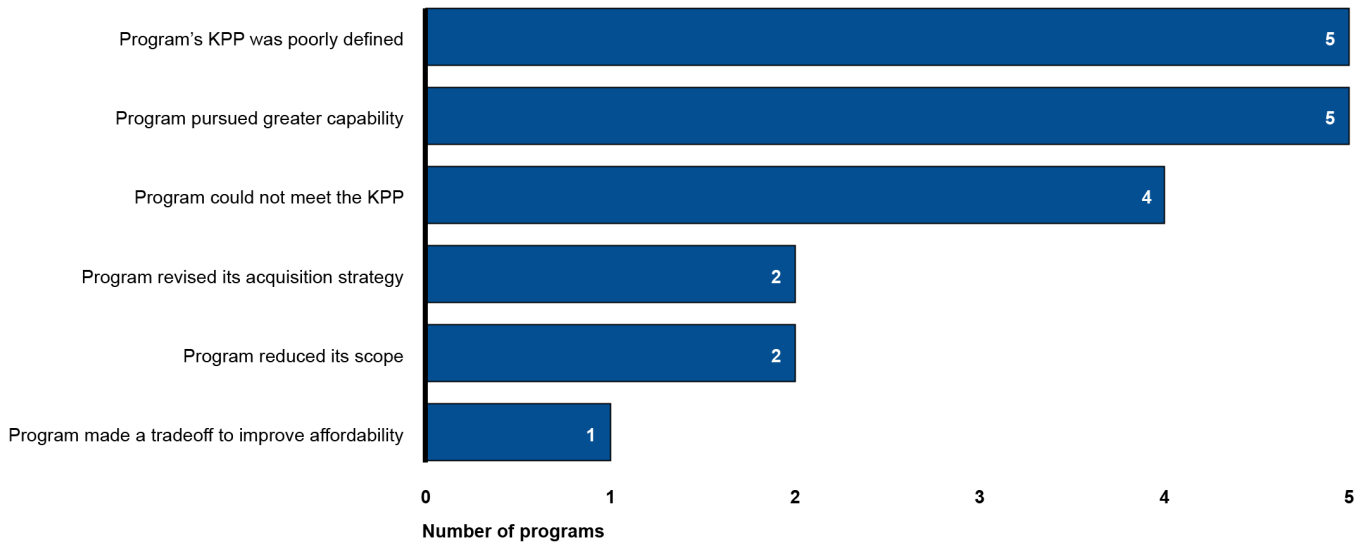
Twelve of 25 Programs Have Changed Their Department-approved KPPs at Least Once

Twelve of the 25 programs we reviewed have changed their department-approved KPPs at least once since DHS's current acquisition policy went into effect in November 2008. These 12 programs include 5 that changed their KPPs during 2015: CBP LBI, NPPD CDM, OCIO HSIN, TSA PSP, and USCIS Transformation. We found that the rate of KPP changes at DHS is consistent with the rate of changes at the Department of Defense. We assessed 78 major defense acquisition programs and found that 29 percent of them changed their KPPs over a 4-year period, from 2009 to 2013. During that same period, 29 percent of the DHS programs we assessed for this report also changed their KPPs.[25] According to DHS policy, KPPs are a program's most important and non-negotiable requirements and they must be met to fulfill the program's fundamental purpose. For example, the CBP IFT program plans to deliver surveillance towers, and it has three KPPs that establish minimum acceptable ranges for detection and identification, and the percentage of time the system must operate as intended. DHS policy requires that a program's acquisition decision authority and user community reevaluate a program if it cannot meet a KPP, and the acquisition decision authority must rebaseline a program if its KPPs change.

DHS officials identified several reasons why programs' KPPs have changed. Programs' KPPs were most commonly changed because they were poorly defined when DHS leadership first approved them, or because the program began to pursue greater capability over time. Officials from several program offices identified multiple reasons why their KPPs have changed. Figure 9 presents those reasons.

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[25]Seven of the 24 major DHS acquisition programs we reviewed changed KPPs between 2009 and 2013. The remaining program—the USCG Medium Range Surveillance Aircraft program—was not established until October 2014.

Figure 9: Reasons Why Major DHS Acquisition Programs Changed Key Performance Parameters (KPP)

Reason	Number of programs
Program's KPP was poorly defined	5
Program pursued greater capability	5
Program could not meet the KPP	4
Program revised its acquisition strategy	2
Program reduced its scope	2
Program made a tradeoff to improve affordability	1

Source: GAO analysis of DHS acquisition documents and information provided by program officials. | GAO-16-338SP

Note: Some programs identified more than one reason why they changed KPPs.

An illustrative example for each category is presented below:

- **Program's KPP was poorly defined:** The USCIS Transformation program revised one of its KPPs to better reflect system performance. Initially, the KPP addressed end-to-end processing time, but insufficient staffing levels in field offices or service centers could prevent the program from meeting the KPP, regardless of system performance. The revised KPP addresses the amount of information the system offers to support staff decision-making.

- **Program pursued greater capability:** The NPPD NGN-PS program added two KPPs for additional wireless capabilities to keep pace with technological advancements.

- **Program could not meet the KPP:** The USCG HH-65 program relaxed its airspeed KPP after operational tests demonstrated that the original requirement was unobtainable and the program's operational test agent concluded the change would not impact the HH-65's ability to conduct its mission.

- **Program revised its acquisition strategy:** The NPPD NCPS program had planned to use government technology to deliver intrusion-prevention capabilities, but it subsequently decided to work

directly with commercial internet service providers instead. In 2013, the program revised its KPPs to reflect the new approach.

- **Program reduced its scope:** Officials from the CBP TECS Modernization program said they removed a KPP requiring an enhanced name-tracking capability when CBP officials decided to use a tool another program had developed to deliver this capability.

- **Program made a tradeoff to improve affordability:** TSA officials removed KPPs requiring the PSP program to automatically monitor wait times in airports in order to fund the development of higher priority technologies, such as the next generation of advanced imaging technology.

We previously found that KPP changes at DHS are often associated with schedule slips and cost growth.[26] For example, increasing planned capabilities can lead to cost growth or schedule slips because programs are more costly to change after they begin development activities. Alternatively, programs may choose to decrease their planned capabilities in response to cost growth or schedule slips in an effort to maintain affordability or deliver certain capabilities when needed. During this assessment, we found that 11 of the 12 programs with KPP changes since 2008 experienced schedule slips, and 9 of the 11 also experienced cost growth. The twelfth program was CBP LBI, which we were unable to assess authoritatively because it lacked an approved APB until January 2016. Nonetheless, program officials said LBI's planned FOC date has slipped. Alternatively, the three programs that have remained on track to meet their initial schedule and cost goals—CBP ACE, S&T NBAF, and TSA EBSP—have not changed their department-approved KPPs since 2008.

Nine of the 25 Programs May Change Their KPPs in the Future

Nine of the 25 programs may change their KPPs in the future, including 7 that have previously changed their KPPs. Program officials said they may change their KPPs for some of the same reasons programs changed their KPPs in the past, and officials from several program offices identified multiple reasons why their KPPs may change in the future. Figure 10 summarizes the reasons why KPPs may change going forward.

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[26]GAO-12-833.

Figure 10: Reasons Why Major DHS Acquisition Programs May Change Key Performance Parameters (KPP) in the Future
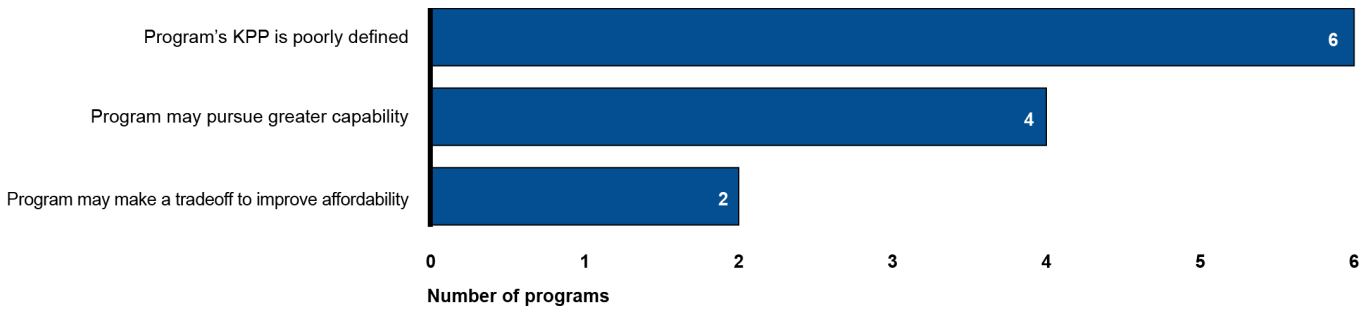
Reason	Number of programs
Program's KPP is poorly defined	6
Program may pursue greater capability	4
Program may make a tradeoff to improve affordability	2

Number of programs

Source: GAO analysis of DHS acquisition documents and information provided by program officials. | GAO-16-338SP

Note: Some programs identified more than one reason why they may change KPPs.

Notably, officials from six programs explained that their current KPPs are still poorly defined and may require revisions going forward. For example, USCG officials identified that the NSC's cutter boat requirements should have been written more clearly, and, in January 2016, we recommended the NSC program office clarify them.[27] DHS leadership has acknowledged the department has had difficulty defining KPPs but also said that PARM has improved its ability to help programs define KPPs effectively over time. Additionally, DHS's Director of Operational Test and Evaluation has expressed interest in coordinating with programs earlier in the acquisition life cycle to improve the requirements development process.[28]

Officials from four programs said they may pursue greater capabilities in the future, and that they may have to revise their KPPs as a result. For example, TSA officials said that the PSP program will update its requirements when it accounts for the next generation of screening technologies. In another case, NPPD officials said emerging threats may drive the NCPS program to pursue additional capabilities, which may in turn drive KPP changes.

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[27]GAO-16-148.

[28]In June 2014, the DHS Secretary directed the creation of a Joint Requirements Council to look at cross-component requirements and develop recommendations for investment. Among other things, DHS officials said the Joint Requirements Council is now responsible for validating requirements for all programs, whether part of a joint effort or not. We are currently reviewing the Joint Requirements Council and plan to issue a report later this year.

DHS Leadership Is Taking Steps to Improve the Affordability of Its Major Acquisition Portfolio, but Funding Gaps Remain for Some Programs

Fourteen of the programs we reviewed are currently projected to receive at least 93 percent of the funding they need through fiscal year 2020. However, 10 programs are projected to experience a funding gap exceeding 10 percent during this period, including 6 of the 7 USCG programs we assessed.[29] DHS information indicates that five of the USCG programs face funding gaps exceeding 40 percent, but this information likely overstates the size of the gaps, as DHS's funding plans do not reflect all of the funding the USCG plans to allocate to its acquisition programs. We previously recommended DHS correct this issue, and DHS and the USCG are continuing to work to identify ways to do so.[30] DHS leadership is also taking other steps to improve the affordability of acquisition programs, primarily by assessing and addressing affordability tradeoffs through the department's acquisition management process. From June 2014 to December 2015, DHS formally reviewed 14 of the 25 programs we reviewed through its acquisition management process, and has identified specific actions to improve the affordability of 3 programs currently facing large funding gaps: CBP TACCOM and IFT, and FEMA LSCMS. However, DHS has not identified specific actions to improve the affordability of one of the programs that department leadership reviewed—USCG NSC—and this program continues to face a funding gap exceeding 10 percent. In this case, the USCG did not provide DHS leadership critical information necessary for addressing affordability issues. DHS officials noted they can address the affordability of major acquisition programs through the department's annual resource allocation process if it is not done through the acquisition management process, though we found limitations to this approach. DHS's components have a significant role to play in DHS's efforts to improve its acquisition programs' affordability, but some have more robust processes than others. Figure 11 identifies the department's efforts to address major acquisition programs' affordability issues.

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[29]We did not include StAMP in our assessment of funding gaps from fiscal year 2015 to 2020 because CBP planned to discontinue the program by March 2016.

[30]GAO-15-171SP.

Figure 11: DHS Efforts to Address Major Acquisition Programs' Affordability Issues

Component	Program	Funding surplus or gap (percent) per DHS reporting	Reviewed through acquisition management process	Addressed through resource allocation process
Customs and Border Protection (CBP)	Automated Commercial Environment (ACE)[a]	+14.8		●
	Integrated Fixed Towers (IFT)[b]	-25.6	●	
	Land Border Integration (LBI)	-6.5	●	
	Non-Intrusive Inspection (NII) Systems Program	-5.5		
	Strategic Air and Marine Program (StAMP)[c]	N/A	N/A	N/A
	Tactical Communications (TACCOM) Modernization[b]	-18.4	●	
	TECS (Not an acronym) Modernization	-2.4	●	
Federal Emergency Management Agency (FEMA)	Logistics Supply Chain Management System (LSCMS)[b]	-18.6	●	
Immigration and Customs Enforcement (ICE)	TECS (Not an acronym) Modernization	+1.0	●	
National Protection and Programs Directorate (NPPD)	Continuous Diagnostics & Mitigation (CDM)	-2.7	●	●
	National Cybersecurity Protection System (NCPS)	+0.2	●	●
	Next Generation Networks Priority Services (NGN-PS)	+1.3		
Office of the Chief Information Officer (OCIO)	Homeland Security Information Network (HSIN)	+3.4	●	
Science and Technology Directorate (S&T)	National Bio and Agro-Defense Facility (NBAF)	-2.4	●	
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)	+8.0	●	
	Passenger Screening Program (PSP)	+2.9	●	
	Technology Infrastructure Modernization (TIM)	-25.0		
U.S. Coast Guard (USCG)	C4ISR[d,e]	-62.9		
	Fast Response Cutter (FRC)[e]	-4.3		
	HH-65 Conversion/Sustainment Projects[e]	-91.7		
	Long Range Surveillance Aircraft (HC-130H/J)[e]	-90.3		
	Medium Range Surveillance Aircraft (HC-144A & C-27J)[e]	-56.7		
	National Security Cutter (NSC)[e]	-10.5	●	
	Offshore Patrol Cutter (OPC)	-44.3		
U.S. Citizenship and Immigration Services (USCIS)	Transformation[a]	+30.3	●	

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

[a]We discuss the program's funding surplus in the individual program assessment in Appendix I.

[b]DHS leadership has identified specific actions to improve the program's affordability

[c]We did not include StAMP in our assessment because CBP planned to discontinue the program by March 2016.

[d]C4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.

[e]DHS funding plans do not reflect all operations and maintenance funding the USCG plans to allocate to the program.
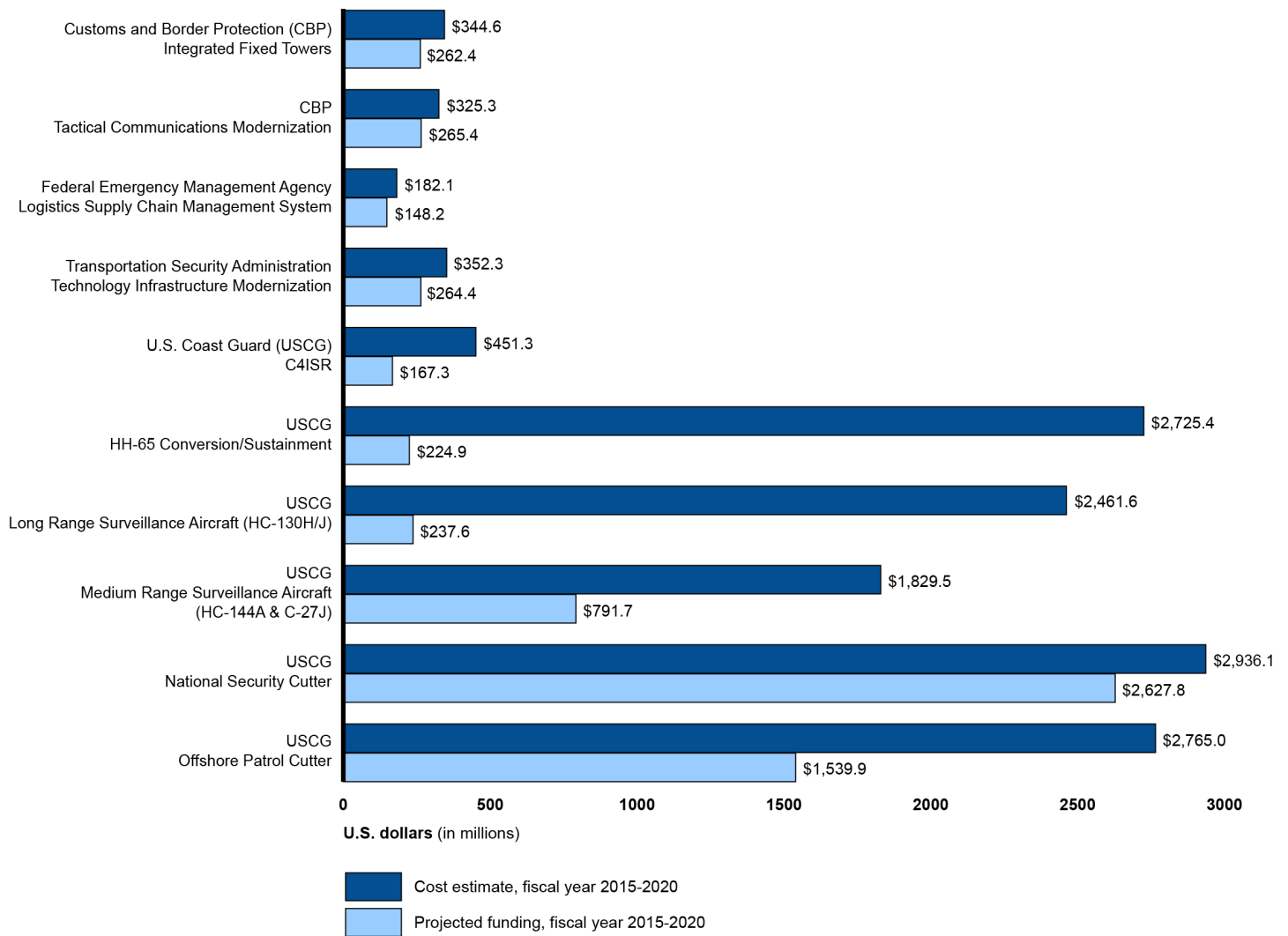
Ten of the Programs We Assessed Face Funding Gaps Exceeding 10 Percent through Fiscal Year 2020, Including 6 of the 7 USCG Programs

In April 2014, we reported that DHS's major acquisition programs faced a 30 percent funding gap over a 5-year period, and recommended DHS take steps to close this gap.[31] In June 2014, the DHS Chief Financial Officer (CFO) established a new process for improving the affordability of the department's acquisition portfolio, which addressed one of our recommendations. During this assessment, we found that 14 of the programs are now projected to receive at least 93 percent of the funding they require through fiscal year 2020 based on our review of DHS's planned funding allocations, annual cost estimates, and carryover funding. We compared the programs' funding plans—documented in DHS's annual Future Years Homeland Security Program (FYHSP) report to Congress—to the programs' yearly cost estimates in order to identify funding gaps, if any, from fiscal years 2015 to 2020. The funding plans in the FYHSP report and the yearly cost estimates are intended to account for both acquisition activities and the operations and maintenance (O&M) of systems once they are deployed. We also identified how much carryover funding the programs brought into fiscal year 2015 to determine the extent to which that carryover funding could offset any funding gaps. We did not assess one program—CBP's StAMP program—because CBP planned to discontinue the program in fiscal year 2016, and DHS has not yet finalized funding plans for its successor programs. The other 10 programs we assessed face funding gaps exceeding 10 percent through fiscal year 2020, and totaling $7.8 billion. However, the actual funding gap is likely less than DHS information indicates. These programs include 6 of the 7 USCG programs, and in April 2015, we found that the funding plans DHS presents to Congress do not reflect all of the O&M funding the USCG plans to allocate to its acquisition programs.[32] We found that the USCG funding gaps constitute the bulk of the total funding gap, as shown in figure 12.

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[31]GAO-14-332.

[32]GAO-15-171SP.

Figure 12: Major DHS Acquisition Programs' Funding Gaps through Fiscal Year 2020

U.S. dollars (in millions)

Legend:
- ■ Cost estimate, fiscal year 2015-2020
- ■ Projected funding, fiscal year 2015-2020

Data shown in chart:

Program	Cost estimate	Projected funding
Customs and Border Protection (CBP) Integrated Fixed Towers	$344.6	$262.4
CBP Tactical Communications Modernization	$325.3	$265.4
Federal Emergency Management Agency Logistics Supply Chain Management System	$182.1	$148.2
Transportation Security Administration Technology Infrastructure Modernization	$352.3	$264.4
U.S. Coast Guard (USCG) C4ISR	$451.3	$167.3
USCG HH-65 Conversion/Sustainment	$2,725.4	$224.9
USCG Long Range Surveillance Aircraft (HC-130H/J)	$2,461.6	$237.6
USCG Medium Range Surveillance Aircraft (HC-144A & C-27J)	$1,829.5	$791.7
USCG National Security Cutter	$2,936.1	$2,627.8
USCG Offshore Patrol Cutter	$2,765.0	$1,539.9

Note: DHS funding plans do not reflect all of the operations and maintenance funding USCG plans to allocate to its programs.

According to our analysis, the funding gap for the USCG programs appears to be approximately $7.5 billion, with gaps ranging from $284 million to $2.5 billion per program. However, as noted above, the actual funding gap is likely less than DHS information indicates. We have assessed USCG affordability issues since 2011, and, in April 2015, we recommended DHS and USCG account for all of the O&M funding the

USCG plans to allocate to its acquisition programs in its annual reports to Congress.[33] DHS concurred with the recommendation. However, as of January 2016, DHS and USCG had made no progress in accounting for the Coast Guard's O&M funding allocations for its acquisition programs. USCG officials said that it is difficult to account for O&M funding allocations because its acquisition programs plan to use shared O&M resources, such as personnel and maintenance facilities, which support a number of existing and new assets. Because DHS's funding plans for the USCG acquisition programs still do not fully account for all planned O&M funding, the apparent funding gap for these six USCG programs is likely smaller than $7.5 billion. However, USCG officials stated they were unable to provide a more accurate estimate of the funding gap. Given that an acquisition program's O&M activities can account for more than 80 percent of program life-cycle costs, DHS's continued inability to account for all of the O&M funding the USCG plans to allocate to its acquisition programs is significant. Until DHS implements our April 2015 recommendation, this issue will continue to obscure the size of the USCG's funding shortfalls and undermine DHS's efforts to address the USCG's funding gaps in an informed manner.

To be consistent with DHS policy, we primarily used LCCEs to assess affordability issues, but we also focused more narrowly on the USCG's acquisition activities for additional context. When we did so, we found that the USCG programs still faced a funding gap of approximately $2.4 billion (or about 30 percent on average) through fiscal year 2020. We also found that the Long Range Surveillance Aircraft and the Offshore Patrol Cutter programs account for the bulk of this gap. Figure 13 presents the results of our USCG affordability analysis when we excluded the unreliable O&M data.

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[33]GAO-11-743, GAO-14-450, GAO-15-171SP.

Figure 13: USCG Programs' Acquisition Funding Gaps through Fiscal Year 2020

Program	Cost estimate, FY 2015-2020	Projected funding, FY 2015-2020
C4ISR	$275.0	$167.3
Fast Response Cutter	$1,769.0	$1,754.7
HH-65 Conversion/Sustainment Projects	$202.3	$224.9
Long Range Surveillance Aircraft (HC-130H/J)	$1,142.1	$251.6
Medium Range Surveillance Aircraft (HC-144A & C-27J)	$762.9	$565.4
National Security Cutter	$1,133.5	$1,109.6
Offshore Patrol Cutter	$2,765.0	$1,539.9

U.S. dollars (in millions)

■ Cost estimate, fiscal year 2015-2020
■ Projected funding, fiscal year 2015-2020

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

DHS Leadership Is Taking Steps to Improve the Affordability of the Department's Acquisition Portfolio but Has Not Yet Addressed Several Programs' Funding Gaps

In 2014, we found that DHS was poorly prepared to manage its affordability challenges.[34] We reported that DHS's CFO had identified that the department's major acquisition portfolio faced a 30 percent funding gap from fiscal year 2014 to fiscal year 2018, and that this funding gap suggested that DHS leadership had not effectively prioritized its acquisition funding needs. However, more recently, DHS leadership has begun to take some steps to improve the affordability of the department's acquisition programs. According to DHS financial officials, the department's leadership now addresses acquisition affordability issues through two processes: the acquisition management process and the resource allocation process. We found the acquisition management

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[34]GAO-14-332.

process has been the primary process through which DHS leadership has managed acquisition affordability, but it has not yet addressed several programs' funding gaps.

Acquisition Management Process

In September 2012, we found that DHS's acquisition policy fully reflects GAO's key program management practice that programs should secure stable funding that matches resources to requirements.[35] In June 2014, the DHS CFO established that, prior to most ADEs, components must certify programs' funding levels and identify tradeoffs necessary to address the programs' funding gaps, if any exist.[36] The CFO further established that this funding certification memo should prepare the ARB to discuss acquisition affordability at the ADE, and, if the component identifies a funding gap, document any tradeoffs between cost, schedule, and performance that should be made to improve the program's affordability. In April 2015, we identified the CFO's requirement as a positive step towards closing the department's acquisition funding gap.[37]

From June 2014 through December 2015, components submitted funding certification memos to DHS leadership for 14 of the 25 programs we review in this report. Specifically, components certified funding levels for the following programs:

- CBP IFT

- CBP LBI

- CBP TACCOM

- CBP TECS Modernization

- FEMA LSCMS

- ICE TECS Modernization

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[35]GAO-12-833.

[36]This requirement was an update on and clarification of related guidance issued by the DHS CFO in December 2012. Prior to June 2014, components certified three programs' funding levels: CBP ACE, NPPD NGN-PS, and USCG FRC.

[37]GAO-15-171SP.

- NPPD CDM

- NPPD NCPS

- OCIO HSIN

- S&T NBAF

- TSA EBSP

- TSA PSP

- USCG NSC

- USCIS Transformation

DHS officials told us that DHS leadership is discussing affordability at all ARB meetings, and we found the components consistently certified the programs' funding levels in accordance with CFO direction. We also found that the components generally identified affordability tradeoffs when necessary. For example, the NPPD funding certifications for CDM and NCPS both presented detailed tables that quantified such information as cost estimates, funding streams, and the monetary value of proposed tradeoffs, as appropriate. We found that both of these NPPD programs are projected to receive all, or nearly all, of the funding they need through fiscal year 2020. In total, 10 of the 14 programs with component-certified funding levels currently appear to be affordable based on our review of DHS's fiscal year 2015 FYHSP report and the programs' yearly cost estimates and carryover funding. They are projected to receive at least 93 percent of the funding they need through fiscal year 2020.

Four of the 14 programs with funding certifications currently appear to be unaffordable—they are currently projected to receive less than 90 percent of the funding they need through fiscal year 2020. That said, the components submitted the funding certifications for 3 of these programs relatively recently—since October 2015—and identified specific actions they can take to improve the programs' affordability going forward.

- **CBP TACCOM:** CBP identified potential cost savings exceeding $70 million over the next 5 years. For example, CBP may limit radio upgrades, purchase less test equipment, and extend the service life of functioning technology.

- **CBP IFT:** CBP plans to increase the program's 5-year funding allocation by more than $140 million through fiscal year 2020.

- **FEMA LSCMS:** FEMA has identified funding sources outside the program that can allocate LSCMS an additional $26 million over the next 5 years, as well as an estimated $8.7 million in cost savings stemming from accelerated contract actions.

Alternatively, the USCG NSC program—one of the department's largest investments—continues to face a funding gap exceeding 10 percent even though it was reviewed in September 2014. We found that the funding certification memo that the USCG provided to the DHS ARB did not include as much detail as the others we reviewed across DHS components. Specifically, the NSC funding certification, signed by the USCG CFO, consisted of only a high-level narrative discussion, stating that adjustments would be made, as necessary, to sustain and operate the NSC. Unlike the other funding certifications we reviewed, it did not include detailed tables that quantified cost estimates, funding streams, and the monetary value of proposed tradeoffs. We also found that DHS leadership did not document any tradeoffs to improve the program's affordability after the September 2014 ARB. While the DHS CFO's June 2014 memorandum identifies that the success of the ARB reviews is dependent on the quality of the information presented to the ARB, it does not specify what information the components should include in the memos. It does not specifically require detailed information, such as quantifying cost estimates, funding streams, and the monetary value of proposed tradeoffs. We have previously established that information should be communicated to management in a form that enables them to carry out their responsibilities.[38] Without detailed information, the ARB will be unable to hold fully informed discussions about tradeoffs needed to improve program affordability.

Resource Allocation Process

When we noted that only 14 of the 25 programs we reviewed proceeded through formal ADEs from June 2014 through December 2015, officials from DHS's Office of Program Analysis and Evaluation (PA&E) responded that the department's leadership can address the affordability of major acquisition programs through DHS's annual resource allocation process if it does not do so through the acquisition management process.

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[38]GAO/AIMD-00-21.3.1.

Officials from PA&E, the office responsible for overseeing the development of the FYHSP through the resource allocation process, stated that, since 2014, DHS has included a discrete 5-year funding plan for each major acquisition program in the department's annual resource allocation decision memos. The department's leadership decides whether to fund each program in accordance with its LCCE when it establishes these 5-year funding plans, which are reported to Congress through DHS's annual FYHSP report. These decisions are based on the department's priorities and are informed by affordability analyses completed by the components and, according to a PA&E official, validated by the DHS CFO. However, the resource allocation process is not primarily intended to provide DHS leadership an opportunity to improve affordability through changes to cost, schedule, or performance goals. Specifically, the resource allocation process is focused on annual budget and multi-year programming preparation and does not provide DHS leadership an opportunity to rebaseline programs in the same manner that the acquisition management process does.

Additionally, PA&E does not consistently identify the size of the major acquisition programs' funding gaps for DHS leadership during the resource allocation process. In April 2014, we recommended that DHS present acquisition programs' annual cost estimates and any anticipated funding gaps in the FYHSP reports to Congress; DHS concurred with this recommendation but has not yet addressed it. Additionally, DHS has not updated the 30 percent funding gap figure we reported at that time. We were able to calculate program funding gaps for the purpose of this review by assessing DHS's fiscal year 2015 FYHSP report and the programs' yearly cost estimates and carryover funding, but PA&E officials told us that it is difficult for them to do so across all of DHS's major programs. They told us that DHS's existing financial management systems and appropriations account structures, both of which vary by component, make it difficult for them to reliably calculate funding gaps on a program by program basis.

Specifically, the PA&E officials stated it is challenging for them to independently identify and validate three sets of data necessary to estimate funding gaps: (1) annual funding allocated to individual programs, (2) annual carryover funding for each program, and (3) annual costs incurred by the program offices. CBP, for example, primarily receives its annual funding through five large appropriations accounts, including automation modernization and air and marine interdiction. However, these appropriations do not consistently identify how much funding is to be allocated to the component's major acquisition programs,

which, according to PA&E officials, makes it difficult for them to independently identify how much funding the component actually allocates to these acquisition programs. According to PA&E officials, ongoing initiatives to modernize components' financial management systems, create a standard accounting classification system, and implement a common appropriations account structure across the department will allow them to more reliably identify funding gaps in the future, and, in turn, enhance their efforts to address the gaps. However, they do not anticipate the new systems and the new account structure will be fully implemented for several years. In the interim, we have found that DHS leadership rarely uses the department's resource allocation process to address acquisition affordability. Specifically, when DHS leadership was developing the department's current FYHSP report, it established that only 3 of the 24 programs in our affordability analysis—CBP ACE, and NPPD CDM and NCPS—should receive full funding in accordance with their LCCEs.[39] Further, DHS did not use the resource allocation process to improve the affordability of any of the programs that are currently facing funding shortfalls exceeding 10 percent through fiscal year 2020. For these reasons, the acquisition management process—particularly its funding certification component—provides DHS leadership greater opportunities to improve a program's affordability.

Acquisition Management Process Does Not Require Timely Review of Major Programs' Affordability

The funding certification component of DHS's acquisition management process has not kept pace with the resource allocation process's annual cycle. Specifically, the current process does not require components to submit funding certification memos to the CFO unless their major acquisition programs are scheduled for an ADE. We found that, from June 2014 through December 2015, components did not submit funding certification memos for 11 of the 25 programs we reviewed because they did not proceed to an ADE. As a result, DHS's ARB did not receive the information needed to discuss the programs' affordability during that time. Given that the memos are not required until each program's next ADE, it is uncertain when the ARB will review the remaining programs. We have previously established that information should be communicated to management within a time frame that enables them to carry out their responsibilities.[40] Without ARB affordability reviews based on funding

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[39]We did not include StAMP in our assessment of funding gaps from fiscal year 2015 to 2020 because CBP planned to discontinue the program by March 2016.

[40]GAO/AIMD-00-21.3.1.

certification memos—for all major acquisition programs and not only those scheduled for ADEs—the ARB will miss opportunities to make tradeoffs between cost, schedule, and performance, as necessary.

Additionally, the acquisition funding plans produced through the resource allocation process and presented to Congress in the FYHSP report are less likely to cover all of the programs' planned expenses throughout the 5-year FYHSP period. Specifically, if these programs do not proceed to an ADE during fiscal year 2016 or 2017, the respective components will not be required to submit funding certification memos to DHS's CFO before the department submits the fiscal year 2017 FYHSP report to Congress.[41] If DHS's communications to Congress are not informed by the funding certification memos—and as necessary, ARB affordability reviews—there is a greater risk that DHS will not provide Congress accurate, timely information about its major acquisition programs' funding needs and any necessary tradeoffs. We have previously established that an agency's management should ensure that there is adequate communication with external stakeholders—such as Congress—who have a significant impact on the agency's ability to achieve its goals.[42]

In January 2016, DHS's CFO emphasized that the components must provide updated cost estimates on an annual basis to inform the resource allocation process, which should improve DHS leadership's visibility into affordability issues. However, as we have identified in this assessment, the acquisition management process will continue to provide DHS leadership greater information and opportunities to address acquisition affordability issues.

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[41]DHS must submit the fiscal year 2017 FYHSP report to Congress at or about the same as the President's fiscal year 2018 budget request.

[42]GAO/AIMD-00-21.3.1.

DHS Components Play a Leading Role in Managing Acquisition Affordability, but Some Have More Robust Processes Than Others

As noted above, we previously found that DHS's acquisition policy fully reflects GAO's key program management practice that programs should secure stable funding that matches resources to requirements.[43] DHS components play a leading role in managing the affordability of the department's acquisition portfolio. The components drive tradeoff considerations prior to ADEs when they submit funding certification memos to the ARB, and provide affordability analyses that inform DHS's resource allocation process. However, we found that the processes for managing acquisition affordability vary significantly across components. We assessed the policies and processes for managing acquisition affordability at TSA, CBP, and the USCG because these three components account for nearly 90 percent of the total costs of the 25 programs we reviewed. We found that TSA's policies and processes were more robust, and that TSA's largest acquisition programs were generally more affordable than the CBP and USCG programs.

- **TSA:** We found that TSA has established a formal, repeatable process for addressing acquisition affordability issues. TSA policy stipulates that acquisition programs' LCCEs are to be updated annually and establishes an LCCE Review Board. The LCCE Review Board, which is comprised of senior TSA officials, validates the affordability of each acquisition program in the TSA portfolio and discusses tradeoffs or other funding solutions that can be pursued to maintain the affordability of TSA's acquisition programs. According to DHS OCFO officials, TSA has developed a sound process for managing acquisition affordability. We found that TSA's largest programs—EBSP and PSP—are projected to receive all of the funding they require through fiscal year 2020.

- **CBP:** We found that CBP does not have a formal, component-specific process for managing acquisition affordability. According to CBP officials, CBP informally manages the affordability of its acquisition programs through a variety of other processes, including semi-annual acquisition portfolio reviews, operational requirements reviews, and DHS's annual resource allocation process. In October 2015, a senior CBP official reported the component was still working to baseline many of its acquisition programs, which had made it difficult for CBP to fully assess the affordability challenges it may face. However, this official stated that CBP may have a better understanding of future

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[43]GAO-12-833.

funding challenges by the end of fiscal year 2016.

- **USCG:** According to senior USCG officials, the Coast Guard employs an informal, iterative process for determining whether a program is affordable. Similar to CBP, USCG officials reported that the Coast Guard addresses acquisition affordability through DHS's annual resource allocation process and during acquisition reviews. However, as noted above, we believe the USCG acquisition portfolio faces significant funding shortfalls.

TSA's formal, repeatable process for addressing acquisition affordability issues has helped programs address funding gaps more consistently than the processes at CBP and USCG. Without having in place a formal, consistent process for addressing affordability, DHS components with major acquisition programs may not be well-positioned to avoid having to make costly, unplanned adjustments midcourse as a result of affordability issues.

Conclusions

DHS leadership has focused in recent years on improving the acquisition management of its major programs. However, we continue to find major acquisition programs that are not on track and that will likely not be in the future. To be clear, there can be valid reasons for cost growth or schedule delays. For example, some programs are pursuing expanded capabilities to meet evolving threats. In these situations, more time and money will be needed to achieve their ultimate goals. At the same time, other reasons for cost growth and schedule slips are more troubling, such as initial cost estimates that were not comprehensive. Funding constraints can also impede a program's intended delivery of capabilities.

These conflicting factors reflect the tensions the department faces more generally. DHS is responsible for confronting dynamic threats with a constrained budget, and the department's priorities will inevitably change as its leadership continuously reevaluates where it should allocate DHS's limited resources. We recognize that DHS leadership may have to make costly adjustments to some of its largest acquisition programs as a result. However, informed decisionmaking can better control these costs. DHS leadership has taken some recent steps in this regard. A key action was the recent approval of several APBs, establishing authoritative cost, schedule, and performance goals that will greatly enhance the department's efforts to oversee and manage those programs. Additionally, the June 2014 funding certification requirement has enhanced the department's acquisition management process by creating

a formal mechanism to address affordability issues. However, opportunities exist for DHS leadership to expand upon these efforts. These opportunities pertain to the information components provide on program affordability, the timeframes within which affordability assessments are conducted, DHS's communications with Congress, and the processes components use to address and communicate affordability information to leadership. Making such refinements to DHS's requirements and processes would better position the department to ensure that intended capabilities are delivered to end users and that Congress and taxpayers understand how much they should cost in the coming years.

Given the ongoing opportunities to address DHS's acquisition affordability issues, we reiterate our April 2014 recommendation that DHS present acquisition programs' annual cost estimates and any anticipated funding gaps in its annual FYHSP reports to Congress. We also reiterate our April 2015 recommendation that DHS account for all of the operations and maintenance funding it plans to allocate to USCG programs in its annual FYHSP reports. We will continue to track the department's progress in these two areas.

Recommendations for Executive Action

We are making four recommendations to enhance DHS leadership's ongoing efforts to improve the affordability of the department's major acquisition portfolio:

1. To help ensure key information is communicated to management, we recommend the Secretary of the Department of Homeland Security establish that components' senior financial officers explicitly quantify cost estimates, funding streams, and the monetary value of proposed tradeoffs in the funding certification memos they submit to DHS's CFO.

2. To ensure that acquisition affordability reviews are conducted in a timely manner, we recommend the Secretary of the Department of Homeland Security require the components to submit to DHS's CFO funding certification memos for all major acquisition programs that have not been reviewed at an ADE since the funding certification requirement was established; and convene ARBs to discuss affordability and make tradeoffs between cost, schedule, and performance, as necessary.

3. To ensure adequate communication with Congress, we recommend the Secretary of the Department of Homeland Security ensure that the fiscal year 2017 FYHSP report, which DHS must submit to Congress at or about the same time as the President's fiscal year 2018 budget request, reflects the results of any tradeoffs stemming from the acquisition affordability reviews recommended above.

4. To help ensure programs secure stable funding that matches resources to requirements, we recommend the Secretary of the Department of Homeland Security require components to establish formal, repeatable processes for addressing major acquisition affordability issues, similar to the process TSA has established.

Agency Comments and Our Evaluation

We provided a draft of this product to DHS for comment. In its written comments, reproduced in appendix III, DHS concurred with all four of our recommendations and provided estimated completion dates for each.

In response to our first recommendation, the department identified that the DHS CFO updated the guidance for the funding certification memos in February 2016, adding a template that solicits detailed information about available funding and any associated shortfalls. We reviewed the guidance and template and determined that this action addresses the recommendation.

In response to our second recommendation, the department stated that it is now requiring that the components submit key funding information annually for major acquisition programs, and that it will determine the need for ARB meetings based on this information by September 30, 2016. This approach, once implemented, will address our second recommendation.

In response to our third recommendation, the department stated the FYHSP will reflect decisions made in response to our second recommendation by February 28, 2017, which will address our recommendation.

In response to our fourth recommendation, the department stated that DHS headquarters will ensure all components are updating their cost estimates each year to inform the annual resource allocation process by March 31, 2017. If DHS headquarters does so by requiring components to establish formal, repeatable processes for addressing major acquisition affordability issues, similar to the process TSA has established, this approach could address our fourth recommendation.

DHS also provided technical comments that we addressed as appropriate.

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

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or mackinm@gao.gov. Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

Michele Mackin
Director, Acquisition and Sourcing Management

The Honorable Ron Johnson
Chairman
The Honorable Thomas R. Carper
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable John Hoeven
Chairman
The Honorable Jeanne Shaheen
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
United States Senate

The Honorable Michael T. McCaul
Chairman
The Honorable Bennie Thompson
Ranking Member
Committee on Homeland Security
House of Representatives

The Honorable John Carter
Chairman
The Honorable Lucille Roybal-Allard
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
House of Representatives

Appendix I: Program Assessments

This appendix presents individual assessments for each of the 25 programs we reviewed. Each of these assessments is two pages and presents information current as of January 2016. They include several standard elements, including an image provided by the program office, a brief program description, and a summary of the program's progress in meeting its key performance parameters. Each assessment also includes four figures: Projected Funding vs. Estimated Costs, Program Office Staffing Profile, Schedule Changes over Time, and Cost Estimate Changes over Time. These four figures are generally based on Department of Homeland Security (DHS) headquarters-approved documentation and data, including the fiscal year 2016-2020 Future Years Homeland Security Program report to Congress and staffing assessments conducted by the Office of Program Accountability and Risk Management. However, in some cases, the figures are based on data the program office provided when it commented on a draft of the assessment if, for example, the data were more accurate or current.

For each program, the figure tracking how the program's schedule has changed over time consists of two timelines. The first timeline is generally based on the initial Acquisition Program Baseline (APB) DHS leadership approved after the department's current acquisition policy went into effect in November 2008. Because these APBs were approved at different times, the first as-of date varies across programs. The second timeline identifies when that program expected to reach its major milestones as of January 2016. The second timeline also identifies any new major milestones that were introduced after the initial APB was approved, such as the date a new increment was scheduled to achieve initial operational capability, or the date the program was rebaselined.

The figure tracking how the program's cost estimate has changed over time generally compares the program's cost estimate in the initial APB approved after DHS's current acquisition policy went into effect to the program's expected costs as of January 2016. This figure also identifies how much funding had been appropriated to the program through fiscal year 2015 and how it compares to future funding needs.

Each program assessment also consists of a number of other sections depending on issues specific to each program. These sections may include: Program Governance, Acquisition Strategy, Program Execution, Test Activities, and Other Issues.

Lastly, each program's assessment also presents the program office's comments on the assessment, as well as GAO's response, as necessary.

Automated Commercial Environment (ACE)
Customs and Border Protection (CBP)

Source: CBP.

Program Description

The ACE program is developing software that will electronically collect and process information submitted by the international trade community. ACE is intended to provide private and public sector stakeholders access to this information, and enhance the government's ability to determine whether cargo should be admitted into the United States. The ACE program ultimately aims to increase the efficiency of operations at U.S. ports by eliminating manual and duplicative trade processes, and enabling faster decision making. Department of Homeland Security (DHS) leadership rebaselined the program in August 2013 after it struggled to deliver capability for several years. GAO previously reported on CBP's ACE program in April 2015 (GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$149
2017	$84
2018	$67
2019	$61
2020	$63

Program Office Staffing Profile

Staffing gap: 15 FTEs

Staff needed: 196 full time equivalents (FTE)

Actual staff: 181 FTEs

Schedule Changes over Time

As of: August 2013

As of: January 2016

Initial software release
Feb. 2003

CBP directed to halt new development
Aug. 2010

Program rebaselined
Aug. 2013

Final operational test and evaluation
Sept. 2016

Full operational capability
Nov. 2016

2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

Cost Estimate Changes over Time

Dollars in millions

	Acquisition cost	Life-cycle cost
As of: August 2013	$2,039	$4,451
As of: January 2016	$2,039	$4,451
Appropriations through fiscal year 2015	$3,586	

Performance

In August 2013, CBP officials revised ACE's key performance parameters (KPP) because it could not meet its cost and schedule goals while pursuing them. CBP simplified ACE's high-level requirements, and created lower-level operational requirements for each software release. CBP officials said three of the program's four KPPs were tested and successfully demonstrated in May 2015. According to program officials, ACE will not demonstrate it can meet all of its KPPs until the program's final operational test, which is currently scheduled for September 2016.

Acquisition Strategy

When DHS leadership rebaselined ACE's cost, schedule, and performance parameters in August 2013, the program adopted an agile software development methodology to accelerate software creation and increase flexibility in the development process. ACE's agile method is defined by a series of 2-week "sprints," during which software is designed, developed, integrated, and tested. Six ACE sprints constitute a program increment. The program currently consists of 13 increments, which are to be completed over a 3-year period. At the end of each sprint, software developers demonstrate new capabilities to ACE end users to obtain feedback and confirm that the new capabilities meet requirements. The ACE program office serves as the system integrator, overseeing 15 agile development teams. Because the agile teams demonstrate capabilities after each sprint, ACE program officials said they have opportunities to closely monitor contractor performance and mitigate risks through real-time management decisions.

Program Execution

According to program officials, the ACE program remains on track to meet the cost and schedule parameters in its August 2013 baseline. Ten of the program's 13 increments had been deployed as of January 2016, and ACE is expected to achieve full operational capability in November 2016, as scheduled. Program officials attributed the program's recent performance to several factors, including the adoption of an agile software development methodology, the consolidation of ACE infrastructure, and the use of cloud services and open source software, which lowers licensing costs.

However, the program previously struggled to develop capability for several years, and according to the program, ACE used approximately 80 percent of its total budget to deliver approximately 35 percent of its intended capabilities. In August 2010, DHS leadership directed CBP to halt all new ACE development. DHS did not authorize CBP to restart development efforts until August 2013, when DHS leadership rebaselined the ACE program. At that time, ACE's full operational capability date slipped more than 5 years.

Test Activities

From January to February 2012, ACE conducted an operational test on rail- and sea-trade data processing capabilities. However, program officials said the test failed to produce meaningful results because the program lacked operational requirements that could be used to assess the interim capability. They also said CBP subsequently revised ACE requirements to ensure that each increment is testable and that results can effectively inform program management decisions.

In September 2013, 1 month after DHS leadership rebaselined the program, DHS's Director of Operational Test and Evaluation approved ACE's Test and Evaluation Master Plan (TEMP). According to program officials, in May 2015 the program conducted its first operational test since the rebaselining. However, officials stated that the program did not adhere to the plan established in the TEMP, as program leadership determined it would be more feasible to test ACE's KPPs in batches, rather than all at once as directed by the TEMP. Officials said they now plan to revise the TEMP to increase testing flexibility, and to better align testing with capability deliveries. The program plans to conduct two more operational tests by September 2016.

Other Issues

Officials said CBP currently operates a mainframe that hosts software capabilities for various programs, including ACE. According to program officials, CBP encouraged all programs to migrate off the mainframe by September 2015 because it is expensive to maintain. However, program officials suggested that this goal was unrealistic, explaining that none of CBP's programs will meet this deadline. In September 2015, ACE officials stated they were in the process of migrating ACE capabilities off the mainframe, but may not complete this effort until March 2017, in accordance with their original plan. As a result, the program is responsible for a portion of CBP's costs to maintain the mainframe. Program officials reported that ACE's portion approaches $4 million per month, which has been factored into the program's cost estimate.

From fiscal year 2017 to 2020, the ACE program's current funding plan exceeds its yearly cost estimates. However, program officials said CBP plans to reallocate $20 million of ACE's future funding each year to another program, and that this will eliminate ACE's projected funding surplus.

Program Office Comments

CBP provided technical comments that GAO addressed as appropriate.

Integrated Fixed Towers (IFT)
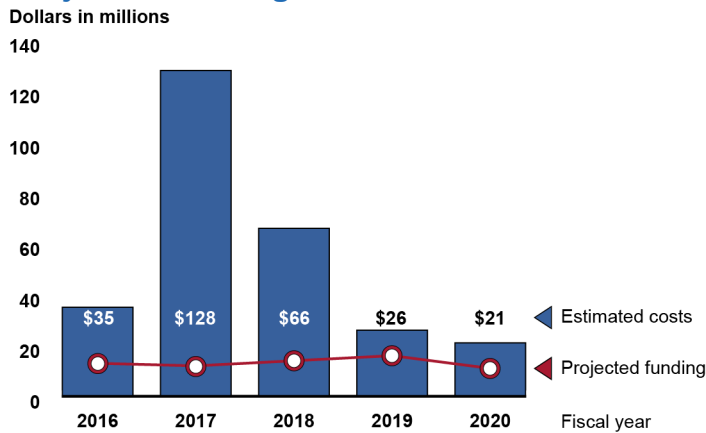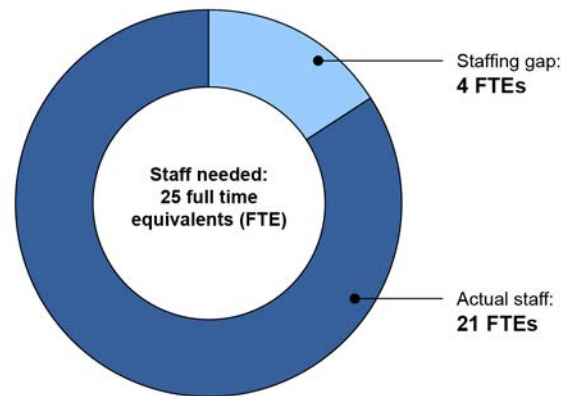## Customs and Border Protection (CBP)

Source: CBP.

Program Description

The Department of Homeland Security (DHS) established the IFT program in March 2012 to address the capability gap left when the Secretary of Homeland Security canceled the Secure Border Initiative Network (SBInet) program. CBP plans to deliver 53 fixed surveillance tower units equipped with ground surveillance radar, infrared cameras, and communications systems linking the towers to command and control centers. CBP plans to deploy these units across six areas of responsibility (AoR) in Arizona to help the Border Patrol detect and track illegal entries in remote areas. GAO previously reported on CBP's IFT program in April 2015 and March 2014 (GAO-15-171SP, GAO-14-368). DHS leadership rebaselined the program in December 2015, approximately 3 years after CBP determined the program could not meet its initial schedule goals.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$35
2017	$128
2018	$66
2019	$26
2020	$21

Program Office Staffing Profile

Staff needed: 25 full time equivalents (FTE)

Staffing gap: 4 FTEs

Actual staff: 21 FTEs

Schedule Changes over Time

As of: March 2012

As of: January 2016

- Acquisition program baseline approved Mar. 2012
- Schedule breach Nov. 2012
- Deployment authorization Dec. 2013
- Limited user test Nov. 2015
- Full operational capability Sept. 2020

Cost Estimate Changes over Time

Dollars in millions

As of: March 2012
- Acquisition cost $288
- $961 Life-cycle cost

As of: January 2016
- Acquisition cost $341
- $749 Life-cycle cost

Appropriations through fiscal year 2015 $190

Performance

CBP officials reported that IFT met all three of its key performance parameters (KPP) during a July 2015 systems acceptance test in the Nogales AoR. These KPPs establish a minimum acceptable range for detection and identification, and the percentage of time the system must operate as intended. However, DHS's Director of Operational Test and Evaluation (DOT&E) had not independently assessed IFT's performance as of January 1, 2016.

Acquisition Strategy

In January 2011, the Secretary of Homeland Security canceled further procurements and deployments under CBP's SBInet program in response to cost, schedule, and performance problems involving the acquisition of new surveillance technologies. Subsequently, when CBP initiated the IFT program, it decided to purchase a non-developmental system, and it required that prospective contractors demonstrate their systems prior to awarding a contract. The program awarded the contract to EFW, Inc. in February 2014, but this award was protested. GAO sustained the protest, and CBP had to re-evaluate the offerors' proposals before it again decided to award the contract to EFW, Inc. As a result, EFW, Inc. did not initiate work at the deployment sites until fiscal year 2015. According to CBP officials, the contract is valued at $145 million, which is about 75 percent less than CBP's previous estimate, and covers the entire system acquisition cost for the six AoRs, as well as 7 years of operations and maintenance.

In December 2015, CBP officials told GAO the total quantity of IFT units increased from 52 to 53, and the number of units planned for deployment to a single AoR is subject to change based on ongoing assessments by the Border Patrol.

Program Governance

In March 2012, DHS's Under Secretary for Management (USM) approved the IFT Acquisition Program Baseline (APB), which established the program's cost, schedule, and performance parameters. At that time, the USM also authorized the program to deploy all 52 of the planned IFT units. However, the program lacked an approved Test and Evaluation Master Plan (TEMP), and in June 2012, the USM stated that deployment authorization was contingent on DHS's DOT&E approving the IFT TEMP. In November 2012, CBP reported that IFT would breach its schedule because of delays in awarding the contract to EFW, Inc. and anticipated funding shortfalls. Nonetheless, after DOT&E approved IFT's TEMP, CBP proceeded to deploy IFT units to the first AoR in Nogales in November 2014 even though the program lacked a department-approved APB reflecting its schedule slips at that time. Thirteen months later, in December 2015, the USM approved an updated APB.

Program Execution

From March 2012 to January 2016, IFT's full operational capability (FOC) date slipped from September 2015 to September 2020. GAO previously reported that the FOC delay was primarily the result of funding shortfalls, and it appears the program continues to face significant funding shortfalls from fiscal year 2016 to fiscal year 2020. However, in September 2015, CBP officials told GAO that they anticipate IFT's projected funding levels will increase going forward, explaining that both CBP and DHS headquarters plan to allocate additional funding to the program.

From March 2012 to January 2016, IFT's acquisition cost estimate increased by more than $50 million. The new estimate includes the cost of contractor personnel supporting the program office, the cost of replacing systems deployed under SBInet, and actual costs through fiscal year 2014, rather than estimates.

Test Activities

The DOT&E-approved TEMP established that CBP would conduct a limited user test to validate operational requirements and determine how the IFT system contributes to CBP's mission. Program officials told GAO the date for the limited user test slipped from September 2015 to November 2015. They explained that they had identified problems involving IFT's cameras and operator interfaces during the systems acceptance test at the Nogales AoR, and that CBP delayed systems acceptance so the contractor could take corrective actions. According to CBP officials, the limited user test results may be available at the end of January 2016, and DOT&E will issue a letter assessing the results after that.

Going forward, the program may include a 2-week test period near the end of each deployment at the five remaining AoRs to reduce the risk that the systems may not perform as intended.

Other Issues

In January 2016, CBP reported that the IFT program needed four additional full time equivalents, two in the program management discipline, and two in the systems engineering discipline. Program officials also noted that post-deployment activities may require more resources than currently anticipated if the program's schedule is accelerated.

Program Office Comments

In August 2015, the IFT Program Office received Authority To Operate the system and conducted an Operator Evaluation (OE) in Nogales to familiarize the Border Patrol agents on the system. Based on the favorable results from the systems acceptance test conducted in July 2015 and the OE, CBP Conditionally Accepted the IFT System in Nogales on September 4, 2015. This was followed by a limited user test during October and November 2015. On November 25, 2015, the IFT program office fully accepted the IFT system in the Nogales AoR. The system has been operational and supporting Border Patrol agents in Nogales since August 17, 2015. In December 2015, the DHS Acquisition Review Board was conducted and a new APB approved. The next milestone, anticipated in the second quarter of fiscal year 2016, is the Chief of the Border Patrol certification to the Congressional Appropriations Committees that IFT meets the operational requirements of the Border Patrol, thereby enabling future deployments to five other AoRs.

Land Border Integration (LBI)
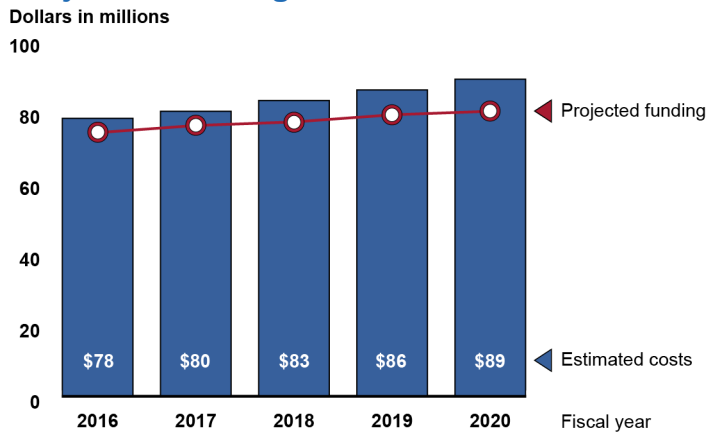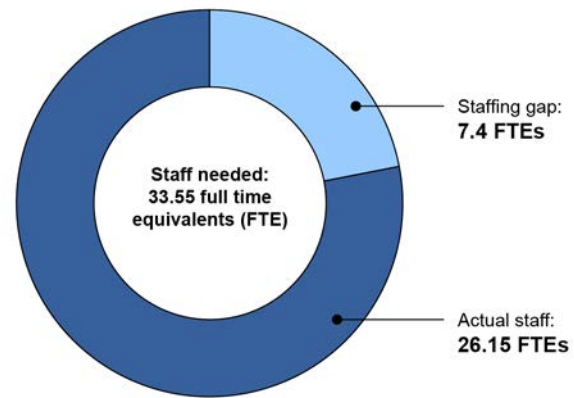## Customs and Border Protection (CBP)

Source: CBP.

Program Description

The LBI program delivers License Plate Reader (LPR) and Radio Frequency Identification systems to 91 land border crossings. The program's goal is to facilitate legitimate trade and travel while enhancing border security. LBI systems are intended to enhance the processing of pedestrians, and inbound and outbound vehicles, as well as Border Patrol checkpoint screening. LBI leverages technology delivered through a previous CBP acquisition program designated the Western Hemisphere Travel Initiative (WHTI), which sought to enhance inbound vehicle processing. In April 2015, GAO found that Department of Homeland Security (DHS) leadership had not yet approved a baseline establishing LBI's cost, schedule, and performance parameters (GAO-15-171SP). In January 2016, DHS approved the program's baseline.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$78	$80	$83	$86	$89

Projected funding (red line)

Program Office Staffing Profile

Staff needed: 33.55 full time equivalents (FTE)

Staffing gap: 7.4 FTEs

Actual staff: 26.15 FTEs

Schedule Changes over Time

As of: August 2014

As of: January 2016

- Inbound program's acquisition program baseline approved Sept. 2008
- Inbound full operational capability (FOC) Sept. 2015
- Pedestrian FOC Sept. 2015
- Outbound FOC June 2016
- Checkpoint FOC Sept. 2016

Cost Estimate Changes over Time

Dollars in millions

As of: August 2014
- Acquisition cost: $510
- Life-cycle cost: $1,980

As of: January 2016
- Acquisition cost: $415
- Life-cycle cost: $1,492

Appropriations through fiscal year 2015: $937

Performance

According to program officials, LBI tested its systems against key performance parameters (KPP) in 2009, 2012, and 2015. Program officials said the systems met their respective requirements, with the exception of the checkpoint LPR system, which still does not perform as required. In November 2015, the program relaxed the KPP for the checkpoint LPR system after determining the KPP was unrealistic and did not account for challenges in the checkpoint operating environment. At that time, the program also eliminated two other KPPs. One was for the outbound systems and one was for the pedestrian systems.

Program Governance

DHS's Under Secretary for Management (USM) authorized CBP to transition from WHTI to LBI in May 2011. At that time, the USM transferred the inbound capabilities of WHTI to LBI, authorized a limited deployment of LBI's outbound, pedestrian, and checkpoint capabilities, and informed CBP that he planned to delegate acquisition decision authority for future LBI deployments to CBP's Component Acquisition Executive (CAE). However, according to CBP officials, the USM never delegated this authority. Nonetheless, program officials reported that CBP expanded the deployment of LBI's outbound, pedestrian, and checkpoint capabilities from 51 traffic lanes in 2011 to 158 lanes by the end of fiscal year 2014 without requesting formal authorization from DHS leadership. CBP proceeded with these deployments even though the USM had not approved an LBI Acquisition Program Baseline (APB) establishing the program's cost, schedule, and performance parameters.

In 2012, GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions (GAO-12-833). In April 2015, GAO reiterated this recommendation when it reported that LBI lacked an approved APB. At that time, DHS officials told GAO they anticipated department leadership would approve the LBI APB by September 2015. However, in September 2015, CBP officials told GAO that the LBI program was still in the process of updating a number of acquisition documents, including the APB. Nonetheless, the program deployed outbound, pedestrian, and checkpoint capabilities to 160 additional lanes from October 2014 to October 2015. As of October 2015, the program had deployed LBI systems to a total of 823 lanes.

In December 2015, DHS leadership reviewed LBI and subsequently approved the program's APB in January 2016. According to program officials, DHS approved LBI's transition to sustainment, but did not delegate acquisition decision authority to the CBP CAE as CBP had hoped.

Program Execution

In August 2014, program officials told GAO that all of LBI's projects had achieved full operational capability (FOC) by the end of August 2013, and that the program's life-cycle cost estimate was nearly $2 billion. However, program officials told GAO in September 2015 that none of the projects had actually achieved FOC until that month, and the program's approved APB states that LBI may continue to deploy systems to outbound lanes until June 2016. Additionally, program officials told GAO that deployment of LBI systems to the last six checkpoint lanes had been delayed because of permitting and construction issues. The approved APB projects the checkpoint systems will reach FOC in September 2016, but officials anticipate the systems will be fully deployed in July 2016.

In December 2014, program officials told GAO that LBI's cost estimates had decreased significantly since August 2014. According to program officials, CBP originally planned to execute the program through three phases, which would allow CBP to enhance LBI systems over time, and expand the deployment of certain technologies to additional land border crossings. However, program officials stated that subsequent funding constraints forced CBP to defer some planned LBI deployments. CBP prioritized subsequent deployments by identifying land border crossings that would benefit the most from new technologies. LBI officials also explained they no longer plan to deploy Border Patrol checkpoint systems along the northern border, and have purchased less expensive, less efficient equipment to reduce costs. CBP officials also said they are attempting to extend the functional lifespan of LBI systems to reduce future costs, which is important because LBI is projected to experience a funding gap each year from fiscal year 2016 to fiscal year 2020, amounting to a total shortfall of approximately $30 million. CBP officials said future deployments and technology upgrades are contingent on available funding.

Test Activities

DHS's DOT&E approved LBI's Test and Evaluation Master Plan in November 2011, and the program conducted operational testing in January 2012. CBP officials told GAO that the LBI systems met all of their KPPs during the 2012 operational test with the exception of the checkpoint LPR system, which still does not perform as required. However, DOT&E did not validate the results of the test because the program did not request formal authorization from DHS leadership to expand LBI's deployment. From July to September 2015, CBP conducted an operational assessment of LBI's deployed outbound systems and declared them operationally effective and suitable. In November 2015, DOT&E validated these results.

Other Issues

In January 2016, CBP reported the program needed 7.4 more full time equivalents. According to LBI officials, staffing shortages have inhibited efforts to take on new projects, coordinate with other programs, and execute the program's mission.

Program Office Comments

The LBI program initiated and completed an aggressive task to complete acquisition documentation to present at the DHS Acquisition Review Board (ARB) before the end of 2015. DOT&E issued a Letter of Assessment on November 18, 2015, and the CBP Chief Financial Officer approved the funding certification memo on December 18, 2015. The LBI program appeared before the ARB on December 21, 2015, wherein Acquisition Decision Event 3, approval to proceed to sustainment, was granted. The ARB declined to delegate acquisition decision authority to the CBP CAE at this time.

Non-Intrusive Inspection (NII) Systems Program
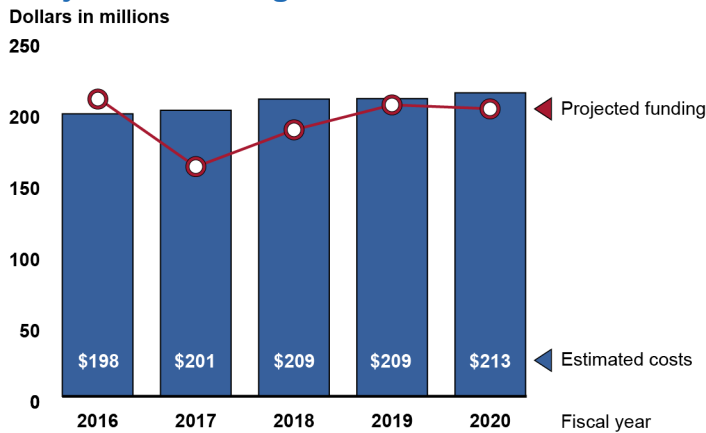## Customs and Border Protection (CBP)
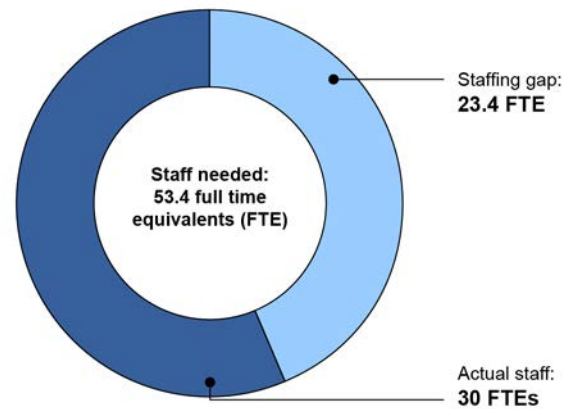

Source: CBP.

Program Description

The NII Systems Program supports CBP's interdiction of weapons of mass destruction, contraband such as narcotics, and illegal aliens being smuggled across U.S. borders, while facilitating the flow of legitimate commerce. CBP officers in the field utilize large- and small-scale NII systems at air, sea, and land ports of entry, as well as border checkpoints and international mail facilities. Large-scale NII systems use directed beams of X-rays or gamma rays that allow officers to examine the entire contents of containers and vehicles without breaching them. Small-scale NII systems include X-ray systems, fiber optic scopes, and other devices. In April 2015, GAO reported that department leadership had not yet approved a baseline establishing the program's cost, schedule, and performance parameters (GAO-15-171SP). In January 2016, DHS leadership approved the program's baseline.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$198
2017	$201
2018	$209
2019	$209
2020	$213

Program Office Staffing Profile

Staff needed: 53.4 full time equivalents (FTE)

Staffing gap: 23.4 FTE

Actual staff: 30 FTEs

Schedule Changes over Time

As of: January 2015

As of: January 2016

- Initial operational capability
  Sept. 2002
- Critical design review
  Feb. 2008
- Current DHS acquisition policy established
  Nov. 2008
- Acquisition program baseline approved
  Jan. 2016
- Full operational capability
  Sept. 2024

| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |

Cost Estimate Changes over Time

Dollars in millions

As of: January 2015
- Acquisition cost: $1,444
- Life-cycle cost: $4,278

As of: January 2016
- Acquisition cost: $1,896
- Life-cycle cost: $4,512

Appropriations through fiscal year 2015: $2,010
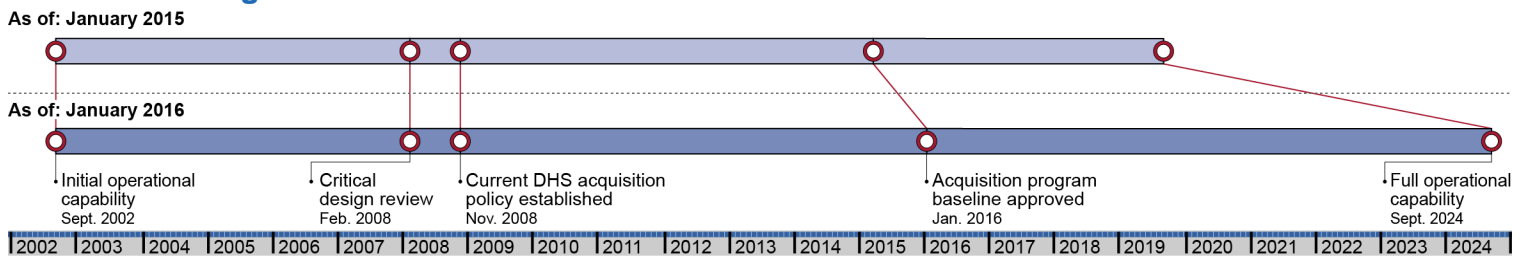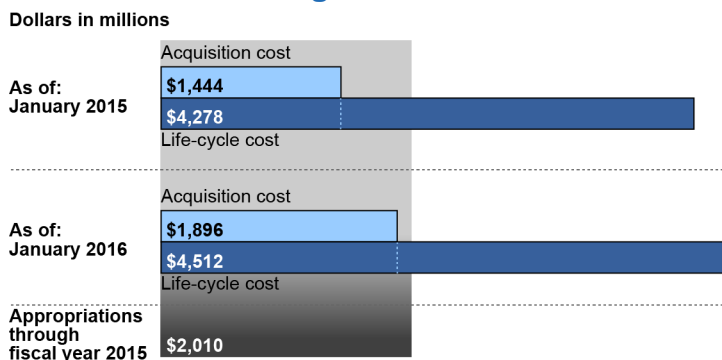
Performance

In August 2015, CBP officials reported that the program had met 23 of its 24 key performance parameters (KPP). In January 2016, when DHS leadership approved the program's baseline, the number of KPPs was reduced to 18. Among other things, the unmet KPP, which established the NII coverage requirement, was eliminated. Additionally, in April 2015, GAO reported the program had not yet met a KPP requiring CBP to examine 100 percent of cargo identified for inspection because CBP lacked reliable examination data, and the department's Director of Operational Test and Evaluation has not independently validated CBP's assertion that it has met this KPP.

Program Governance

CBP has been deploying NII systems since the 1980s, but DHS leadership did not approve the NII program's Acquisition Program Baseline (APB) until recently. The APB establishes the program's cost, schedule, and performance goals. DHS's current acquisition policy, which was established in 2008, requires the program obtain department approval for its APB, and in April 2015, GAO reported that CBP officials expected DHS leadership would approve the NII program's APB in spring 2015. However, it took CBP longer than anticipated to develop the NII APB, and DHS leadership did not approve it until January 2016.

Program Execution

From January 2015 to January 2016, the program's acquisition cost estimate increased from $1.4 billion to $1.9 billion. CBP increased the total procurement quantity for large- and small-scale systems, from 9,427 to 11,448. CBP did so when it extended the program's estimate from fiscal year 2022 to fiscal year 2026, and increased the number of planned replacement systems by more than 2,000 units.

Additionally, the program's life-cycle cost estimate has increased from $4.3 billion to $4.5 billion because of the estimate's extension to 2026. The estimate would have been even higher if CBP had not reduced the program's estimated operations and maintenance costs through fiscal year 2022. Program officials told GAO that CBP was able to decrease these costs when it updated the annual forecasting model used to project NII technology needs. This model takes into account different factors including the flow of traffic at ports and the opening of new ports.

From January 2015 to January 2016, the program's full operational capability date slipped from fiscal year 2019 to fiscal year 2024. According to CBP officials, a funding shortfall caused this slip, and the NII program's anticipated funding shortfall continues to be its greatest risk. The CBP officials added that they may need to re-baseline the program in the future if they continue to get less funding than required.

Test Activities

As GAO previously reported in April 2015, the NII systems are commercial-off-the-shelf (COTS) products, and for this reason, DHS leadership decided that the program does not need a Test and Evaluation Master Plan (TEMP). However, CBP officials said the program completed several tests in 2015, and that they expect the results at the end of the year. Among other things, the program assessed whether NII and radiation detection technology can be combined to examine rail cargo, and whether cameras are capable of detecting new welding—indicating the possible presence of contraband—in moving trains. Additionally, the program compared different types of NII systems to demonstrate performance and assess tradeoffs, and evaluated modifications to deployed NII systems.

Other Issues

In January 2016, CBP reported that the program had only about 56 percent of the staff it needed. The largest shortfalls were in the program management and life-cycle logistics disciplines.

Program Office Comments

CBP provided technical comments that GAO addressed as appropriate.

Strategic Air and Marine Program (StAMP)
Customs and Border Protection (CBP)

Source: CBP.

Program Description

In 2006, CBP established StAMP to acquire 13 types of air and marine assets used to provide domain awareness, collect information on border-related activity, intercept illegal air- and sea-borne traffic, and support interdiction operations. CBP has acquired a majority of the StAMP assets. However, the program is continuing to convert UH-60 Black Hawk Helicopters, and acquire the Multi-Role Enforcement Aircraft (MEA), the Coastal Interceptor Vessel (CIV), and the Riverine Shallow Draft Vessel (RSDV). In April 2015, GAO reported that Department of Homeland Security (DHS) leadership had never approved a StAMP baseline establishing the program's cost, schedule, and performance parameters (GAO-15-171SP). In October 2015, CBP officials told GAO they planned to split StAMP into several separate acquisition programs by March 2016.

Projected Funding vs. Estimated Costs

CBP planned to discontinue StAMP by March 2016

Program Office Staffing Profile
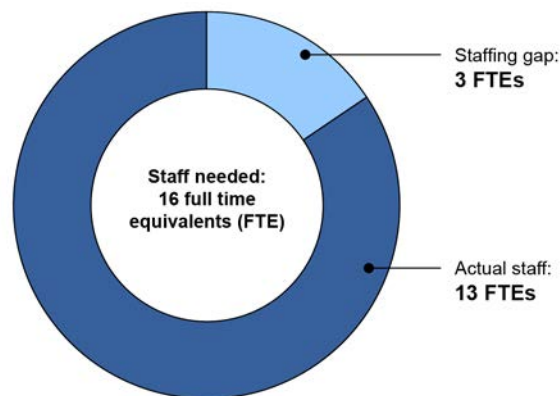
Staffing gap: 3 FTEs

Staff needed: 16 full time equivalents (FTE)

Actual staff: 13 FTEs

Schedule Changes over Time

(No approved acquisition program baseline as of January 2016)

As of: January 2016

- StAMP program established Aug. 2006
- Current DHS acquisition policy established Nov. 2008
- GAO reports StAMP lacks an approved baseline Apr. 2015
- CBP officials tell GAO they plan to discontinue StAMP Oct. 2015
- StAMP end date Mar. 2016

2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016
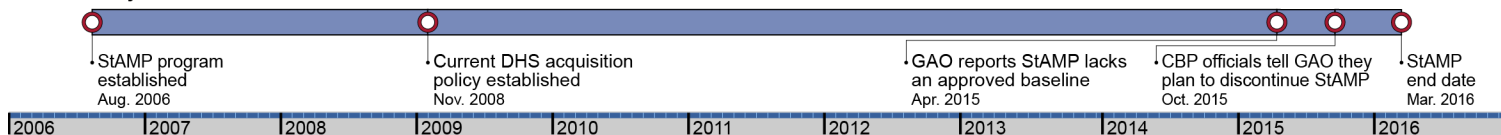
Cost Estimate Changes over Time

Dollars in millions

As of: Not applicable

(No approved acquisition program baseline as of January 2016)

As of: January 2016

(CBP planned to discontinue StAMP by March 2016)

Appropriations through fiscal year 2015 — $1,617

Performance

CBP officials told GAO the UH-60 and MEA have met all of their key performance parameters (KPP). However, the department's Director of Operational Test and Evaluation (DOT&E) has not assessed the UH-60, and recommended CBP take 28 actions to improve the MEA's performance. CBP plans to conduct additional testing on the UH-60 in fiscal year 2017. As for the MEA, officials told GAO that CBP conducted an operational assessment in July 2015 to address the previous issues. Testers found that CBP addressed 24 of the 28 issues, but DOT&E has not yet assessed these results.

Program Governance
StAMP was established before DHS issued its current acquisition policy in 2008, and CBP officials previously told GAO that the policy did not apply to the program. StAMP never obtained department-level approval for its Acquisition Program Baseline (APB), which would have documented agreement between the program manager, CBP Commissioner, and DHS leadership on critical cost, schedule, and performance parameters. In September 2012, GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions, and DHS concurred (GAO-12-833). In April 2015, GAO reiterated this recommendation when it found that StAMP lacked an approved APB. At that time, DHS officials told GAO they anticipated department leadership would approve the StAMP APB by September 2015. However, in October 2015, CBP officials told GAO they planned to discontinue the StAMP program by March 2016, and that they planned to split StAMP into several separate acquisition programs. Specifically, the UH-60 and MEA have each been designated a Level 1 acquisition program, as their respective life-cycle cost estimates (LCCE) are expected to exceed $1 billion. CBP officials said DHS leadership has designated the acquisition of marine vessels, including RSDV and CIV, a single Level 3 program because their combined LCCE is projected to be less than $300 million. Under DHS acquisition policy, Level 3 acquisitions are designated non-major programs and as such, DHS leadership has delegated decision authority for these programs to CBP's Component Acquisition Executive.

In April 2015, DHS headquarters completed independent cost estimates for the UH-60 and MEA, and CBP officials said they have adopted the independent estimates as the programs' LCCEs. Currently, the UH-60 LCCE is approximately $2 billion for 20 aircraft. This estimate reflects a recent change in the UH-60 acquisition strategy. Specifically, CBP officials now propose exchanging 10 of the component's existing UH-60 aircraft with newer Army models, rather than upgrading the aircraft as originally planned. The officials expect that CBP will gain efficiencies by leveraging the newer aircraft, which may reduce the UH-60's costs and accelerate its schedule. The MEA LCCE is approximately $1.5 billion for 16 aircraft. However, this estimate may change because DHS has not approved the total quantity of MEA aircraft. CBP initially planned to procure 50 MEAs, but is now working with DHS's Science and Technology Directorate to study the appropriate quantity of aircraft to procure in fiscal year 2018 and beyond. CBP officials plan to present the results of the study to DHS's Joint Requirements Council, as directed by the Acting Deputy Under Secretary for Management (USM).

The Acting Deputy USM has required that CBP provide the Acquisition Review Board (ARB)—DHS's senior-most acquisition oversight body—a semiannual update on the StAMP acquisitions until they are compliant with DHS policy. CBP officials said they were still in the process of developing acquisition documentation for the new programs. In January 2016, DHS leadership approved APBs for procurement of the first 16 MEA aircraft and the UH-60 conversions. StAMP most recently went before the ARB in July 2015, and is scheduled to return in February 2016.

Program Execution
GAO is not assessing the extent to which the program is on track to meet its cost estimate or schedule because DHS leadership never approved a baseline that GAO could use to assess the program.

Test Activities
In January 2015, the Acting Deputy USM directed CBP to update the Test and Evaluation Master Plans (TEMP) for both the UH-60 and MEA to meet current testing requirements. However, in October 2015, CBP officials told GAO that DOT&E subsequently determined the previously approved TEMPs for the UH-60 and the first 16 MEA are still valid because the requirements for the aircraft had not changed.

CBP conducted operational testing of the UH-60 in fiscal years 2012 and 2014, but DOT&E did not validate the results because the UH-60 was not considered a major acquisition at that time. The program is currently configuring a prototype of the newer Army model to verify potential CBP cost savings and reduce risk. Officials said they plan to demonstrate the prototype in fiscal year 2017, and that this demonstration will inform the UH-60 acquisition strategy going forward.

DOT&E assessed MEA test results in 2013, and concluded that additional testing was needed to assess the MEA's air interdiction capabilities. DOT&E also said StAMP needed to take 28 specific actions as soon as possible to address flight safety issues. CBP officials said they started to address flight safety issues in January 2014 and conducted an operational assessment in July 2015. Testers found that CBP addressed 24 of the 28 actions. However, they also made 15 additional recommendations to improve the aircraft's operational effectiveness and suitability. Officials said they provided a report of recent test results to DOT&E in November 2015 for validation, but DOT&E had not validated them as of January 2016.

Other Issues
According to officials, StAMP faced funding and staffing challenges for years. The program office managed these shortfalls by, among other things, altering schedules and truncating projects. In October 2015, officials told us the program needed additional staff, and that staffing shortfalls have hindered the program's ability to develop required acquisition documentation.

Program Office Comments
CBP provided technical comments that GAO addressed as appropriate.

Tactical Communications (TACCOM) Modernization
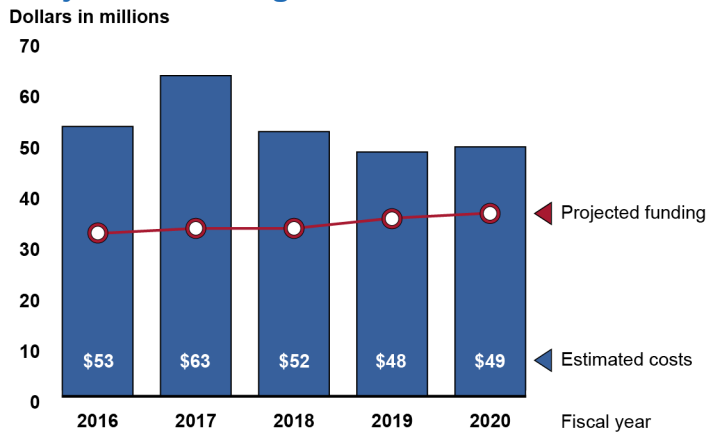## Customs and Border Protection (CBP)
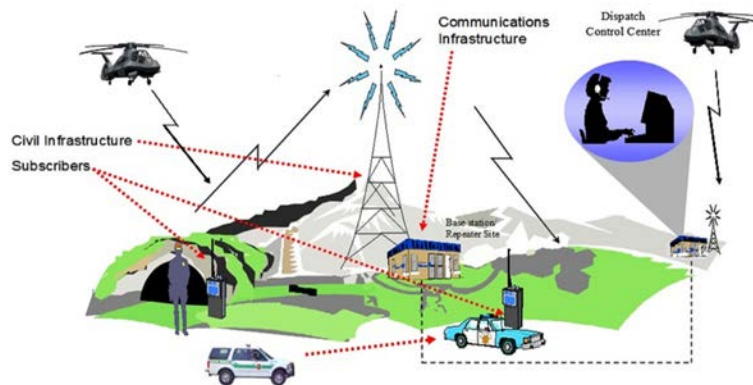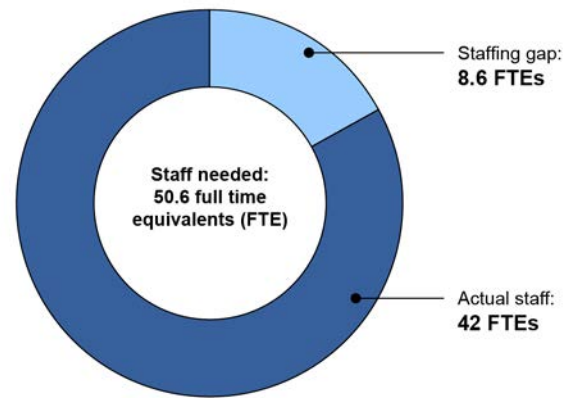

Source: CBP.

Program Description

The TACCOM program is intended to upgrade land mobile radio (LMR) infrastructure and equipment. It is replacing obsolete radio systems with modern digital systems in 20 different service areas, linking these service areas to one another through a nationwide network, and building new communications towers to expand coverage in 5 of the 20 service areas. The program is delivering LMR capability to approximately 95,000 users at CBP and other federal agencies. In April 2015, GAO reported that department leadership had not yet approved a baseline establishing the program's cost, schedule, and performance parameters (GAO-15-171SP). In January 2016, DHS leadership approved the program's baseline. GAO issued a separate report on the TACCOM program in March 2015 (GAO-15-201).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$53
2017	$63
2018	$52
2019	$48
2020	$49

Program Office Staffing Profile

Staff needed: 50.6 full time equivalents (FTE)

Staffing gap: 8.6 FTEs

Actual staff: 42 FTEs

Schedule Changes over Time

As of: January 2015

As of: January 2016

Largest contract awarded
Sept. 2010

Initial operational capability
July 2011

Operational test and evaluation
Dec. 2013

Acquisition program baseline approved
Jan. 2016

Full operational capability
Dec. 2017

2010 2011 2012 2013 2014 2015 2016 2017 2018

Cost Estimate Changes over Time

Dollars in millions

As of: January 2015
- Acquisition cost $467
- Life-cycle cost $959

As of: January 2016
- Acquisition cost $397
- Life-cycle cost $1,084

Appropriations through fiscal year 2015 $491

Performance

In December 2013, the department's Director of Operational Test and Evaluation (DOT&E) determined that the TACCOM program's systems could meet their performance requirements. Specifically, they met the program's key performance parameters for coverage area and the percentage of time the systems are available. Going forward, CBP officials said the TACCOM program will continue to work to improve its systems' performance in pursuit of the program's ultimate capability goals.

Acquisition Strategy

The TACCOM program was initially intended to upgrade LMR infrastructure and equipment in 20 different service areas, replacing obsolete radio systems with modern digital systems. The program was also intended to build new communications towers in all 20 of those service areas to expand LMR coverage. However, CBP subsequently decided to reduce the number of service areas where it would build new communications towers from 20 to 5 due to funding constraints. In the 15 remaining service areas, the program will still replace obsolete analog radio equipment with modern digital systems, but it will not expand coverage. The funding needed for tower construction in one service area was adequate to replace the radio systems in the 15 remaining service areas.

In addition to upgrading LMR capabilities within the 20 service areas, the TACCOM program is also responsible for connecting the 20 service areas to one another. CBP plans to do so by replacing the circuitry that connects these service areas to an existing nationwide network. CBP officials said this effort constitutes the majority of the program's remaining work, which they anticipate will be completed in December 2017.

Program Governance

In 2010, CBP awarded contracts to initiate upgrades in 3 of the 20 service areas, but the Department of Homeland Security's (DHS) Under Secretary for Management (USM) did not approve the TACCOM program's operational requirements until September 2013. Additionally, DHS leadership did not approve the program's Acquisition Program Baseline (APB) until January 2016. This document establishes the program's cost, schedule, and performance parameters. DHS's current acquisition policy, which was established in 2008, states that a program's APB should be approved before the program starts obtaining new capabilities. In April 2015, GAO reported that TACCOM lacked an approved APB. At that time, CBP officials told GAO they anticipated DHS leadership would approve the TACCOM APB by June 2015. However, this milestone slipped to January 2016. In September 2015, CBP officials explained that it was taking longer than expected to determine what the program would have to do to operate and maintain the connections between the 20 service areas, and how that would affect the program's life-cycle cost estimate.

Program Execution

From January 2015 to January 2016, the program's acquisition cost estimate decreased by $70 million. However, its life-cycle cost estimate increased by $125 million when the program added government personnel costs.

Program officials told GAO they now believe that they will complete all development activities and achieve full operational capability by the end of December 2017, nine months earlier than previously anticipated. However, they also identified that projected funding shortfalls have the potential to delay the program going forward. Program officials explained that, specifically, their efforts in San Diego are at risk of schedule slips. CBP officials said the agency will not be able to complete upgrades to the San Diego system until DHS completes a planned transition of the legacy system from Department of Justice management to DHS management, and that they do not plan to initiate the transition until they have obtained the funding to complete the San Diego upgrades.

Test Activities

DHS's DOT&E approved the TACCOM program's Test and Evaluation Master Plan in December 2013. That same month, the program conducted operational testing in the Rio Grande Valley, where the program had replaced obsolete radio systems with modern digital systems and built new communications towers. DOT&E concluded that the new TACCOM systems were operationally effective, and that the systems will likely prove suitable over time.

The program conducts operational assessments annually in each of the 5 service areas that received coverage expansions, and plans to assess the remaining service areas after deployments in each are complete.

The program will also conduct another operational test after it has connected the 20 service areas to one another. Program officials said the risk associated with this effort is low, but they do not expect to determine whether the capability meets mission needs until June 2017.

Other Issues

In January 2016, CBP reported the program's staffing gap was 17 percent, 39 percent smaller than in fiscal year 2014. Program officials anticipate the program will be fully staffed by fiscal year 2018.

Program Office Comments

The deployed system is consistently exceeding the objective value for its coverage area requirement.

TECS Modernization Program
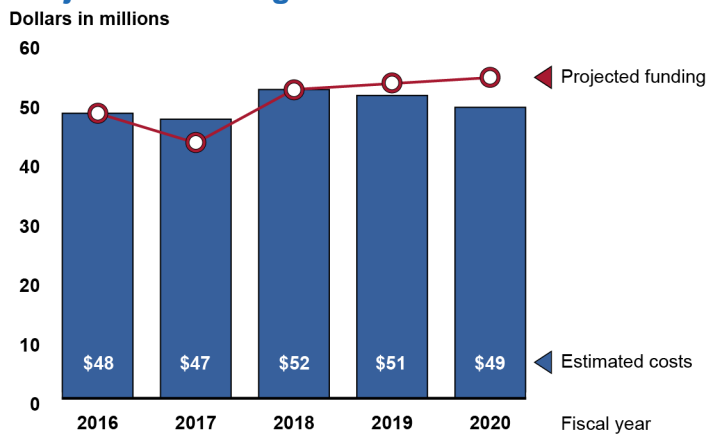## Customs and Border Protection (CBP)
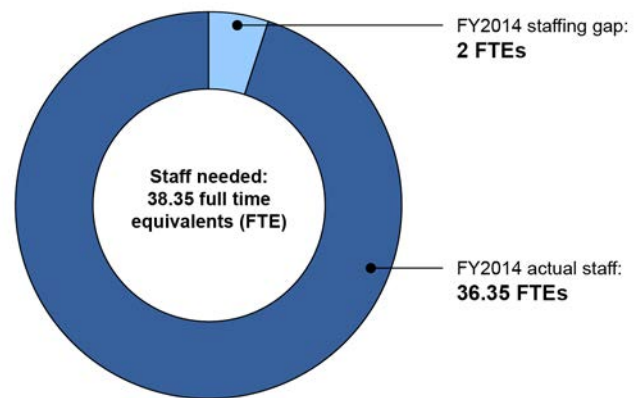

Source: CBP.

Program Description

According to CBP, the legacy TECS (not an acronym) system is the main tool used to determine the admissibility of persons wanting to enter the United States. However, the legacy TECS system uses obsolete information technology that is increasingly difficult and costly to maintain, and does not support CBP's evolving mission needs. In 2008, the Department of Homeland Security (DHS) initiated efforts to modernize TECS in order to provide its users with enhanced capabilities for accessing and managing data. Immigration and Customs Enforcement is executing a similar TECS modernization program, which GAO is also assessing in this report. GAO previously reported on CBP's TECS Modernization program in April 2015 (GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Program Office Staffing Profile

FY2014 staffing gap: 2 FTEs

Staff needed: 38.35 full time equivalents (FTE)

FY2014 actual staff: 36.35 FTEs

Schedule Changes over Time

As of: November 2010

As of: January 2016

First acquisition program baseline approved
Nov. 2010

Program rebaselined
Nov. 2012

Program rebaselined
Mar. 2014

Initial operational capability
Aug. 2014

Operational test and evaluation
June 2016

Full operational capability
Sept. 2016

2010 2011 2012 2013 2014 2015 2016

Cost Estimate Changes over Time

Dollars in millions

As of: November 2010
Acquisition cost $220
Life-cycle cost $685

As of: January 2016
Acquisition cost $235
Life-cycle cost $693

Appropriations through fiscal year 2015 $372

Performance

In August 2015, CBP officials told GAO the program had met 5 of its 6 key performance parameters (KPP), which establish goals for query response times and the percentage of time the system is available for use, but DHS's Director of Operational Test and Evaluation (DOT&E) has not yet validated this assertion. The sixth KPP establishes how quickly the system can create a new, searchable record. CBP officials told GAO the program had not yet delivered the capability needed to meet this KPP. According to officials, between 2010 and 2014, the program, in coordination with TECS users, revised all of its KPPs, and reduced the total number from 11 to 8.

Acquisition Strategy

To modernize TECS, CBP is replacing its legacy, mainframe-based platform with a combination of hardware, custom-developed and commercial software, and a web-based portal that will allow TECS to deliver capabilities to users within CBP and other DHS agencies. The TECS Modernization program consists of five projects, and officials stated CBP initially used an incremental acquisition approach for four of these projects. However, CBP is now using an agile software development methodology for all five of the program's projects. Under the agile software development methodology, programs deliver software in short, small increments, rather than long, sequential phases, which allows programs to measure interim progress.

In June 2008, CBP awarded the TECS Modernization contract to Bart & Associates, Inc. to develop software and provide operations and maintenance support. CBP exercised options on this contract from 2009 to 2012. However, the program experienced delays during this period. Officials told GAO that in 2013, CBP awarded a new development and support contract to Northrop Grumman. That February, Bart & Associates, Inc. and two other firms submitted bid protests to GAO. CBP took corrective action, and 20 months later awarded another contract to Northrop Grumman in September 2014. Bart & Associates, Inc. protested again. In January 2015, GAO denied the protest.

According to CBP officials, there have been no further bid protests. However, they said that the previous bid protests created workforce issues. Specifically, they said that contractor employees left the program due to the resulting uncertainty, and that as of September 2015, the program was still working to address the staffing shortfalls. As a result, they said that the program may not achieve full operational capability (FOC) as early as it would have liked, but they still expect to achieve FOC by September 2016.

Program Execution

In November 2010, DHS's Under Secretary for Management (USM) approved the initial Acquisition Program Baseline (APB) for the CBP TECS Modernization program, which established its cost, schedule, and performance parameters. In November 2012, DHS's USM approved a revised APB after the program experienced various technical difficulties, expanded requirements, and suffered delays caused by a real-world terrorist threat. In March 2014, the USM approved a third APB to account for additional requirements changes and the impacts of sequestration. From the 2010 version to the 2014 version, the program's initial operational capability date slipped from December 2012 to August 2014, its operational test date slipped from June 2015 to June 2016, and its FOC date slipped from December 2015 to September 2016. However, CBP officials report no major milestones have slipped since the USM approved the current APB.

CBP officials reported that the program's cost estimates have largely remained the same from November 2010 to March 2014. They also told GAO they intend to complete a new life-cycle cost estimate in the second quarter of fiscal year 2016, which will account for the program's most recent development activities.

Test Activities

DHS's DOT&E initially approved the CBP TECS Modernization program's Test and Evaluation Master Plan (TEMP) in March 2010, and then approved a revised TEMP in September 2012. In November 2014, DOT&E conditionally approved a third TEMP, but requested more information on how cybersecurity threats would be addressed. In September 2015, program officials told GAO that they had again revised the TEMP to address cybersecurity issues, and that they anticipated DOT&E would approve it soon. However, they added that the program was still working with DOT&E to establish specific test activities for the operational test, which will be a three-phased event conducted at different locations with different personnel between from February through June 2016. After the operational test, DOT&E is scheduled to independently validate the program's performance, which will help determine whether the program can declare it has achieved FOC by the end of fiscal year 2016.
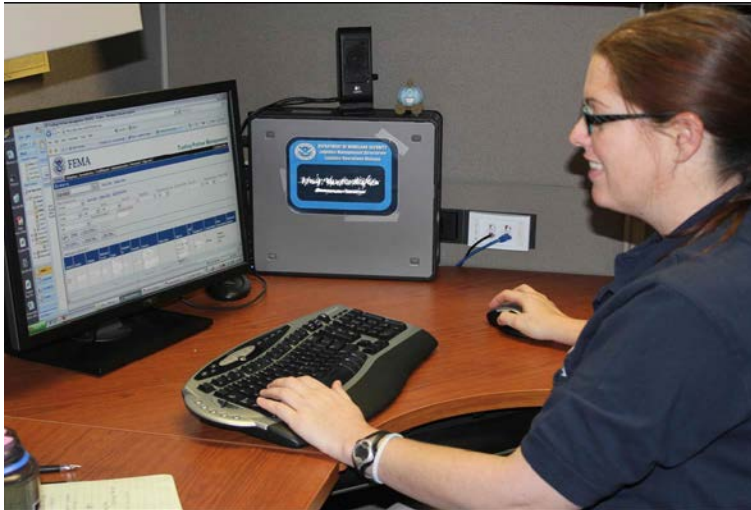
Program Office Comments

The TECS Modernization program continues to perform within cost, schedule, and performance goals as outlined in the APB. The program has migrated data from 90 percent of the legacy databases, implemented 90 percent of the online user functionality (excluding those used by IT only), and has transitioned 70 percent of the external interfaces to the modernized system. All changes to the program acquisition documentation have been developed in collaboration with the line of business owner, the Chief Acquisition Executive, and the Chief Information Officer. The TEMP has been updated to reflect program-level cyber testing, which has occurred as a part of the increased CBP cyber testing in fiscal year 2015. The TEMP is being routed for signature. The life-cycle cost estimate is also being updated to include actual costs through May 2015, and should begin routing for signature during the second quarter of fiscal year 2016. The TECS Modernization program is one of many programs to utilize a newly awarded contract. The contractor is in the process of filling vacancies which remain for the program. They demonstrate strong program management leadership and have brought maturity to the agile processes being embraced by the program.

GAO Response

The CBP TECS Modernization program office states that it is performing within the cost, schedule, and performance goals established in the 2014 APB. However, it previously experienced schedule slips and cost growth between 2010 and 2014.

Logistics Supply Chain Management System (LSCMS)
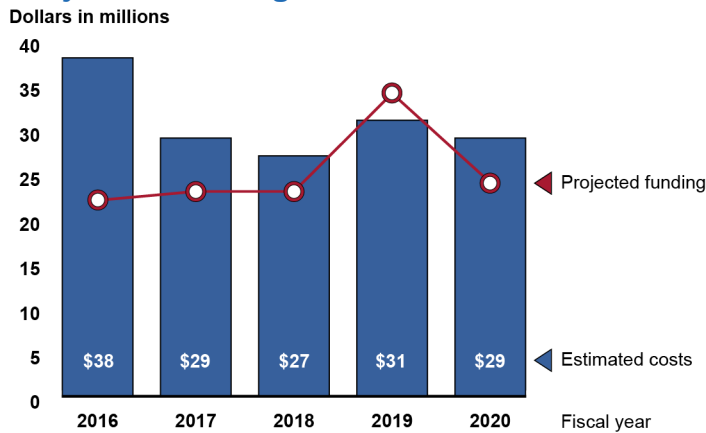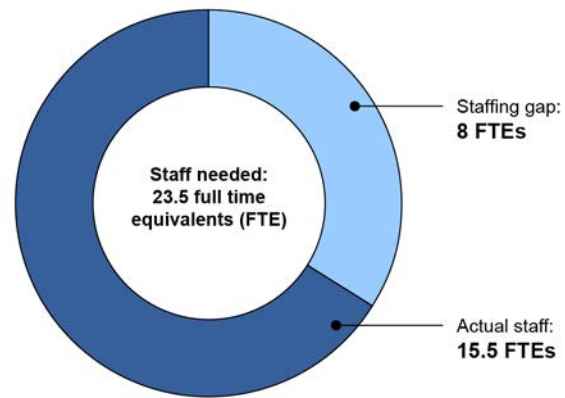## Federal Emergency Management Agency (FEMA)

Program Description

LSCMS is a computer-based tracking system that FEMA officials use to track shipments during disaster-response efforts. It is largely based on commercial-off-the-shelf software. FEMA initially deployed LSCMS in 2005, and initiated efforts to enhance the system in 2009. According to FEMA officials, LSCMS can identify when a shipment leaves a warehouse and the location of a shipment after it reaches a FEMA staging area near a disaster location. However, LSCMS cannot track partner organizations' shipments en route to a FEMA staging area, and it lacks automated interfaces with its partners' information systems. In April 2015, GAO reported that department leadership had not yet approved a baseline establishing the program's cost, schedule, and performance parameters (GAO-15-171SP). In December 2015, department leadership approved the program's baseline.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$38
2017	$29
2018	$27
2019	$31
2020	$29

- Projected funding
- Estimated costs

Program Office Staffing Profile

Staff needed: 23.5 full time equivalents (FTE)

Staffing gap: 8 FTEs

Actual staff: 15.5 FTEs

Schedule Changes over Time

(No approved acquisition program baseline until December 2015)

As of: January 2016

- Decision authority delegated to FEMA acquisition executive — July 2011
- Initial operational capability — Jan. 2013
- Development paused — Apr. 2014
- Initial operational test — June 2014
- Second operational test — Dec. 2017

2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017

Cost Estimate Changes over Time

Dollars in millions

As of: August 2009
- Acquisition cost: $46
- Life-cycle cost: $325

As of: January 2016
- Acquisition cost: $288
- Life-cycle cost: $814

Appropriations through fiscal year 2015: $290
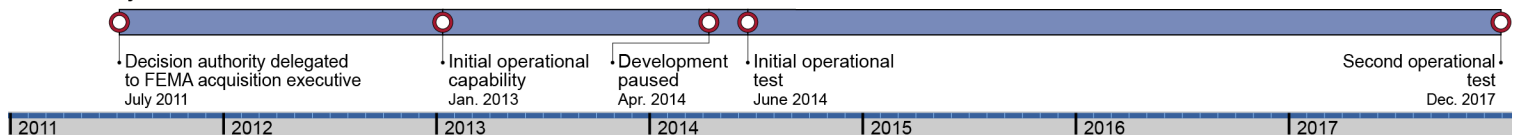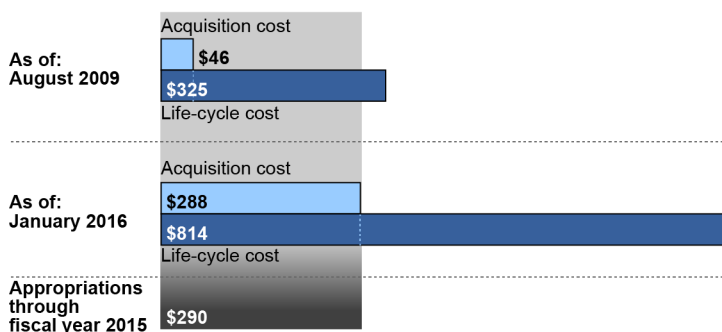
Performance

According to FEMA officials, LSCMS previously demonstrated it could meet all seven of its key performance parameters (KPP) through either operational or developmental testing. However, the department's Director of Operational Test and Evaluation (DOT&E) recommended FEMA retest LSCMS, noting that the testing was not adequate to determine whether LSCMS had met all of its KPPs. According to officials, FEMA will conduct additional operational testing on the system after the program completes anticipated upgrades, which officials believe will occur in 2017.

Program Governance

In July 2011, the Department of Homeland Security's (DHS) Under Secretary for Management (USM) delegated acquisition decision authority for the LSCMS program to the FEMA Component Acquisition Executive. This decision authority reverted back to the USM when the Component Acquisition Executive retired in March 2012, but FEMA deployed the enhanced LSCMS in 2013 without USM approval or a DOT&E letter of assessment, violating DHS acquisition policy. In April 2014, based on the preliminary results of a DHS Office of Inspector General (OIG) report, the acting USM directed FEMA not to initiate the development of any new LSCMS capabilities until further notice. The DHS OIG noted that neither DHS nor FEMA leadership ensured the program office identified all mission needs before selecting a solution, and the acting USM instructed FEMA to conduct an analysis of alternatives for addressing LSCMS's remaining capability gaps.

In June 2015, a contractor completed the analysis of alternatives and recommended that FEMA pursue the current version of LSCMS plus additional capabilities that would improve coordination with partner organizations. On the basis of this assessment, in August 2015, FEMA officials stated they were planning to pursue an upgrade known as Electronic Data Interchange, which would provide LSCMS the ability to automatically interface with its partners' information systems. However, they also said FEMA would not be able to pursue development of this new capability until the Deputy USM authorized FEMA to do so. According to FEMA officials, the Deputy USM would not approve further development until the program management office updated some of LSCMS's key acquisition planning documents, including its Acquisition Program Baseline (APB). In 2012, GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions, and DHS concurred (GAO-12-833). In April 2015, GAO reiterated this recommendation when it reported that LSCMS lacked an approved APB. DHS leadership subsequently approved the LSCMS LCCE in August 2015, and the LSCMS APB in December 2015.

Program Execution

GAO is not assessing the extent to which the program is on track to meet its cost estimate or schedule because DHS leadership did not approve an APB that GAO could use to assess the program until December 2015. Nonetheless, when DHS leadership approved that APB, it identified that the program's life-cycle cost estimate had increased by nearly $500 million since 2009, the year FEMA initiated efforts to enhance LSCMS.

The program's cost estimate exceeds its funding plan through fiscal year 2020, but in October 2015, FEMA identified funding sources outside the program that can allocate LSCMS an additional $26 million over the next 5 years, as well as an estimated $8.7 million in cost savings.

Test Activities

FEMA deployed the enhanced LSCMS in January 2013 before operationally testing the system. When the operational test was conducted, DHS's DOT&E determined it was inadequate. The Operational Test Agent (OTA), the Department of Defense's Joint Interoperability Test Command, conducted the operational testing throughout calendar year 2013, leveraging performance data from the field, including data collected during FEMA's responses to real-world disasters. The OTA's conclusions were generally positive, but DHS's DOT&E determined that these conclusions were not supported by the test results, in part because the test's sample size was not adequate. DOT&E directed the program to select a new OTA and to conduct additional operational testing. FEMA officials stated that they are working with DOT&E to identify a new OTA. Officials estimated that the new OTA would conduct operational testing in 2017 following required security upgrades and the addition of the Electronic Data Interchange capability.

Other Issues

In fiscal year 2015, FEMA reported the LSCMS program only had about 37 percent of the staff it needed. FEMA officials previously attributed the program's governance and testing challenges to staffing shortages. They told GAO that critical positions, such as systems engineers, have been historically filled by contractors. In December 2015, they said that the program had increased its staff size to 15.5 full time equivalents, but that it still needed 8 more, and that FEMA was working to recruit them. In the interim, the program is using temporary staff on a short-term or part-time basis to augment the office.

Program Office Comments

DHS has approved the LSCMS APB, LCCE, Operational Requirements Document, and Integrated Logistics Support Plan. The program office has resolved all the 2014 DHS OIG recommendations and has closed 6 of the 10 recommendations; 4 recommendations will remain open until operational testing is complete along with the hiring of qualified reservists. The LSCMS program office has fulfilled all of the 2014 DHS Acquisition Decision Memorandum requirements. In October 2015, the FEMA Acquisition Review Board (ARB) approved LSCMS moving forward to a DHS ARB to un-pause and approve a rebaselining of the program. The Logistics Systems Program Office has increased its staffing from 8.5 full time equivalents in early 2015 to 15.5 in December 2015. Active recruiting is ongoing for the remaining 8 individuals with term and detailed employees filling the gap.

TECS Modernization
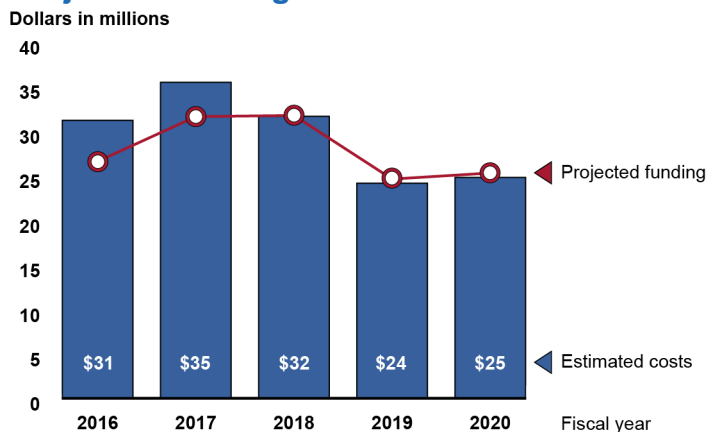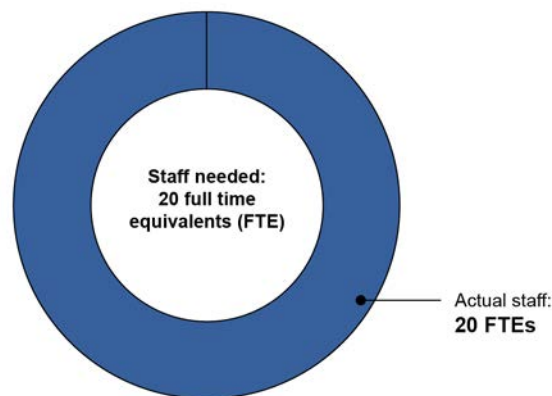## Immigrations and Customs Enforcement (ICE)
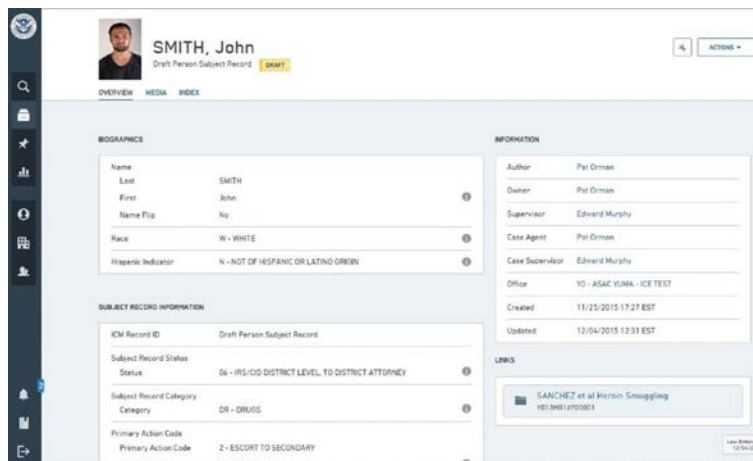
Source: ICE.

Program Description

ICE is responsible for investigating and enforcing border control, customs, and immigration laws. The legacy TECS (not an acronym) system has supported ICE's mission since the 1980s, providing case management, intelligence reporting, and information sharing capabilities. However, the legacy system is obsolete, expensive to maintain, and unable to support ICE's growing mission needs. In 2009, ICE began efforts to modernize aging TECS functionality and provide end users with additional functionality required for mission execution. Customs and Border Protection is executing a separate TECS Modernization program, which GAO has also assessed in this report. GAO previously reported on ICE's TECS Modernization program in April 2015 (GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

	2016	2017	2018	2019	2020
Estimated costs	$31	$35	$32	$24	$25

Fiscal year

◀ Projected funding
◀ Estimated costs

Program Office Staffing Profile

Staff needed: 20 full time equivalents (FTE)

Actual staff: 20 FTEs

Schedule Changes over Time

As of: October 2011

As of: January 2016

Acquisition program baseline approved
Oct. 2011

Program rebaselined
June 2014

Initial operational capability
Mar. 2016

Full operational capability
Sept. 2017

2011 2012 2013 2014 2015 2016 2017 2018

Cost Estimate Changes over Time

Dollars in millions

As of: October 2011
Acquisition cost $311
Life-cycle cost $818

As of: January 2016
Acquisition cost $216
Life-cycle cost $399

Appropriations through fiscal year 2015 $152

Performance

ICE plans to demonstrate whether the modernized TECS system can meet its three key performance parameters (KPP) through operational testing scheduled for December 2015 through June 2016. These KPPs establish the amount of time the system can take to respond to requests, the number of concurrent users it can support, and the percentage of time it functions properly. ICE officials told GAO the program eliminated three other KPPs between 2011 and 2014 in order to focus on the more operationally relevant and measurable metrics.

Acquisition Strategy

According to the program manager, the program is acquiring capabilities through four concurrent "work streams," each of which delivers discrete portions of the system's total planned functionality. Different contractors are responsible for different work streams, and the program office is managing their efforts and integrating their software. Program officials told GAO this approach is intended to improve management visibility into each of the contractor's efforts.

According to the program manager, the TECS Modernization program initially attempted to use an agile development approach, but after difficulties, revised its approach to incorporate some traditional program management practices in order to increase oversight and rigor. Additionally, the program is now leveraging commercial-off-the-shelf (COTS) products, and is no longer pursuing a custom-developed solution.

Program Execution

In October 2011, the Department of Homeland Security's (DHS) Under Secretary for Management (USM) approved the ICE TECS Modernization Acquisition Program Baseline, establishing the program's cost, schedule, and performance parameters. Subsequently, the program experienced technical difficulties and schedule delays. In June 2013, ICE officials decided to cease development efforts. At that time, ICE determined that the existing TECS Modernization approach was unfeasible, and spent several months assessing the program. In June 2014, the USM rebaselined the program, revising its operational requirements, cost estimates, and schedule to reflect the program's new approach. The program's initial operational capability (IOC) date has slipped from December 2013 to March 2016, but the full operational capability (FOC) date has moved forward from December 2017 to September 2017. Additionally, the program's acquisition and life-cycle cost estimates decreased significantly. The program manager primarily attributed the earlier FOC date and reduced cost estimates to the program's revised approach. Among other things, he noted that over 10 years, it would have likely cost ICE more than twice as much to support the custom-developed solution the program initially envisioned.

Test Activities

In April 2014, DHS's Director of Operational Test and Evaluation (DOT&E) approved the program's revised Test and Evaluation Master Plan. According to a DOT&E representative, the program initiated an operational evaluation in December 2015. DOT&E will assess the results, and in March 2016, program officials expect the USM will authorize the program to deliver IOC functionality to operators in the field. Program officials state that they intend to meet 80 percent of the program's requirements at IOC, and that this will allow ICE to discontinue use of the legacy TECS system at that time.

In May 2016, the program plans to conduct a second operational test after the program has had 2 months to operate and maintain the new system. DOT&E will again assess the results. Subsequently, the program plans to deliver the functionality needed to meet the remaining 20 percent of the program's requirements, particularly user interfaces and information sharing capabilities. ICE officials said that the program may eventually conduct a follow-on operational test to assess the functionality delivered between May 2016 and September 2017, when the program plans to achieve FOC.

Other Issues

In April 2015, DHS reported that the ICE TECS Modernization program office had a 42 percent staffing gap, and in September 2015, the program manager told GAO that staffing shortfalls had placed considerable stress on existing staff members in the past. However, the program manager also told GAO that ICE had closed this gap by hiring additional staff, and that the program no longer has any vacant positions.

In fiscal years 2016 and 2017, the program's estimated costs exceed its projected funding. However, according to the program manager, the program carried over $10 million of previously allocated funding into fiscal year 2016, making the program affordable through fiscal year 2020.

Program Office Comments

ICE provided technical comments that GAO addressed as appropriate.

Continuous Diagnostics & Mitigation (CDM)
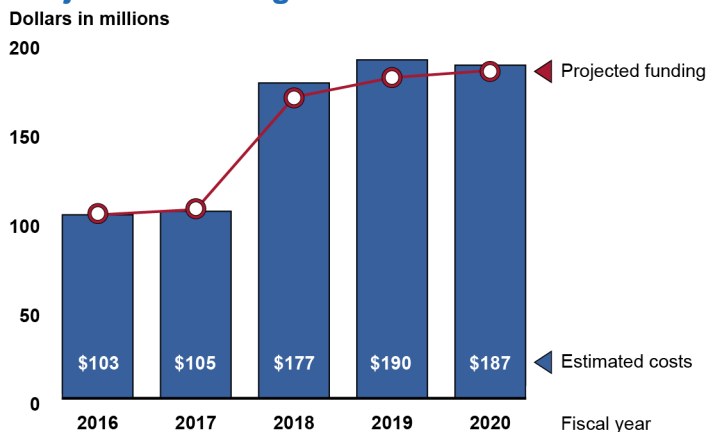## National Protection and Programs Directorate (NPPD)
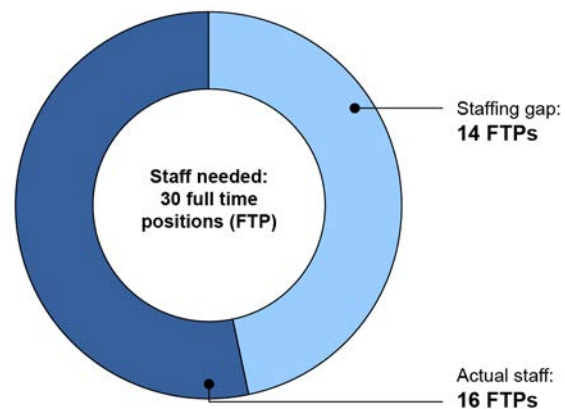

Source: NPPD.

Program Description

The CDM program is intended to strengthen the cybersecurity of the federal government's computer networks by providing sensors and user interfaces known as "dashboards" to more than 60 departments and agencies. These sensors will continually monitor the agencies' networks for vulnerabilities rooted in both hardware and software. When the sensors detect vulnerabilities, they will automatically notify agency personnel through the dashboards. These dashboards are intended to help the agency personnel determine which vulnerabilities they should address first. CDM is also delivering a government-wide dashboard to the Department of Homeland Security (DHS). This dashboard is expected to extract data from the agency-level dashboards and enhance situational awareness across the entirety of the federal government. CDM does not provide capabilities to the Department of Defense.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$103	$105	$177	$190	$187

◄ Projected funding
◄ Estimated costs

Program Office Staffing Profile

Staff needed: 30 full time positions (FTP)

Staffing gap: **14 FTPs**

Actual staff: **16 FTPs**

Schedule Changes over Time

As of: June 2013

As of: January 2016

- Acquisition program baseline approved June 2013
- Program rebaselined Apr. 2014
- Critical design review for the dashboard Jan. 2015
- Program rebaselined Aug. 2015
- Initial operational capability Dec. 2016
- Full operational capability Dec. 2018

2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019

Cost Estimate Changes over Time

Dollars in millions

As of: June 2013	
Acquisition cost	$2,076
Life-cycle cost	$3,249

As of: January 2016	
Acquisition cost	$2,653
Life-cycle cost	$2,670

Appropriations through fiscal year 2015	$499

Performance

CDM is still in a relatively early acquisition stage, and NPPD officials told GAO the program has not yet demonstrated whether it can meet any of its 12 key performance parameters (KPP). Six of the KPPs establish requirements for detecting and reporting vulnerabilities, two KPPs establish access control requirements, and four KPPs establish requirements for identifying how agencies prepare for and respond to cybersecurity incidents.

Acquisition Strategy

CDM plans to provide sensors and tools to the departments and agencies in three phases. Phase 1 sensors will report vulnerabilities in hardware and software; Phase 2 tools will report on user access controls; Phase 3 tools will report on department and agency efforts to prevent attacks and limit the impact of ongoing attacks. The General Services Administration (GSA) is administering CDM's contracts, and in July 2014, GSA issued a request for quotations to 17 blanket purchase agreement (BPA) holders that held BPAs that were previously issued under the vendors' GSA Federal Supply Schedule contracts. Through these BPAs, the program is using task orders to acquire commercially-off-the-shelf software, hardware, and services. In February 2015, GSA awarded the first task order to Knowledge Consulting Group, which is delivering Phase 1 sensors to DHS. HP Enterprise Services, LLC, one of the other 16 BPA holders, subsequently protested the award, but GAO denied the protest in June 2015. Program officials said GSA awarded the second task order to Booz Allen Hamilton Inc., which is delivering Phase 1 sensors to seven additional departments and agencies. In December 2015, program officials told GAO that GSA had awarded three more task orders since that time. In total, through the five task orders, the BPA holders are delivering Phase 1 sensors to 25 agencies. In March 2014, GSA issued a separate CDM task order for the agency-level and government-wide dashboards.

Program Execution

From June 2013 to January 2016, several of CDM's key milestone dates slipped, and program officials said the slips were largely the result of contracting challenges. For example, they said the critical design review for the agency-level dashboard slipped from January 2014 to January 2015 because it took longer than expected to award the contract for the dashboards. Officials said the initial operational capability (IOC) date slipped from July 2014 to December 2016 because it took longer than expected to prepare the initial solicitation and select the vendors. They said the bid protest also contributed to the IOC slip. The program will achieve IOC once it has delivered sensors and dashboards to five agencies. From June 2013 to April 2014, the program's acquisition cost estimate decreased from $2.1 billion to $1.6 billion largely because DHS headquarters instructed the program to use less-conservative assumptions when developing its cost estimate. Since April 2014, the program's acquisition cost estimate increased to $2.7 billion for several reasons, including increased staff levels, and the inclusion of costs to upgrade or replace the sensors as they become obsolete. From June 2013 to January 2016, the program's life-cycle cost estimate decreased from $3.2 billion to $2.7 billion for two main reasons. First, the program determined it did not need to support all of the sensors CDM offers at all departments and agencies because some of these departments and agencies already have relatively robust monitoring capabilities. Second, DHS leadership determined the program would only fund the operation and maintenance of the CDM sensors, tools, and dashboards for the first 2 years after their deployments, rather than over their entire life cycles. The departments and agencies receiving the CDM sensors and dashboards will be responsible for funding their operation and maintenance after the first 2 years.

Test Activities

CDM is only authorized to conduct testing on DHS networks, which means the other departments and agencies will be responsible for testing the CDM sensors and dashboards on their own networks. To mitigate the risk that the sensors and dashboards will not work as intended on the other department and agency networks, the program plans to conduct limited operational assessments at DHS before initiating the government-wide deployment. As of January 2016, the program had evaluated individual sensors as part of the contract award process, but it had not yet conducted any testing on the DHS networks. At that time, NPPD officials said the program planned to conduct an initial test on the DHS network in February 2016. Program officials also told GAO that they were revising CDM's Test and Evaluation Master Plan (TEMP), and explained they do not believe the program needs to conduct a comprehensive operational test. DHS's Director of Operational Test and Evaluation approved CDM's initial TEMP in April 2014, which states that the program shall conduct a comprehensive operational test.

Other Issues

Some departments and agencies have concerns about the costs and reporting requirements that come with the CDM sensors and dashboards. Program officials said they are working with OMB to engage these departments and agencies. Nonetheless, under CDM's current acquisition strategy, the program plans to deliver sensors that will cover approximately 98 percent of the federal civilian workforce.

In December 2015, program officials told GAO that CDM had a staffing gap of 14 full time positions (FTP), meaning actual personnel rather than equivalents, which equaled a 47 percent staffing shortfall.

Program Office Comments

The Projected Funding vs Estimated Costs Chart is misleading since dollar amounts are not shown for Projected Funding while they are provided for Estimated Costs. CDM manages its budget to ensure actual program costs and funding are equal yet the chart gives a visual picture that the two are not. The schedule chart shows that the program has twice rebaselined since 2013 for practical realities in the schedule. The cost estimate chart gives a distorted picture and does not show the life-cycle time frame. The life-cycle cost estimate is being updated to v 5.0 to reflect program changes now that implementation has begun. CDM has leveraged the buying power of civilian Chief Financial Officer Act agencies and strategic sourcing to achieve cost avoidance of over $169 million in 2 years. Program successes to date have resulted in requests to accelerate, addition of new requirements, and increases in funding.

GAO Response

From fiscal years 2016 to 2020, CDM's estimated costs exceed its funding plan by $22 million. The Cost Estimate Changes over Time figure identifies the cost estimates from CDM's initial baseline, dated June 2013, and most recent baseline, dated August 2015. In the Program Execution section, GAO identifies the reasons for the cost growth. These are the reasons the program itself identified in its August 2015 baseline.

National Cybersecurity Protection System (NCPS)
National Protection and Programs Directorate (NPPD)
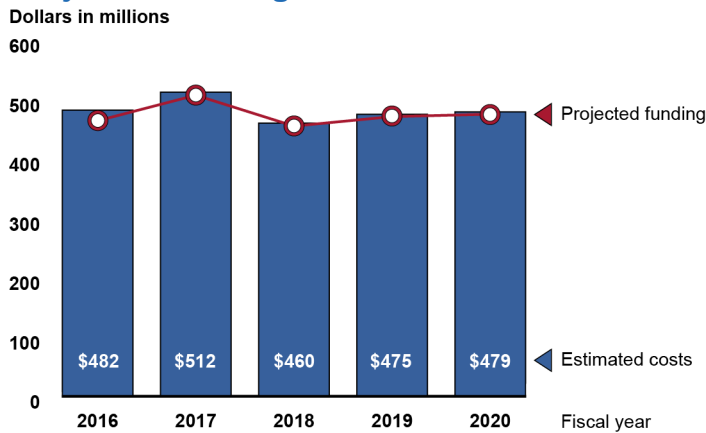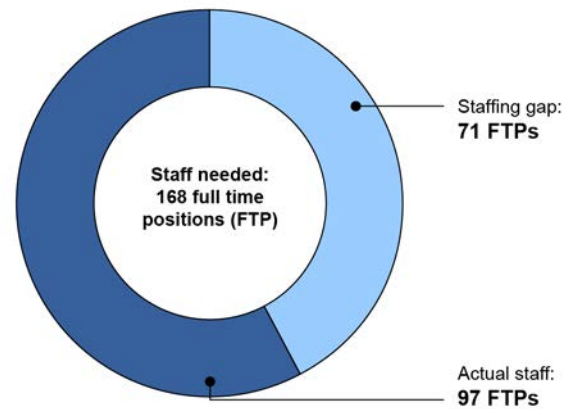

Source: NPPD.

Program Description

NCPS is intended to defend the federal civilian government's information technology infrastructure from cyber threats. The program was established to acquire hardware, software, and services, and delivers capabilities through a series of interdependent upgrades designated "blocks." Blocks 1.0, 2.0, and 2.1 are fully deployed and collectively provide intrusion-detection and analytic capabilities across government agencies. NCPS is currently deploying EINSTEIN 3 Accelerated (E^{3}A), previously designated Block 3.0, which is intended to provide an intrusion-prevention capability. Going forward, NCPS plans to deliver Block 2.2 to improve information sharing across agencies. GAO previously reported on the NCPS program in January 2016 and April 2015 (GAO-16-294, GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

	2016	2017	2018	2019	2020
Estimated costs	$482	$512	$460	$475	$479

Projected funding

Fiscal year

Program Office Staffing Profile

Staff needed: 168 full time positions (FTP)

Staffing gap: 71 FTPs

Actual staff: 97 FTPs

Schedule Changes over Time

As of: May 2011

As of: January 2016

Acquisition program baseline approved
Feb. 2009

Program authorized to change Block 3.0 strategy to E^{3}A
May 2012

Program rebaselined
Jan. 2014

Program rebaselined
Jan. 2015

E^{3}A acquisition decision event 2C
July 2015

E^{3}A acquisition decision event 3
Dec. 2017

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Cost Estimate Changes over Time

Dollars in millions

As of: February 2009
Acquisition cost $1,029
Life-cycle cost $1,951

As of: January 2016
Acquisition cost $1,278
Life-cycle cost $5,692

Appropriations through fiscal year 2015 $1,814

Performance

In June 2015, the Department of Homeland Security's (DHS) Director of Operational Test and Evaluation (DOT&E) found E^{3}A had met its key performance parameters (KPP) for coverage and accuracy, and had made progress towards meeting its KPP for timeliness. However, DOT&E also recommended DHS review and refine E^{3}A's KPPs to reflect a more mature understanding of E^{3}A's operational environment, the threat, and other efforts within the federal government's overarching cybersecurity strategy.

Acquisition Strategy

Originally, the program planned to use government technology to deliver Block 3.0 intrusion-prevention capabilities, but in May 2012, it significantly changed its acquisition strategy, decided to work directly with commercial internet service providers (ISP), and designated the revised effort E3A. In January 2014, the program rebaselined, and the E3A intrusion-prevention capabilities are now primarily provided through sole source contracts with the nation's largest ISPs to maximize coverage.

However, in May 2015, NCPS decided to provide E3A intrusion-prevention capabilities through fewer ISPs than previously planned. Program officials said they made this decision due to performance concerns involving certain ISPs. This change threatened to limit E3A's coverage, but the program developed a plan that instead allowed it to expand its coverage beyond what it had envisioned when it rebaselined in January 2014. Program officials said they competitively awarded a new contract to one of the remaining ISPs to provide basic intrusion-prevention services at a greater number of federal agencies. In September 2015, program officials told GAO that NCPS would have the capacity to cover all federal internet traffic by December 2015. However, program officials said the basic intrusion-prevention services provided under this revised plan will not be able to support all countermeasures in the future.

Program Execution

In February 2009, NCPS's life-cycle cost estimate (LCCE) was less than $2.0 billion, but when DHS leadership rebaselined the program in January 2015 to account for Block 2.2 and refinements to E3A, the LCCE exceeded $5.6 billion. Program officials said the 2009 LCCE only accounted for costs over a 5-year period, whereas the 2015 LCCE accounted for costs through fiscal year 2022, which is the program's entire life cycle.

Going forward, however, NCPS's LCCE may decrease because the program is awarding contracts to fewer ISPs under the revised E3A acquisition strategy, and some federal networks will not receive all countermeasures in the future. NCPS officials told GAO that DHS leadership will likely approve an updated LCCE that reflects the revised acquisition strategy in early 2016.

In April 2015, we reported that NCPS's decision to work directly with the ISPs on E3A had a significant effect on the program's schedule. Among other things, the program delayed a major acquisition decision until July 2015, when DHS leadership reviewed the results of E3A's first independent operational assessment (OA). NCPS officials said they plan to conduct an additional OA for E3A in early 2016, and after two ISPs begin providing services, the program plans to conduct E3A's initial operational test and evaluation (IOT&E). This IOT&E is currently scheduled for 2017 and is intended to inform the last major acquisition review for E3A, which is currently scheduled to occur by December 2017. Program officials told GAO that this review is intended to primarily be a venue for demonstrating the E3A capabilities, and that they do not expect any major decisions will be made at that time.

As for Block 2.2, in August 2015, DHS leadership authorized the program to initiate development under its current baseline. However, DHS leadership also directed the program to update its Analysis of Alternatives by the end of December 2015, and re-evaluate plans for an information sharing portal, and content and access management capabilities. Program officials said they plan to conduct an OA of initial Block 2.2 capabilities in late 2016.

Other Issues

Program officials said NCPS faces unique challenges, including serving several federal agencies with different legal and privacy requirements, relying on ISPs for providing and testing capabilities, and integrating classified capabilities into commercial, unclassified networks.

In March 2015, DHS reported that NCPS faced a staffing shortfall of approximately 25 percent. In December 2015, a program official told GAO that NCPS needed 168 full time positions (FTP), meaning actual personnel rather than equivalents, and that NCPS had 97 FTPs. At that time, the staffing shortfall had grown to 42 percent. Program officials said the staffing shortfall limits the program's ability to test the E3A system against security requirements, oversee contractors, and manage its finances.

Program Office Comments

Since the last assessment, the NCPS program office has made progress toward achieving program objectives. E3A conducted an OA in early 2015 and demonstrated progress toward operational effectiveness and suitability. The results of the OA led to a successful major acquisition decision for E3A. NCPS has also expanded coverage available for intrusion-prevention services and continues to onboard departments and agencies. Overall, NCPS estimated costs are expected to decrease due to changes in E3A acquisition strategy. NCPS was also authorized to move forward with obtaining information sharing capabilities (Block 2.2). While the program continues to experience staffing shortfalls, efforts have increased across the department to expedite the release of hiring actions and processing of selected candidates. As a result, the program projects that staffing shortfalls should be reduced to 10 to 15 percent by the third quarter of fiscal year 2016.

Next Generation Networks Priority Services (NGN-PS)
National Protection and Programs Directorate (NPPD)

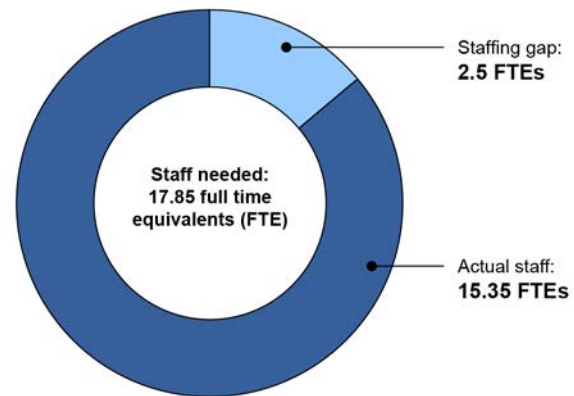Source: NPPD.

Program Description

NGN-PS is intended to address an emerging capability gap in the government's emergency telecommunications service, which prioritizes select officials' phone calls when telecommunications networks are overwhelmed. NPPD executes the NGN-PS acquisition program through commercial telecommunications service providers, which address the government's requirements as they modernize their own networks. NPPD plans to execute NGN-PS through three phases—voice, video, and data—and is currently focused on the voice phase. Once NGN-PS capabilities become operational, NPPD's Priority Telecommunications Services (PTS) program assumes responsibility for sustaining them. The cost and funding figures in this assessment account for both NGN-PS and PTS in accordance with Department of Homeland Security (DHS) guidance. GAO reported on the NGN-PS acquisition program in April 2015 (GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$136	$146	$112	$93	$93

- Projected funding
- Estimated costs

Program Office Staffing Profile

Staff needed: 17.85 full time equivalents (FTE)

Staffing gap: 2.5 FTEs

Actual staff: 15.35 FTEs

Schedule Changes over Time

As of: September 2010

As of: January 2016

- Increment 1 initial operational capability (IOC) Sept. 2013
- Increment 2 IOC Aug. 2017
- Increment 1 full operational capability (FOC) Mar. 2019
- Increment 2 FOC Dec. 2019

2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020

Cost Estimate Changes over Time

Dollars in millions

As of: September 2010
- Acquisition cost: $244
- Life-cycle cost: $713

As of: January 2016
- Acquisition cost: $538
- Life-cycle cost: $1,200

Appropriations through fiscal year 2015: $247

Performance

In October 2015, NPPD officials told GAO that NGN-PS continued to meet all six of its key performance parameters for the voice phase, but DHS's Director of Operational Test and Evaluation (DOT&E) has not yet validated the program's performance. Additionally, program officials noted that each emergency is unique and that performance can be affected by damage to telecommunications infrastructure. Going forward, NPPD officials stated they may develop additional key performance parameters once requirements for the video and data phases are established.

Acquisition Strategy

NGN-PS was established in response to an Executive Order requiring the federal government to have the ability to communicate at all times during all circumstances to ensure national security and manage emergencies. The NGN-PS program works with telecommunications service providers as they enhance their carrier networks so they can continue to provide select government officials a survivable telecommunications capability nationwide through the PTS program.

The NGN-PS voice phase is divided into three increments. With increment 1, NGN-PS is paying the service providers to ensure their major core networks can continue to prioritize government phone calls as needed. With increment 2, NGN-PS is delivering wireless capabilities. With increment 3, NGN-PS plans to address landline capabilities. As of January 2016, the program has initiated the first two increments, and invested more than $240 million in the major service providers' infrastructures to meet government requirements. NGN-PS awarded three base contracts in 2014, each of which includes 9 option years.

Program Execution

From September 2010 to January 2016, NGN-PS's acquisition cost estimate increased from $244 million to $538 million, and its life-cycle cost estimate (LCCE) increased from $713 million to $1.2 billion. In September 2014, the acquisition cost estimate and LCCE increased to $691 million and $1.1 billion, respectively, when the program accounted for the voice phase's second increment. However, in August 2015, DHS's Chief Financial Officer approved a revised cost estimate that decreased the acquisition cost estimate but increased the LCCE. Program officials told GAO that the decreased acquisition cost estimate reflects a refinement of the estimate based on knowledge gained from the service providers. As for the LCCE, officials attributed the increase to the inclusion of all sustainment costs for the PTS program, some of which were previously accounted for separately. The PTS costs were included in the revised cost estimate at the request of DHS headquarters. GAO has previously reported that the sustainment phase can account for more than 80 percent of program life-cycle costs.

As GAO reported in April 2015, the full operational capability date for increment 1 slipped from June 2017 to March 2019, which program officials attributed to funding shortfalls. In September 2015, officials told GAO the program received adequate funding in fiscal year 2015 and that they do not anticipate further schedule slips for planned increment 1 and 2 activities. The program plans to use surplus funding expected in fiscal years 2019-2020 to implement new services such as additional wireless capabilities.

Test Activities

DHS's DOT&E approved the NGN-PS Test and Evaluation Master Plan (TEMP) in October 2013. At that time, DOT&E established that the NGN-PS program could use acceptance testing, among other things, to determine whether service providers are meeting requirements. In 2015, program officials told us they were coordinating with DHS's Science and Technology Directorate and DOT&E to update the TEMP, partly in response to GAO's April 2015 report. Among other things, program officials said they were working to better reflect that NGN-PS is a service acquisition, rather than a system acquisition. They are also working to align their TEMP with new guidance, and account for the contracts NPPD awarded to the service providers. Program officials expect DOT&E will approve it in early 2016.

The service providers have a central role in NGN-PS test activities. They conduct NGN-PS developmental testing, which is overseen by program officials. Going forward, during operational testing, the government's operational test agent—the Joint Interoperability Test Command—will have to leverage the service providers' developmental test data as well as their actual operational data. Program officials told GAO that NGN-PS has performed well when its capabilities have been tested and deployed. Officials also said that they continuously review actual NGN-PS performance and that all service providers undergo annual network service verification testing under the PTS program.

Other Issues

DHS headquarters reported that NGN-PS has a staffing shortfall, but NPPD officials told GAO that the NGN-PS staffing level is adequate because the program leverages support from contractors and the PTS program, as needed.

Program Office Comments

GAO depiction of cost and schedule are misleading. NGN-PS is not over budget. Previous cost assessments accounted only for NGN increment 1. The cost/funding figures in this assessment account for NGN increments 1 and 2 (Acquisition), and PTS (Operations and Maintenance). Per DHS headquarters guidance, PTS costs were added to the NGN-PS cost estimate for completeness. NGN-PS is an acquisition-only program that acquires capabilities that are transferred to the PTS program as they become operational. PTS is a separate program supporting legacy systems which make up 80 percent of the current operational capability with only 20 percent supporting NGN capabilities. For accurate program schedule assessment, the 2010 program baseline must be compared to the updated 2013 baseline.

GAO Response

GAO identifies that the program's projected funding exceeds its estimated costs in fiscal years 2019-2020. In the Program Execution section, GAO attributes cost changes from September 2010 to January 2016 to the inclusion of increment 2 capabilities and PTS sustainment costs. The January 2016 cost estimate is based on documentation approved by the DHS Chief Financial Officer. GAO is providing information as of January 2016, rather than the information from the 2013 baseline, to account for developments over the past 2 years.

Homeland Security Information Network (HSIN)
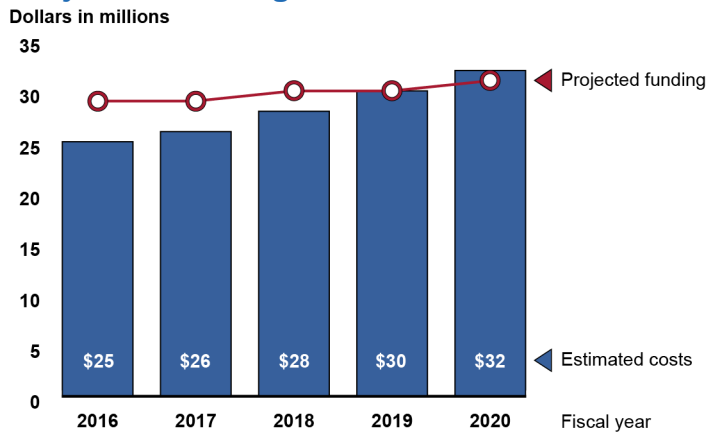## Office of the Chief Information Officer (OCIO)
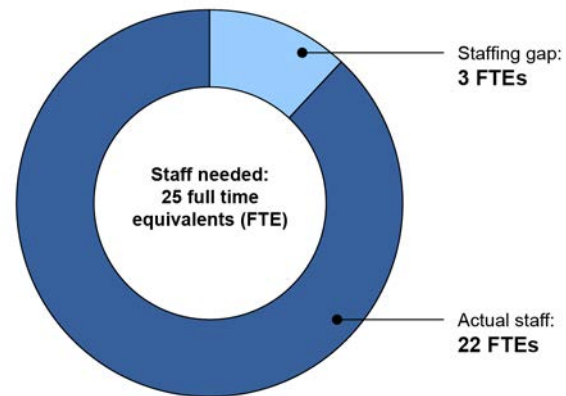

Source: A&O.

Program Description

HSIN is a secure web portal that federal, state, local, international, and private sector homeland security partners use to share Sensitive but Unclassified information, analyze data, and send alerts. The Department of Homeland Security (DHS) has released three versions of HSIN since 2004. Going forward, program officials told GAO they will continue to develop new capabilities in response to HSIN's constantly evolving requirements. However, they said these development efforts will likely be limited, and not require additional program increments. GAO previously reported on the HSIN program in April 2015 (GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$25	$26	$28	$30	$32

Projected funding

Program Office Staffing Profile

Staff needed: 25 full time equivalents (FTE)

Staffing gap: 3 FTEs

Actual staff: 22 FTEs

Schedule Changes over Time

As of: September 2012

As of: January 2016

Acquisition program baseline approved
Sept. 2012

Initial operational test and evaluation
June 2013

Full operational capability
Jan. 2016

2012 | 2013 | 2014 | 2015 | 2016

Cost Estimate Changes over Time

Dollars in millions

As of: September 2012

Acquisition cost $173
Life-cycle cost $529

As of: January 2016

Acquisition cost $233
Life-cycle cost $580

Appropriations through fiscal year 2015 $49
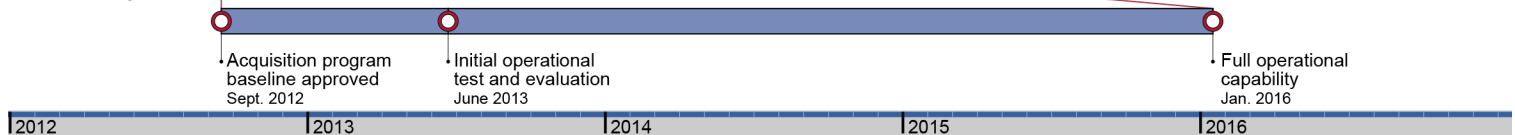
Performance

In December 2014, DHS's Director of Operational Test and Evaluation (DOT&E) found HSIN had met its key performance parameters (KPP) for information sharing, accessibility, and interoperability, but had not met its KPP for availability due to unplanned outages during high system use. Program officials said they subsequently addressed this shortfall, and in January 2016, DOT&E validated this assertion.

Acquisition Strategy

The program uses an agile software development methodology, which program officials said generally delivers new capabilities every 3 months through a series of month-long sprints. To facilitate the agile approach, the program issued a hybrid firm-fixed-price and time-and-materials task order to a vendor that has used modified commercial-off-the-shelf (COTS) software to develop the third HSIN release. In 2014, program officials told GAO that vendors were updating COTS software more often than in the past, and that it could be difficult to determine when the program should procure new versions. They explained that the program must balance the costs of these updates and the technical challenges that result from skipping some updates. However, in 2015, program officials told GAO that many vendors are now delivering capability on demand as a service rather than selling customers large, discrete products. According to program officials, this has reduced the technical challenges by giving the program more flexibility in deciding which updates it should procure.

Program officials told GAO that it has recently taken an average of 4 months longer than anticipated to award contracts. As a result, the program had to extend some of the contracts it awarded previously to maintain continuity of service. The program officials said the program office's transition from the DHS Office of Operations to OCIO has contributed to the delays as new individuals assumed responsibility for awarding the contracts. Program officials said the transition was initiated in 2010 and completed in May 2015. In October 2015, GAO concluded that the government may pay more than it should for goods and services when these types of noncompetitive contracts are used frequently or for prolonged periods of time (GAO-16-15).

Program Execution

In January 2015, DHS told GAO that the program had achieved full operational capability (FOC) in March 2014, but GAO concluded that the program may require additional work to achieve FOC because it had not yet met its availability KPP. Subsequently, in September 2015, program officials told GAO they had redefined FOC as the point in the HSIN life cycle when DHS ensures that end users are receiving agreed-upon capabilities. The program officials said that this will occur when DOT&E has validated the program has achieved its availability KPP. This new definition is consistent with GAO's previous conclusion. The program achieved FOC in January 2016.

From 2012 to 2016, the program's acquisition cost estimate increased by $60 million. Program officials told GAO the cost estimate had decreased from $173 million in 2012 to $151 million in January 2015 as the program refined its cost estimate, but then it subsequently increased to $233 million when costs previously associated with operations and maintenance activities were reallocated to acquisition efforts.

From 2012 to 2016, the program's life-cycle cost estimate (LCCE) increased by $51 million. Program officials told GAO the LCCE decreased from $529 million in 2012 to $451 million in January 2015 primarily due to increasingly accurate estimates rather than program changes. However, program officials also told GAO that the LCCE subsequently increased by approximately $130 million from January 2015 to January 2016. They said it increased when the program extended the LCCE 1 year to span the entirety of DHS's five-year funding plan, and because the cost of hosting servers was greater than the program had anticipated.

Test Activities

DOT&E approved the program's Test and Evaluation Master Plan (TEMP) in 2012. In December 2014, DOT&E determined that the program had not yet met its availability KPP, and recommended DHS leadership review the program again prior to a major expansion of its user base. Since that time, program officials told GAO they had demonstrated the system's availability, and in January 2016, DOT&E validated this assertion.

Going forward, the program officials said they plan to conduct continuous operational testing following deployment. They also told GAO they revised the TEMP to account for recent and planned testing, but DOT&E has not yet approved it.

Other Issues

DHS reported the program had an 18 percent staffing shortfall in 2014, but program officials said HSIN had adequate staffing levels by September 2015. They said the program could face a shortfall in the future, however, if they were directed to significantly expand development efforts.

Similarly, program officials said the program's largest risk is that end users may request a major capability expansion that the program cannot afford. That said, they also told GAO the program currently has the resources needed to make minor modifications to the system.

Program Office Comments

In 2015, the HSIN program experienced significant growth, increasing the level of operational information sharing among federal, state, local, territorial and private sector partners—as seen by system usage rates which more than doubled—while decreasing open help desk tickets by 65 percent. Throughout the year, users relied on HSIN to support vital collaboration during major events, including the Maryland gubernatorial inauguration, the Super Bowl, Phoenix Open, the Gulf Cooperation Council meeting, the World Police and Fire Games, the papal visit and more. In addition, the program worked with partner agencies to migrate two major legacy platforms to HSIN, providing added value to users and cost savings for DHS. HSIN also provided single-sign on capabilities to another DHS information sharing platform and began work to do the same with three other partner systems. At the end of the year, independent testing validated that all KPPs and suitability conditions were met.

National Bio and Agro-Defense Facility (NBAF)
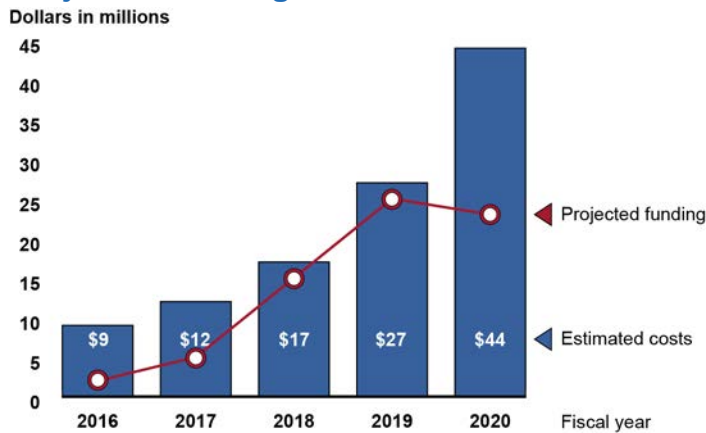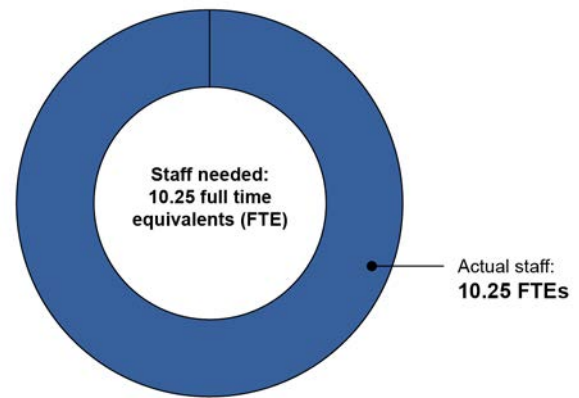## Science and Technology Directorate (S&T)

Source: S&T.

Program Description

The NBAF program is constructing a state-of-the-art laboratory in Manhattan, Kansas, to enable the United States to conduct comprehensive research, develop vaccines, and provide enhanced diagnostic capabilities to protect against foreign animal, emerging, and zoonotic diseases that threaten the nation's food supply, agricultural economy, and public health. The facility will provide 574,000 square feet of laboratory space to support the research missions of the Department of Homeland Security (DHS) and the Department of Agriculture (USDA). NBAF is intended to replace and expand upon the capabilities provided at an existing facility called the Plum Island Animal Disease Center, which is nearing the end of its useful life.

Projected Funding vs. Estimated Costs

Dollars in millions

Program Office Staffing Profile

Staff needed: 10.25 full time equivalents (FTE)

Actual staff: 10.25 FTEs

Schedule Changes over Time

As of: July 2014

As of: January 2016

- Program initiation authorized — May 2006
- Acquisition program baseline approved — July 2014
- Primary construction contract awarded — May 2015
- Facility commissioned — May 2021
- Full operational capability — Dec. 2022

Cost Estimate Changes over Time

Dollars in millions

As of: July 2014	
Acquisition cost	$1,298
Life-cycle cost	$9,639

As of: January 2016	
Acquisition cost	$1,298
Life-cycle cost	$9,639

Appropriations through fiscal year 2015: $939

Performance

The NBAF program must commission several laboratory spaces that meet different biosafety standards in order to meet its sole key performance parameter (KPP). Program officials reported that NBAF will not be able to demonstrate that it has met its KPP until the facility is fully constructed and commissioned in May 2021.

Acquisition Strategy

S&T leadership, the NBAF program office, a facility design team, and a construction manager are coordinating throughout all phases of the NBAF program in an effort to ensure the facility will be constructed as designed and within estimated cost parameters. According to program officials, they selected a construction manager early in the design process in order to increase coordination between the design and construction phases of the program.

Program Execution

In July 2014, DHS's Acting Undersecretary for Management (USM) approved the NBAF Acquisition Program Baseline (APB), which established the program's cost, schedule, and performance parameters. According to NBAF officials, the program remains on track to meet these parameters. The program awarded the contract for construction of the main laboratory facility in May 2015, and is scheduled to commission NBAF in May 2021. NBAF is scheduled to become fully operational in December 2022, after it receives the certifications needed to operate as a biocontainment facility.

However, NBAF previously experienced significant cost growth and schedule slips. Between August 2009, when the Acting Under Secretary for Science and Technology approved the initial version of NBAF's APB, and July 2014, when the Acting USM approved the current version of NBAF's APB, the program's acquisition cost estimate increased from $725 million to $1.3 billion, and the facility's anticipated commissioning date slipped by almost 6 years. In 2010, DHS and the National Academy of Sciences both recommended NBAF take a number of actions to mitigate NBAF's operational risks as a biocontainment facility. Subsequently, at the direction of Congress and DHS leadership, the program office revised NBAF's design in response to these recommendations, which increased costs and caused delays.

Program officials reported that funding constraints between 2009 and 2014 exacerbated the cost growth and schedule slips, and it appears that the program continues to face a funding gap approaching $39 million from fiscal year 2016 to fiscal year 2020. However, program officials told GAO that the program has sufficient funding between projected federal appropriations and funds from the State of Kansas. DHS has entered into a cost-sharing agreement with Kansas's state government to reduce the federal government's share of NBAF costs. Through fiscal year 2015, Kansas's state government had contributed $307 million to NBAF, which amounts to nearly 25 percent of the program's estimated acquisition cost.

Test Activities

In May 2013, DHS's Director of Operational Test and Evaluation determined that he was not responsible for overseeing NBAF because it was a facility, as opposed to a system. According to program officials, the NBAF program will implement a commissioning process for the facility once construction is complete to determine whether it can meet its KPP and other requirements. During the commissioning process, a third-party commissioning agent will monitor and test the facility's equipment and building systems to ensure that they are properly installed and functioning according to appropriate biosafety specifications. While the commissioning of the facility is not scheduled to occur until 2021, NBAF officials stated that the program has begun the process of developing a commissioning plan and a commissioning agent has been retained. Officials reported that the commissioning agent will monitor the installation of equipment and systems while construction is ongoing, and after construction is complete, the commissioning agent will oversee the commissioning process.

Other Issues

DHS reported that the NBAF program office does not have a staffing gap, although program officials told GAO they are still in the process of hiring five additional staff needed to oversee the construction of the facility. The officials told GAO that the program office has sufficient funding for these five staff, and that they plan to fill the positions by February 2016.

Program Office Comments

The delayed schedule and increased acquisition cost were a result of delayed construction funding from Congress and critical enhancements to the NBAF scope as part of the risk assessment process. The NBAF acquisition was fully funded in fiscal year 2015 by federal appropriations and gift funding from the State of Kansas.

All out year funding requests are for operational planning and operationalization activities. S&T received guidance in the DHS fiscal year 2017-2021 Resource Allocation Decision that an updated life-cycle cost estimate should be completed for the program to support the fiscal year 2018-2022 request. Current funding gaps will be eliminated if the program is funded to the S&T requested amounts reflected in the next Future Years Homeland Security Program update.

Electronic Baggage Screening Program (EBSP)
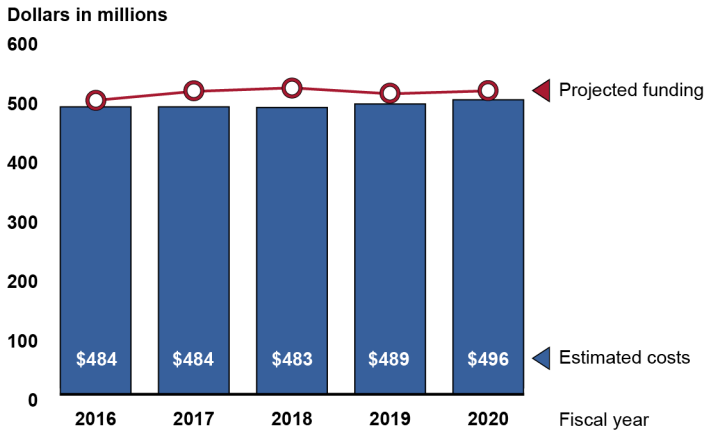## Transportation Security Administration (TSA)
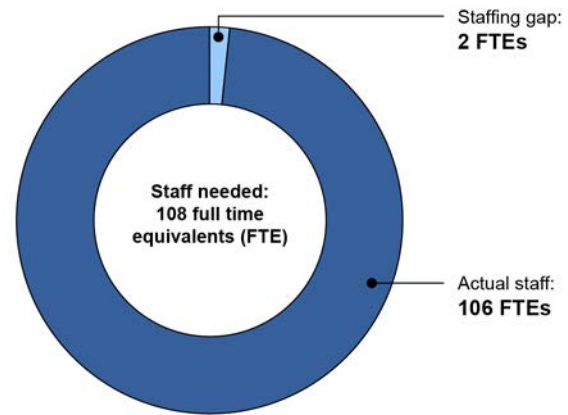

Source: TSA.

Program Description

TSA established EBSP in response to the terrorist attacks of September 11, 2001. EBSP identifies, tests, procures, deploys, installs, and sustains transportation security equipment across approximately 440 U.S. airports to ensure 100 percent of checked baggage is screened for explosives. The program's key objectives include: increasing threat detection capability, improving the efficiency of checked baggage screening, replacing aging equipment, and obtaining new screening technologies. The program awarded contracts for 20 types of baggage screening systems from 2002 to 2015. GAO previously reported on EBSP in December 2015 and April 2015 (GAO-16-117, GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$484
2017	$484
2018	$483
2019	$489
2020	$496

Program Office Staffing Profile

Staff needed: 108 full time equivalents (FTE)

Staffing gap: 2 FTEs

Actual staff: 106 FTEs

Schedule Changes over Time

As of: August 2012

Procure systems that detect additional materials Sept. 2015

Procure systems that provide enhanced homemade explosives detection capabilities - Sept. 2018

As of: January 2016

Original electronic baggage screening requirement established Nov. 2001

Current DHS acquisition policy established Nov. 2008

Procured systems that meet 2005 requirements Jan. 2012

Acquisition program baseline approved Aug. 2012

Initial operational capability for systems that detect additional materials and provide enhanced homemade explosives detection capabilities - Sept. 2016

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |

Cost Estimate Changes over Time

Dollars in millions

As of: August 2012
Acquisition cost $14,465
Life-cycle cost $21,198

As of: January 2016
Acquisition cost $12,422
Life-cycle cost $16,876

Appropriations through fiscal year 2015 $11,198

Performance

TSA officials stated that EBSP has demonstrated that all deployed systems can meet the minimum threshold for all of the program's key performance parameters including automated threat detection, throughput, and operational availability. The Department of Homeland Security's (DHS) Director of Operational Test and Evaluation (DOT&E) independently assessed one vendor's explosives detection system during fiscal year 2015 and found it operationally suitable. DOT&E had previously found this system operationally effective.

Acquisition Strategy

EBSP acquires explosives trace detectors and medium-speed and reduced-size explosives detection systems through various vendors. In 2002 and 2003, TSA deployed baggage screening equipment to all federally regulated airports. Since then, EBSP has worked to deliver new systems with enhanced screening capabilities and, according to program officials, development efforts are primarily focused on software upgrades. As of November 2015, EBSP had deployed approximately 1,700 explosives detection systems and 2,550 explosives trace detectors to screen checked baggage nationwide.

Program Execution

When DHS established its current acquisition policy in November 2008, EBSP had been acquiring baggage screening capabilities for 6 years. However, DHS did not approve EBSP's Acquisition Program Baseline (APB) for nearly 4 more years because EBSP's cost estimate did not account for anticipated funding constraints.

Since then, EBSP's acquisition cost estimate has decreased from $14.5 billion to $12.4 billion, and its life-cycle cost estimate has decreased from $21.2 billion to $16.9 billion. TSA officials said EBSP's cost estimates decreased when the program was shortened to end in fiscal year 2027, rather than fiscal year 2030. The officials explained that a new acquisition program is now expected to succeed EBSP in fiscal year 2028. TSA officials also said they decreased EBSP's cost estimates in response to anticipated funding constraints. To remain affordable, EBSP has identified mitigation strategies, such as slowing deployment of some capability upgrades, and focusing on detection capabilities rather than other priorities, such as screening efficiency. For example, prior to December 2013, EBSP planned to recapitalize around 7 percent of aging explosives detection systems annually based on the assumption that their useful life was ten years. In December 2013, DHS leadership approved a new plan that re-evaluated the projected useful life of explosives detection systems, and extended their useful life to 15 years. EBSP now plans to recapitalize 0.5 percent annually in response to mechanical failures. It appears EBSP's projected funding levels will now cover the estimated costs during this period.

Program officials expect DHS leadership will approve a revised EBSP APB in early 2016. Program officials stated the revised APB will reflect the new cost estimate, and they tentatively anticipate it will present initial operational capability dates of fiscal year 2016 for systems that can detect additional materials, and systems that can provide enhanced homemade explosives detection capabilities. Previously, EBSP planned to award contracts for these systems in September 2015 and September 2018, respectively.

Test Activities

DOT&E has assessed nine of EBSP's systems and determined that six of them are effective and suitable. As for the other three, TSA is implementing a third party testing strategy to address system failures during testing. TSA's interim guidance, effective July 2014, states that TSA will not readmit systems into testing until vendors provide sufficient data from a third party tester that the system meets the failed requirements. According to program officials, an explosives detection system was the first to undergo such testing after failing operational testing. After third party testing, DOT&E issued a memorandum stating the system should be considered operationally suitable and DHS approved full rate production in May 2015. In December 2015, GAO reported that TSA has yet to finalize key aspects of its third party testing strategy and recommended it do so before implementing further third party testing requirements for vendors to enter testing.

DOT&E approved EBSP's Test and Evaluation Master Plan (TEMP) in 2010. In April 2015, GAO reported that DHS officials stated the TEMP was being updated to reflect acquisition strategy changes. However, in September 2015, program officials stated they had decided to wait until they are preparing for EBSP's second competitive procurement of explosives detection systems before formally revising the TEMP, based on discussion with DOT&E. The procurement is expected in early fiscal year 2018, but program officials stated they could not confirm a specific timeframe.

Program Office Comments

TSA continues to procure, test, and deploy transportation security equipment and capabilities in order to recapitalize older equipment, improve security screening capability at airports and to enhance the detection capabilities of the fleet. TSA employs extensive testing of security technologies to verify the suitability and effectiveness of equipment to meet detection and operational requirements. Moving forward, EBSP intends to establish initial operational capability milestones to signify TSA's ability to deploy new technologies and capabilities, while allowing TSA the flexibility to make risk-based decisions regarding deployment of those capabilities. The implementation of EDS Capability Procurement Cycle Two (EDS CP2) in fiscal year 2018 will result in updated program documentation and enhanced procurement, testing, evaluation, and deployment processes.

Passenger Screening Program (PSP)
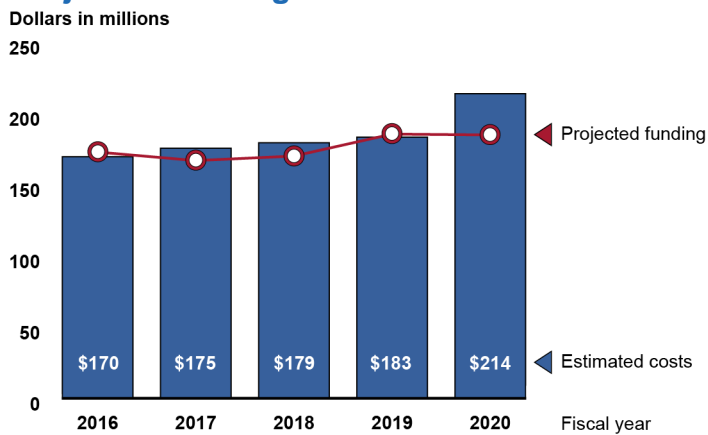## Transportation Security Administration (TSA)
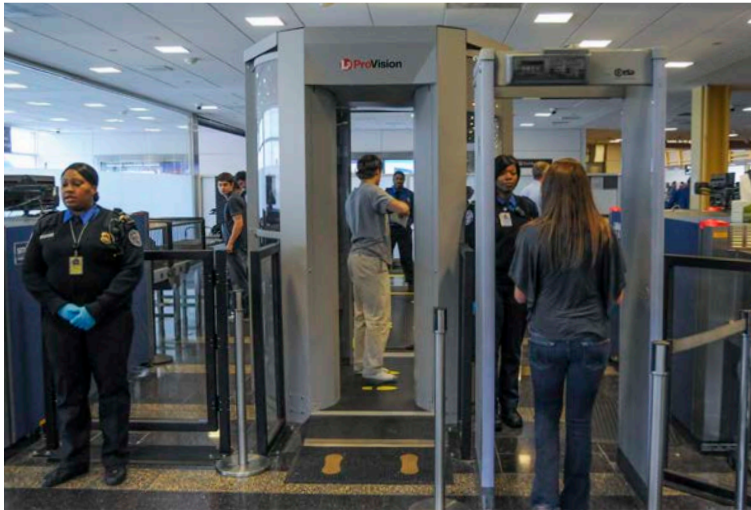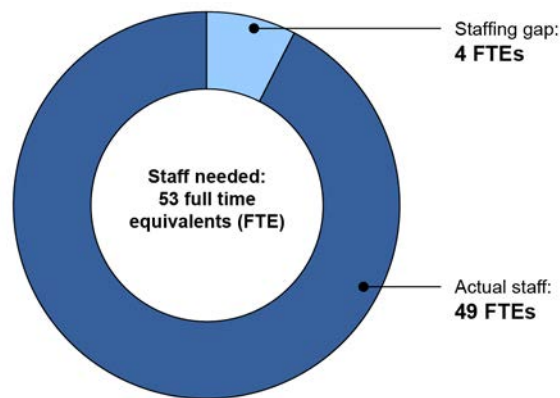

Source: TSA.

Program Description

The Department of Homeland Security (DHS) established PSP in response to the terrorist attacks of September 11, 2001. PSP identifies, tests, procures, deploys, and sustains transportation security equipment across approximately 440 U.S. airports to help TSA officers identify threats concealed on people and in their carry-on items. The program's key objectives include: increasing threat detection capabilities, improving the efficiency of passenger screening, and balancing passenger privacy and security. The program has pursued 11 variants of passenger screening systems since 2002, including 5 that TSA is currently acquiring. GAO previously reported on PSP in December 2015 and April 2015 (GAO-16-117, GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$170
2017	$175
2018	$179
2019	$183
2020	$214

Program Office Staffing Profile

Staff needed: 53 full time equivalents (FTE)

Staffing gap: 4 FTEs

Actual staff: 49 FTEs

Schedule Changes over Time

As of: January 2012

As of: January 2016

- Acquisition program baseline (APB) version 3.1 approved
  Jan. 2012
- Program rebaselined
  Mar. 2014
- APB version 5.0 approved
  Feb. 2015
- Advanced Technology X-ray 2 full operational capability (FOC)
  Dec. 2015
- Advanced Imaging Technology 2 FOC
  June 2017
- Credential Authentication Technology FOC
  June 2018

2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018

Cost Estimate Changes over Time

Dollars in millions

	Acquisition cost	Life-cycle cost
As of: January 2012	$4,623	$6,476
As of: January 2016	$3,350	$5,043
Appropriations through fiscal year 2015	$2,609	

Performance

PSP has faced challenges acquiring and deploying new technologies, including the program's newest technology: the Credential Authentication Technology (CAT). However, TSA officials stated that PSP has demonstrated that all deployed systems can meet their key performance parameters. Going forward, the program will focus on addressing emerging threats with next generation technologies.

Acquisition Strategy

In August 2015, TSA reported to Congress that the program is currently acquiring five variants of commercial-off-the-shelf passenger screening systems through multiple contractors. TSA has deployed some of these systems to airports, while one system—CAT—remains in development.

The program employs two acquisition strategies to acquire PSP systems. It has designated one the Qualified Product List (QPL) approach and the other the Low Rate Initial Production (LRIP) approach. PSP uses the QPL approach for established and tested technologies, when capability requirements are rigid and contractors' systems are mature. For this approach, any contractors' systems that demonstrate they meet the capability requirements are added to the QPL. For example, PSP currently uses the QPL approach to acquire the second generation Advanced Technology X-ray (AT-2) systems, Bottled Liquid Scanners, and Explosive Trace Detectors.

Alternatively, PSP uses the LRIP approach when capability requirements are flexible and contractors' systems are evolving. With the LRIP approach, PSP uses a series of development contracts to enhance systems' capabilities over time. PSP is currently using the LRIP approach to acquire CAT, which TSA will use to verify the authenticity of passenger identification, and confirm a passenger's risk status. CAT is intended to help TSA expand risk-based screening. PSP is also using the LRIP strategy to acquire second generation Advanced Imaging Technology (AIT-2).

Program Execution

TSA planned to submit the sixth version of PSP's Acquisition Program Baseline (APB) to DHS's Under Secretary for Management (USM) for approval by the end of October 2015. However, it has not yet done so because it has taken longer than expected to update the program's cost estimate. Prior to this, DHS leadership had approved five versions of PSP's APB between 2008 and 2015. Each time, the program's cost, schedule, and performance parameters changed.

The program's fifth APB, which the DHS USM approved in February 2015, reflected schedule slips. Operational testing revealed CAT performance issues, and as a result, the program delayed the CAT full rate production decision. CAT's full operational capability (FOC) date has slipped to June 2018—4 years later than initially planned. AT-2's FOC date also slipped after TSA discovered issues during testing. TSA now anticipates the program will achieve AT-2 FOC in December 2015—18 months later than initially planned. As for AIT-2, TSA officials said the schedule has slipped because vendors have not submitted required test documentation on time. TSA currently expects to achieve AIT-2 FOC in June 2017, 18 months later than initially planned.

As we reported in April 2015, program officials have told GAO they have reduced PSP's scope in response to funding constraints, significantly decreasing PSP's acquisition and life-cycle cost estimates. Program officials said they used TSA's risk-based security approach to reduce the planned number of systems needed, and extended the usable life of PSP systems. In January 2012, PSP's acquisition cost estimate was $4.6 billion and its life-cycle cost estimate was $6.5 billion, but by January 2015, TSA had reduced those figures to $3.2 billion and $4.8 billion, respectively. However, over the past year, emerging threats drove TSA to increase capability requirements, which in turn increased PSP's acquisition and life-cycle cost estimates by about $154 million and $264 million, respectively.

Test Activities

DHS's Director of Operational Test and Evaluation (DOT&E) approved PSP's Test and Evaluation Master Plan (TEMP) in 2010, and each PSP system has its own approved addendum. DOT&E has assessed seven PSP systems and determined that three are effective and suitable. However, according to TSA officials, many vendors' systems cannot successfully pass initial qualification testing because their technologies are not mature, and some systems do not even get to the point in the testing process where DOT&E would assess them. To address this issue TSA is implementing a third party testing strategy. TSA's interim guidance, effective July 2014, states that TSA will not readmit systems into testing until vendors provide sufficient data from a third party tester that the system meets the failed requirements. In December 2015, GAO reported that TSA had yet to finalize key aspects of its third party testing strategy and recommended it do so before implementing further third party testing requirements for vendors.

Other Issues

PSP's yearly cost estimates from fiscal years 2016 to 2020 exceed the program's funding plan by $42 million, but TSA's Chief Financial Officer certified the program was affordable in February 2015, explaining that the program had $105 million in carryover funding after fiscal year 2014.

Program Office Comments

New cybersecurity requirements have delayed testing of the CAT capability. To provide full operational capability, CAT must connect to the TSA network, and until a solution to the cybersecurity issues is realized, the program cannot proceed with operational test and evaluation. The resulting impact is further delay in delivering the capability to the field and closing the gaps identified in the mission need.

Technology Infrastructure Modernization (TIM)
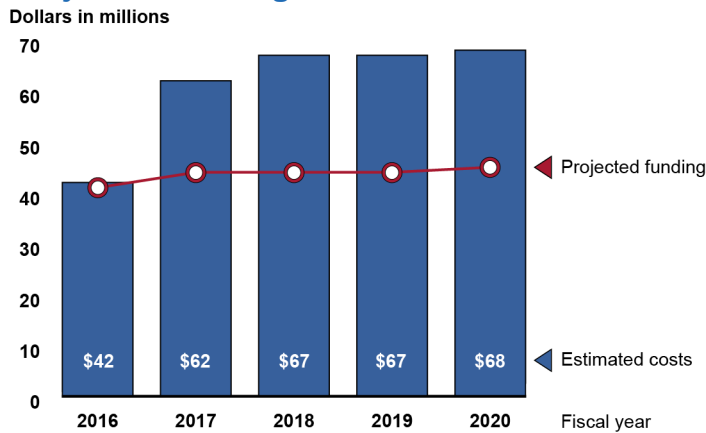## Transportation Security Administration (TSA)
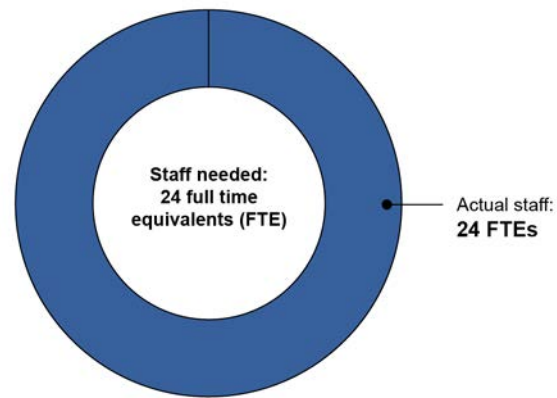
Source: TSA.

Program Description

TSA conducts various threat assessment screening and credentialing activities for millions of transportation workers and travelers. However, the agency's threat assessments are hindered by stove-piped information technology systems and duplicative processes which cannot accommodate growing enrollment demand. In 2008, TSA initiated the TIM program to address these shortfalls. The TIM program is supporting TSA's screening and credentialing efforts by designing, developing, and operating a centralized system to manage credential applications and the subsequent review process. This system is intended to replace TSA's existing stand-alone systems with an integrated system that is scalable, flexible, and adaptable. TSA is developing the system in three discrete segments: maritime, surface, and aviation.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$42	$62	$67	$67	$68

Projected funding

Program Office Staffing Profile

Staff needed: 24 full time equivalents (FTE)

Actual staff: 24 FTEs

Schedule Changes over Time

As of: November 2011

Full operational capability
Dec. 2015

As of: January 2016

Acquisition program baseline approved
Nov. 2011

Initial operational capability
May 2014

TSA directed to halt new development
Jan. 2015

Initial operational test and evaluation
May 2015

Remediation plan rejected
Nov. 2015

2011 2012 2013 2014 2015 2016

Cost Estimate Changes over Time

Dollars in millions

As of: November 2011
- Acquisition cost: $253
- Life-cycle cost: $398

As of: January 2016
- Acquisition cost: $344
- Life-cycle cost: $1,344

Appropriations through fiscal year 2015: $275

Performance

The TIM program demonstrated it could meet two of its three key performance parameters (KPP) during an operational test of the maritime segment conducted from May to June 2015. TIM met the KPPs for vetting response time and operational availability, but the department's Director of Operational Test and Evaluation (DOT&E) concluded the system was extremely unreliable due to frequent critical failures. DOT&E cannot assess TIM's third KPP—information reuse—until additional segments are deployed. This KPP establishes that an individual should apply only once even if the individual is applying for multiple credentials.

Program Execution

The TIM program achieved initial operational capability in May 2014 when it delivered the maritime segment capabilities. However, in September 2014, TSA notified DHS's Chief Acquisition Officer that the TIM program had breached its baseline because it had significant cost, schedule, and performance issues. TSA officials identified several causes for the breach, including expanded scope, unresolved technical challenges, and insufficient contractor performance. In particular, the TIM program reported that TSA added significant new requirements to the TIM surface and aviation segments after Department of Homeland Security (DHS) leadership had approved the initial acquisition strategy, and these new requirements were impacting the program's cost estimates and schedule. Moreover, TSA reported that the program had to delay initial operational test and evaluation by more than a year, from March 2014 to May 2015, because of numerous technical challenges.

TSA planned to provide DHS headquarters a breach remediation plan in October 2014, but it was unable to do so because TSA could not resolve technical issues impacting cost and schedule parameters. In January 2015, DHS's Acting Deputy Under Secretary for Management (USM) directed TSA to stop all planning and development efforts related to the surface and aviation segments, and to brief the Acquisition Review Board (ARB) on the program's recommendations for addressing its execution challenges. That same month, the TIM program manager presented the ARB two options for rebaselining the program: (1) continue to develop TIM's surface and aviation segments using a different business and technical model, or (2) stop TIM development following the completion of the maritime segment, and continue to use legacy systems for the surface and aviation populations.

In May 2015—7 months after its initial deadline—TSA submitted its breach remediation plan to DHS headquarters. In September 2015, the USM directed DHS's Chief Information Officer (CIO) to review the proposed TIM technical approach, and the CIO subsequently reported he could not support it. In November 2015, the USM directed the CIO to work with TSA and program officials to develop a revised approach. He also directed TIM program officials to return to the ARB by the end of September 2016 to rebaseline the program. It is currently unclear when TIM may achieve full operational capability.

Program officials said TIM's life-cycle cost estimate (LCCE) increased from $398 million to $631 million between November 2011 and January 2015, primarily because it accounted for 7 additional years, extending to fiscal year 2025 rather than fiscal year 2018. In September 2015, DHS leadership approved an updated cost estimate, and the program's LCCE increased to $1.3 billion, primarily because TIM is now integrating with the Transportation Vetting System. Currently, the program's projected funding levels do not cover all of its estimated costs through fiscal year 2020.

Test Activities

DHS's DOT&E approved the TIM Test and Evaluation Master Plan (TEMP) in November 2013, and assessed the program's operational test results in September 2015. At that time, DOT&E concluded the system was not operationally effective or suitable, and was not cyber-secure. DOT&E identified several performance issues. These included lags and freezes that prevented users from performing their tasks in a timely manner, and inadequate data protection safeguards. TSA officials attributed some of these performance issues to inadequate end-user coordination, and they said they plan to work with end users more moving forward to better understand their needs. In October 2015, TSA officials told GAO they were updating the TIM TEMP, and that they were planning to conduct a follow-on operational test of the maritime segment in fiscal year 2016.

Other Issues

Program officials reported that the program was fully staffed as of October 2015, but also said that the program may need to expand staffing in the future in order to implement its breach remediation plan. They explained that under the new approach, the program office will act as the lead system integrator, and that it will require additional personnel to meet the anticipated responsibilities.

Program Office Comments

The current program information reflects a program in breach status. Working with DHS, the program is preparing an approach to rebaseline the program. This rebaseline will reflect the updated scope and costs realized since the initial baseline in 2011.

C4ISR
## U.S. Coast Guard (USCG)

Source: USCG.

Program Description

Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems provide situational awareness, data gathering and processing, and information exchange tools that are installed in a variety of USCG ships and aircraft. According to the current C4ISR program's baseline, the program encompasses the acquisition of C4ISR systems tailored for the National Security Cutter (NSC), Fast Response Cutter, Offshore Patrol Cutter, HC-130J and HC-144 aircraft, and legacy vessels. However, USCG officials told GAO the program is now primarily working to develop the C4ISR system on the NSC. GAO previously reported on the USCG's C4ISR program in April 2015 and June 2014 (GAO-15-171SP, GAO-14-450).

Projected Funding vs. Estimated Costs
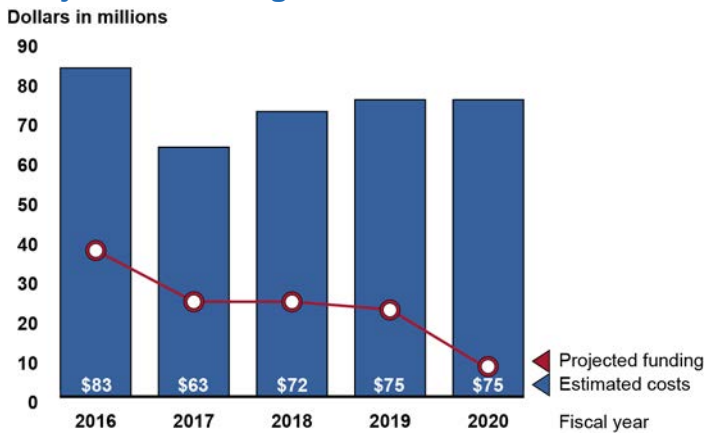
Program Office Staffing Profile
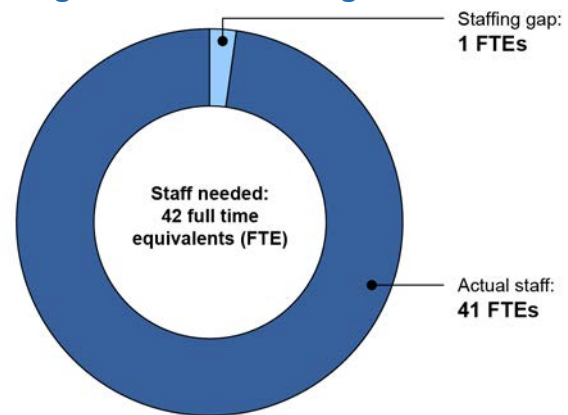
Schedule Changes over Time
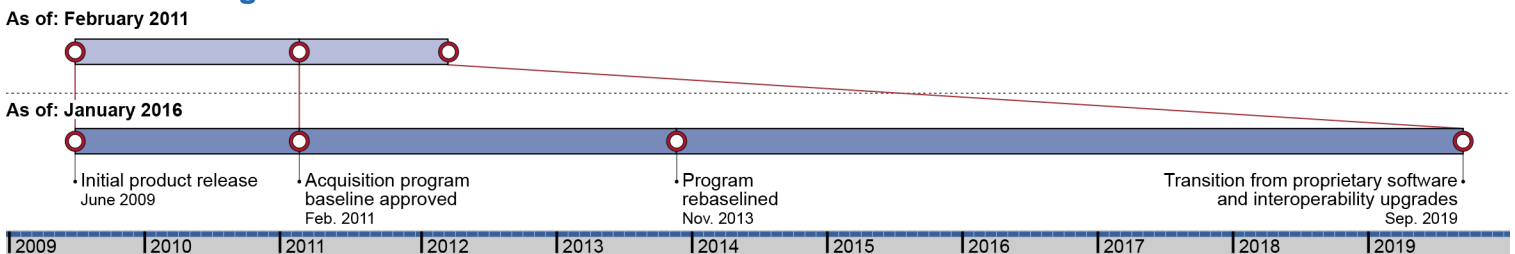
Cost Estimate Changes over Time
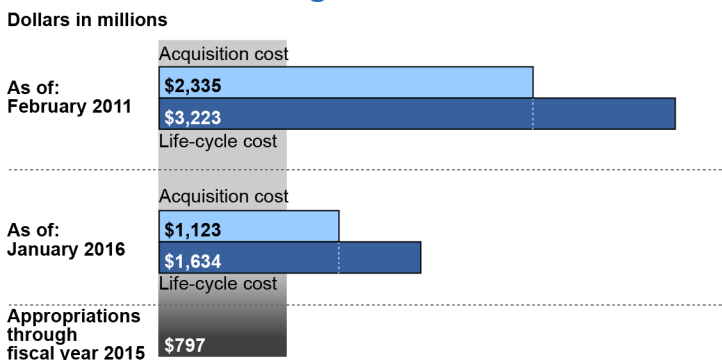
Performance

In 2011, the Department of Homeland Security's (DHS) Under Secretary for Management (USM) established that the C4ISR program would meet 24 key performance parameters (KPP). However, the USCG eliminated 12 of these KPPs when the USM rebaselined C4ISR in 2013, and officials told GAO that the program is no longer responsible for ensuring USCG assets and shore-based centers can exchange information through a common operational picture. USCG officials also said the program has not yet demonstrated it can meet any of the 12 remaining KPPs in an operational setting.

Program Governance

In February 2011, the USM approved the first Acquisition Program Baseline (APB) for the C4ISR program. This APB established the C4ISR program in broad terms, namely that the program would improve the detection and engagement of potential targets in the maritime domain through better coordination and data sharing. However, in November 2013, the USM approved a revised C4ISR APB after lower than expected funding levels caused a schedule breach. The new APB reflected the USCG's less comprehensive approach to C4ISR. Under the 2013 APB, the USCG established that the C4ISR program would still deliver specific capabilities to specific cutters and aircraft. Since that time, USCG officials have told GAO that they have reduced the C4ISR program's scope further. Specifically, in September 2015, USCG officials stated that the program was primarily focused on the C4ISR system for the NSC. In addition, the aviation C4ISR replacement and Fast Response Cutter development and maintenance efforts are now managed by the respective assets' program offices.

Program Execution

The C4ISR program's cost estimates decreased significantly between February 2011 and November 2013, when the acting USM approved the program's revised APB in response to a schedule breach. It is likely that the program's costs have decreased further since that time, as the USCG has continued to delay the program and reduce its scope due to receiving lower than expected funding since 2010.

The program is continuing to work to replace the C4ISR system on the NSC because it relies on contractor-proprietary software that is becoming obsolete and is costly to maintain. This transition has been delayed by more than 7 years largely due to funding shortfalls and, according to program officials, difficulties scheduling system installations when the NSCs are in port. Future funding shortfalls would likely delay the transition further, and it appears that the program's cost estimate exceeds its funding plan significantly from fiscal year 2016 to 2020. However, the gap may not be as great as it appears. The C4ISR funding plans DHS has presented to Congress do not identify all of the funding the USCG plans to allocate to C4ISR operations. GAO has reported on USCG affordability issues since 2011 (GAO-11-743). In April 2015, GAO recommended DHS account for all of the operations and maintenance funding the USCG is allocating to its major acquisition programs in an annual report to Congress. DHS concurred with this recommendation, but USCG officials told GAO they have made no progress in accounting for these funding allocations. This issue obscures the size of future funding gaps, and the actual amount allocated through fiscal year 2015 may be greater than $797 million.

Test Activities

The USCG initially planned to test the C4ISR system separately from its planes and vessels, including the NSC, but officials subsequently decided to test the C4ISR system in conjunction with the planes and vessels to save money and avoid duplication. However, the C4ISR system's KPPs were not specifically evaluated during the NSC's operational test because the necessary testing activities were not fully integrated into the NSC test plan. The USCG deferred a significant portion of the C4ISR testing on the NSC to later dates including the testing of cybersecurity capabilities and real-time tactical communications with the Navy. In June 2014, GAO recommended the USCG fully integrate C4ISR assessments into other assets' operational test plans or test the C4ISR program independently in order to assess the operational effectiveness and suitability of the C4ISR system. The USCG concurred with GAO's recommendation and stated that it planned to test the C4ISR system's KPPs during follow-on testing for the NSC. The NSC's follow-on operational test and evaluation was scheduled for fiscal year 2015, but slipped to the end of fiscal year 2016 when the USCG refined the NSC's testing schedule. In the meantime, the USCG is using the C4ISR system on deployed NSCs.

Program Office Comments

The program's primary efforts are focused on delivery of a new C4ISR baseline for the NSC. However, the program continues to tailor systems for delivery to meet OPC production schedules and provide cyber activities for all new asset acquisitions. The 2011 APB established 6 KPPs applied across 4 Segments, not 24 independent KPPs. Combat Systems Ship Qualification Trials were completed on NSC 2 in August 2015. Although a final report is pending, preliminary results indicate a high confidence in meeting all test objectives. The program continues to partner with the Navy to deliver capabilities that meet interoperability requirements across platforms. The program's appropriation decreased by $53 million from 2009-2010, which prompted a schedule breach with Segment 3. Since then, the program continues to execute at this reduced level per the current APB approved by DHS.

GAO Response

In C4ISR's 2011 APB, each segment had a set of 6 KPPs, which were similar, but not identical. For this reason, GAO maintains that the program initially had 24 KPPs rather than 6 KPPs. Additionally, the testing completed in August 2015 is not as authoritative as the NSC operational testing scheduled for the end of fiscal year 2016.

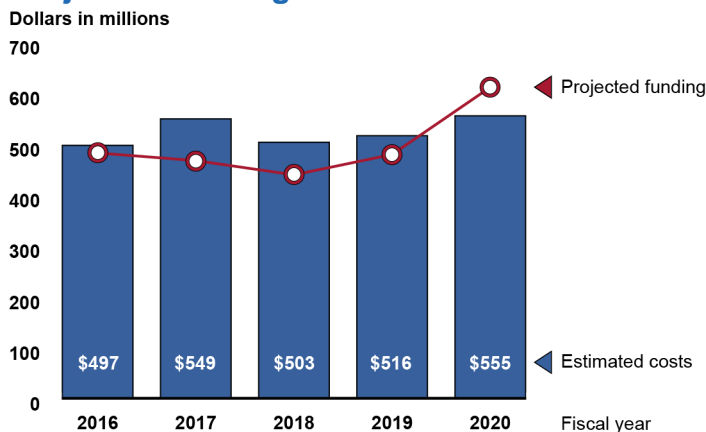# Fast Response Cutter (FRC)
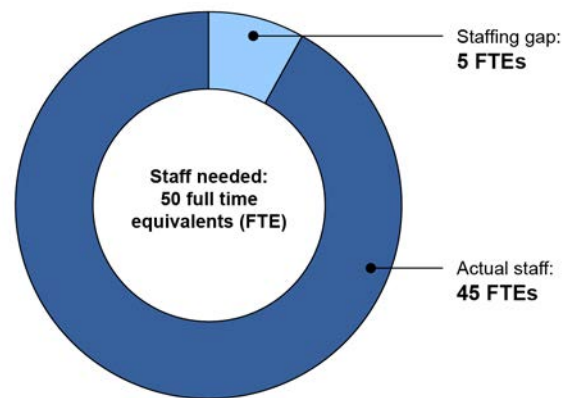## U.S. Coast Guard (USCG)

Source: USCG.

Program Description

The USCG uses the FRC to conduct search and rescue, migrant and drug interdiction, and other law enforcement missions. The FRC replaces the USCG's Island Class patrol boat. It provides greater fuel capacity, improved communications and surveillance interoperability with other USCG assets, and the ability to conduct full operations in moderate sea conditions. The USCG plans to acquire 58 FRCs, and as of October 2015, 15 had been delivered. GAO previously reported on the FRC in April 2015 and June 2014 (GAO-15-171SP, GAO-14-450). GAO has reported that USCG operators and commanding officers have stated the FRC performed well during missions.

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$497	$549	$503	$516	$555

Projected funding

Program Office Staffing Profile

Staffing gap: 5 FTEs

Staff needed: 50 full time equivalents (FTE)

Actual staff: 45 FTEs

Schedule Changes over Time

As of: August 2009

As of: January 2016

- Acquisition program baseline approved Aug. 2009
- Critical design review Nov. 2009
- Initial operational test and evaluation July 2013
- Initial operational capability Aug. 2013
- Full operational capability Mar. 2027

2009 2010 2011 2012 2013 2014 // 2022 2023 2024 2025 2026 2027

Cost Estimate Changes over Time

Dollars in millions

As of: August 2009
- Acquisition cost $4,243
- Life-cycle cost $15,634

As of: January 2016
- Acquisition cost $4,243
- Life-cycle cost $15,634

Appropriations through fiscal year 2015 $2,085

Performance

The FRC partially met one of its six key performance parameters (KPP) during initial operational test and evaluation (IOT&E) in fiscal year 2013. The other five KPPs were not met or not tested. In September 2015, USCG officials told GAO the FRC had since demonstrated it could meet all six of its KPPs, but the Department of Homeland Security's (DHS) Director of Operational Test and Evaluation (DOT&E) has not validated the FRC's performance since IOT&E. The FRC's follow-on operational test and evaluation (FOT&E) is scheduled for June 2016.

Acquisition Strategy

In September 2008, USCG officials awarded Bollinger Shipyards Lockport a contract for 1 FRC with options to build up to 33 more. GAO subsequently received a bid protest, which was denied, and upheld the USCG's contract award in January 2009. In May 2014, the USCG established that it would only procure 32 FRCs through this contract. In June 2014, GAO reported that the USCG purchased the technical specifications and licenses from Bollinger that are necessary to build the FRC, and planned to use this information to conduct a full and open competition for the remaining 26 vessels. The USCG has designated this effort Phase 2 of the program.

The USCG began Phase 2 with a request for proposals (RFP), all of which were to be received by July 2015. According to program officials, they plan to award the Phase 2 contract by the end of June 2016. According to USCG officials, the Phase 2 RFP allowed the bidders to make certain changes to the design of the ship, though the key performance parameters remain the same as for Phase 1. In addition, the design for several critical systems—such as the propulsion system, generators, hull structure, and bridge layout—remained consistent with the Phase 1 design.

Program Execution

Previously, the program's initial operational capability date slipped from December 2012 to August 2013 because of the bid protest and the need for structural modifications. Additionally, the program's full operational capability date slipped from September 2022 to March 2027 because, according to USCG officials, the procurement quantities for the FRC changed under the Phase 1 contract. In fiscal years 2010 and 2011, the quantities decreased from six FRCs per year to four. Under the Phase 2 contract, program officials said the USCG will be able to purchase four to six FRCs per year. The USCG has established that the annual procurement quantity will be dictated by funding levels, and a $143 million gap appears to remain between the program's projected funding levels and estimated costs through fiscal year 2020. Program officials told GAO that funding shortfalls could cause further delays going forward, but maintained that the program is still on track to meet its cost goals. Nonetheless, in June 2014, GAO reported that the USCG estimated the decision to order fewer ships per year will likely increase the program's costs by $600 million to $800 million beyond its current estimates.

The FRC's projected funding gap may not actually be $143 million from fiscal year 2016 to fiscal year 2020. The FRC funding plan DHS has presented to Congress does not identify all of the funding the USCG plans to allocate to FRC operations. GAO has reported on USCG affordability issues since 2011 (GAO-11-743). In April 2015, GAO recommended DHS account for all of the operations and maintenance funding the USCG is allocating to its major acquisition programs in an annual report to Congress. DHS concurred with the recommendation, but USCG officials told GAO they have made no progress in accounting for these funding

allocations. This issue obscures the size of future funding gaps, and the actual amount allocated through fiscal year 2015 may be greater than $2.1 billion.

Test Activities

In 2009, DOT&E approved the FRC program's Test and Evaluation Master Plan (TEMP). In 2012, USCG officials updated the TEMP in preparation for IOT&E, which was conducted in fiscal year 2013 and assessed three of the program's six KPPs. At that time, the FRC did not fully meet any of them. IOT&E also revealed several major deficiencies, the most significant of which involved the FRC's cutter boat, which exhibited problems operating in moderate sea conditions, and the FRC's main diesel engines, which had multiple equipment failures during testing. Subsequently, independent testers from the U.S. Navy concluded the FRC was operationally effective, but not operationally suitable.

USCG officials told GAO they have improved the FRC's performance since the 2013 IOT&E. For example, they replaced and successfully tested the FRC's cutter boat, worked with the engine manufacturer to determine the root cause of equipment failures, and have begun retrofitting the engines. USCG officials stated the FRC has demonstrated it can meet all six of its KPPs, but DOT&E will not validate the FRC's performance until the USCG completes its FOT&E, which is scheduled for June 2016.

In January 2015, USCG officials told GAO that they were updating the TEMP again in preparation for FOT&E, and that they expected DOT&E would approve the updated TEMP by June 2015. However, it has taken the USCG longer than anticipated to update the TEMP, and in September 2015, USCG officials stated that they were still working on the updates.

Other Issues

In May 2015, DHS headquarters reported that the program required five additional staff, but in September 2015, program officials told GAO that number was down to one. The open staff position was for a naval architect, and the officials said that they were in the process of filling the position.

Program Office Comments

The FRC program has delivered 15 FRCs and 14 of those have been commissioned. In the past year, FRCs have rescued 117 undocumented migrants. In a Joint Operation, an FRC intercepted a smuggling vessel carrying 212 kg of cocaine, worth an estimated value of over $7 million. The FRC program looks forward to demonstrating the capabilities of the FRC during FOT&E.

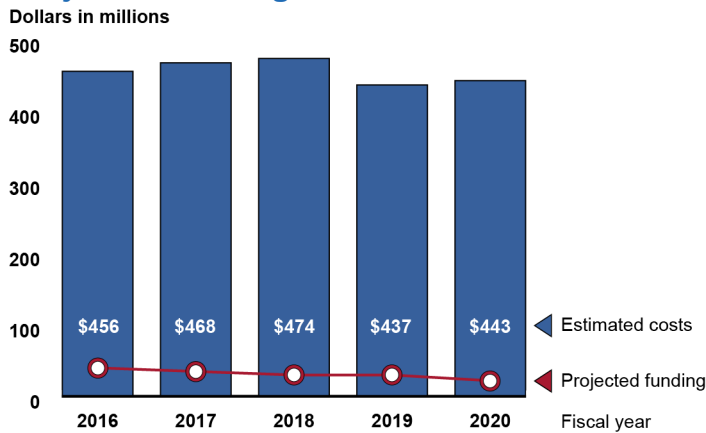# HH-65 Conversion/Sustainment Projects (HH-65)
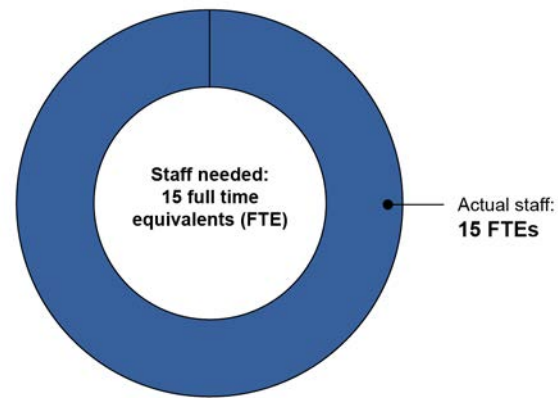## U.S. Coast Guard (USCG)

Source: USCG.

Program Description

The HH-65 aircraft is a short-range helicopter that the USCG uses in search and rescue, ports and waterways security, ice-breaking, marine safety and environmental protection, and defense readiness operations. The HH-65 acquisition program increased the USCG's fleet size from 95 to 102 helicopters and upgraded armaments, navigation systems, and nearly all of the helicopters' engines. The program is focused on the final phase of upgrades to the radar sensor systems, the automatic flight control system (AFCS), and avionics. The upgrades allow for greater reliability, maneuverability, and interoperability between the HH-65 and other government assets. GAO reported on the USCG's HH-65 program in April 2015 and June 2014 (GAO-15-171SP, GAO-14-450).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$456
2017	$468
2018	$474
2019	$437
2020	$443

Program Office Staffing Profile

Staff needed: 15 full time equivalents (FTE)

Actual staff: 15 FTEs

Schedule Changes over Time

As of: February 2011

As of: January 2016

- Acquisition program baseline approved
  Feb. 2011
- Program rebaselined
  Mar. 2014
- Avionics operational assessment
  July 2016
- Avionics initial operational capability
  Mar. 2018
- Initial operational test and evaluation
  Dec. 2018
- Full operational capability
  Mar. 2022

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

Cost Estimate Changes over Time

Dollars in millions

As of: February 2011
- Acquisition cost $1,150
- Life-cycle cost $7,963

As of: January 2016
- Acquisition cost $935
- Life-cycle cost $13,863

Appropriations through fiscal year 2015 $610

Performance

According to USCG officials, the program has met 16 of its 18 key performance parameters (KPP), but has not yet demonstrated its 2 avionics KPPs. USCG officials said these KPPs will be demonstrated through developmental testing and an operational assessment in summer 2016, prior to installing the avionics upgrade across the fleet. Additionally, during actual operations, the aircraft has not consistently met 3 of the 16 previously demonstrated KPPs. All three involve operational availability and the shortfalls are due to difficulties maintaining aging equipment, among other things. The avionics upgrade may address these difficulties.

Acquisition Strategy

The USCG Aviation Logistics Center (ALC) is responsible for procuring and integrating all the systems needed to upgrade the HH-65 aircraft. USCG leadership assigned the ALC this responsibility because it was already responsible for overhauling the HH-65 aircraft every 4 years as part of normal maintenance. The ALC has completed the HH-65 engine and armament upgrades, and 99 of the 102 aircraft have received the navigation system upgrade. The ALC is in the process of developing the systems for the HH-65 aircraft's avionics and AFCS upgrades.

In June 2015, the Department of Homeland Security's (DHS) Under Secretary for Management (USM) authorized the USCG to award contracts for long-lead production materials for the avionics and AFCS upgrades. Officials estimate these materials will cost $20 million. USCG officials told GAO this was necessary to ensure that ALC has all the required parts to begin installing the upgrades during normal aircraft maintenance once the program receives approval for initial production, which is planned for December 2016.

Program Execution

USCG officials said the program is on track to meet the revised cost and schedule goals in its current Acquisition Program Baseline (APB), which the USM approved in 2014. The program's life-cycle cost estimate increased approximately $6 billion from 2011 to 2014 due to the USCG's decision to extend the aircraft's operational life by 9 years, from 2030 to 2039. However, it is unclear whether the USCG's plans for the HH-65 are affordable. The HH-65 funding plan DHS presented to Congress in April 2015 indicates that the program faces a significant shortfall from 2016 to 2020. GAO has reported on USCG affordability issues since 2011 (GAO-11-743). In April 2015, GAO reported that the funding plans DHS presented to Congress do not identify all of the funding the USCG plans to allocate to HH-65 operations. This issue obscures the size of future funding gaps, and the amount allocated through fiscal year 2015 may be greater than $610 million. In April 2015, GAO recommended DHS account for all of the operations and maintenance funding the USCG is allocating to its major acquisition programs in an annual report to Congress. DHS concurred with this recommendation, but USCG officials told GAO they have made no progress in accounting for these funding allocations.

Test Activities

According to USCG officials, the program has completed several years of developmental testing on the avionics and AFCS upgrades. In June 2015, the USM required the program to update its Test and Evaluation Master Plan to ensure the program has sufficient data to support the initial production decision for these upgrades. USCG officials said the program now plans to have the Navy conduct an operational assessment in summer 2016, 5 months prior to the initial production decision.

The program still plans to conduct program-wide initial operational test and evaluation for all of the HH-65 upgrades installed throughout the life of the program beginning in fiscal year 2019.

Other Issues

DHS headquarters reported the program had all the staff it needed, but USCG officials told GAO there are some key vacancies, including a project officer to manage the AFCS upgrade. DHS headquarters officials have indicated they will continue to refine their staffing assessments to account for program-specific needs, and USCG officials plan to rely on existing staff until the positions can be filled. USCG officials said they do not anticipate any negative effects as a result of the vacancies.

USCG officials also told GAO they have been able to address long-standing ALC contracting personnel shortages. Following the USM's approval to award contracts for long-lead production materials for the avionics and AFCS upgrades, officials said they paced the approximately 40 contract awards so the workload did not exceed the ALC's capacity.

Program Office Comments

The HH-65 Conversion/Sustainment Project is fully funded and executable. In the first chart, 'Projected Funding' represents only acquisition (AC&I) funding, while 'Estimated Costs' depicts both AC&I and operating expenses (OE), the vast majority not directly related to the AC&I-funded upgrades. The 'Cost Estimate Changes over Time' chart reflects changed assumptions between 2011 and 2016. While the AC&I estimate decreased due to removal of a dedicated surface search radar requirement and cancellation of the unpromising HH-65 secure/traverse system on the National Security Cutter flight deck, OE estimated costs increased to include a notional service life extension investment and an additional 9 years of service life to better align with future replacement options.

GAO Response

To determine the adequacy of the projected funding level for the HH-65—and the 24 other acquisition programs GAO assessed—GAO compared the funding plans DHS presented to Congress in the fiscal year 2015 Future Years Homeland Security Program report to the program's yearly cost estimates from 2016 to 2020. As noted in the Program Execution section, the funding plans DHS has presented to Congress have not identified all of the funding the USCG has planned to allocate to HH-65 operations, and GAO has recommended DHS correct this issue.

Additionally, in the Program Execution section, GAO attributed the increase in the HH-65 life-cycle cost estimate reflected in the Cost Estimate Changes over Time figure to the USCG's decision to extend the service life of the aircraft an additional 9 years.

Long Range Surveillance Aircraft (HC-130H/J)
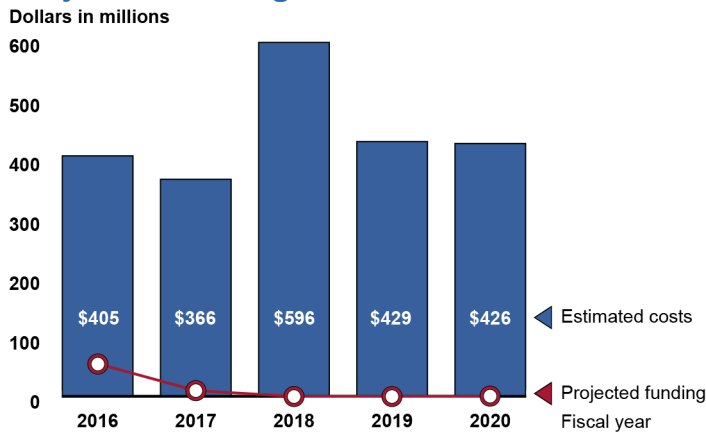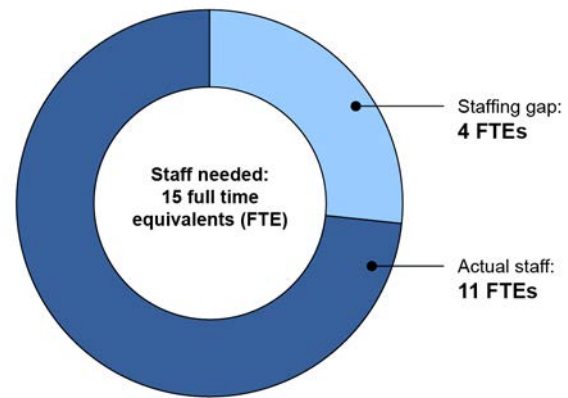## U.S. Coast Guard (USCG)

Source: USCG.

Program Description

The USCG uses HC-130H and HC-130J aircraft to conduct search and rescue missions, transport cargo and personnel, support law enforcement, and execute other operations. In 2009, the Department of Homeland Security's (DHS) Under Secretary for Management (USM) approved an Acquisition Program Baseline (APB) for the HC-130H upgrade program, and a separate APB for the acquisition of more modern and capable HC-130J aircraft. In 2012, the USM approved a third APB that combined and rebaselined the two programs. Subsequently, in October 2014, USCG officials told GAO they no longer planned to upgrade any additional HC-130H aircraft, and that they were pursuing an all-HC-130J fleet. GAO reported on the USCG's HC-130H/J program in April 2015 and March 2015 (GAO-15-171SP, GAO-15-325).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$405
2017	$366
2018	$596
2019	$429
2020	$426

Estimated costs
Projected funding

Program Office Staffing Profile

Staff needed: 15 full time equivalents (FTE)

Staffing gap: 4 FTEs

Actual staff: 11 FTEs

Schedule Changes over Time

As of: June 2009

As of: January 2016

HC-130J acquisition program baseline approved May 2009

HC-130H acquisition program baseline approved June 2009

HC-130H/J acquisition program baseline approved July 2012

Full operational capability Mar. 2027

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

Cost Estimate Changes over Time

Dollars in millions

As of: June 2009
- Acquisition cost: $866
- Life-cycle cost: $17,092

As of: January 2016
- Acquisition cost: $3,038
- Life-cycle cost: $16,213

Appropriations through fiscal year 2015: $736

Performance

The base C-130J airframe is operated by many Department of Defense agencies and past operational testing has proven the airframe's capabilities. However, the USCG has not yet demonstrated the HC-130J's mission system, which contains a new mission system processor, in an operational setting. The USCG will not be able to demonstrate the HC-130J can meet two of its seven key performance parameters until it does so. This testing is currently scheduled for fiscal year 2016.

Acquisition Strategy

In November 2014, USCG officials told GAO their fleet of fixed-wing aircraft included 23 HC-130H aircraft, 2 of which had received avionics upgrades. The USCG has transferred 1 of the 2 upgraded aircraft to NASA, and the USCG is currently working with the General Services Administration to possibly transfer the second upgraded aircraft to another agency. Additionally, the USCG is in the process of transferring 7 of the 21 remaining HC-130H aircraft to the U.S. Air Force by May 2018, which will modify the aircraft and deliver them to the U.S. Forest Service. Officials told GAO the USCG will continue to operate 14 of its HC-130H aircraft, but these aircraft have limited service lives because the USCG canceled their upgrades. Currently, the USCG has received 9 HC-130J aircraft, but if the USCG does not purchase additional HC-130J aircraft in time to replace the aging HC-130H aircraft, the gap between the USCG's needed and actual flight hours may increase. The USCG aims to fly its fleet of fixed-wing aircraft 52,400 hours per year, but in fiscal year 2014, it flew only 32,543 hours.

Consistent with congressional direction, the USCG is conducting a multi-phased analysis of its mission needs, including its flight-hour goals and mix of fixed-wing assets, which the USCG is delivering through both the Long Range Surveillance Aircraft program and the Medium Range Surveillance Aircraft program, which GAO is also assessing in this report. The USCG may decide to increase or decrease the number of HC-130J aircraft it is acquiring based on the results of the study. The USCG plans to present the full results to Congress in conjunction with its 2019 budget request. Currently, the USCG is planning to acquire 22 HC-130J aircraft.

Program Execution

From 2009 to 2012, the combined acquisition cost estimate for the HC-130H/J aircraft increased from $866 million to $3.0 billion, and the full operational capability date slipped from September 2017 to March 2027. USCG officials primarily attributed this cost growth and schedule slip to the decision to increase the HC-130J quantity from 6 to 22. USCG officials said this decision was also responsible for the decrease in the combined life-cycle cost estimate from $17.1 billion in 2009 to $16.2 billion in 2012, explaining that HC-130J aircraft are less expensive to maintain than the HC-130H aircraft they will replace. The program's cost estimate will likely decrease further with the cancellation of the HC-130H upgrade effort, but as of January 2016, the program had not yet completed a new life-cycle cost estimate reflecting this decision.

Test Activities

The U.S. Air Force conducted operational testing on the base C-130J airframe in 2005; as a result, in 2009, DHS's Director of Operational Test and Evaluation and the USCG determined the HC-130J did not need a test plan or additional operational testing. However, program officials said they do plan to conduct tests on the HC-130J

aircraft's new mission system processor, which is intended to enhance operator interface and sensor management. The USCG previously planned to install a prototype of the mission system processor on a HC-130J aircraft and test it from June 2015 to June 2016. However, the program's schedule has slipped, and the USCG now plans to install the mission system processor in January 2016. If the mission system processor meets all of its requirements, the USCG will install it on the 9 HC-130J aircraft it has already received by the end of fiscal year 2020.

Other Issues

It appears that the program faces a significant funding gap in the future. However, the funding gap may not be as large as it appears. The HC-130H/J funding plans DHS has presented to Congress do not identify all of the funding the USCG plans to allocate to HC-130H/J operations. GAO has reported on USCG affordability issues since 2011 (GAO-11-743). In April 2015, GAO recommended DHS account for all of the operations and maintenance funding the USCG is allocating to its major acquisition programs in an annual report to Congress. DHS concurred with this recommendation, but USCG officials told GAO they have made no progress in accounting for these funding allocations. This issue obscures the size of the future funding gaps, and the amount allocated through fiscal year 2015 may be greater than $736 million.

Despite reporting an approximately 25 percent staffing gap, program officials did not attribute any negative effects to workforce shortages.

Medium Range Surveillance Aircraft (HC-144A & C-27J)
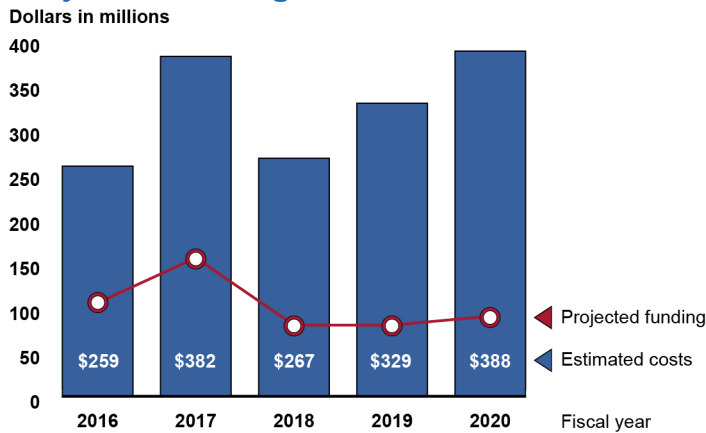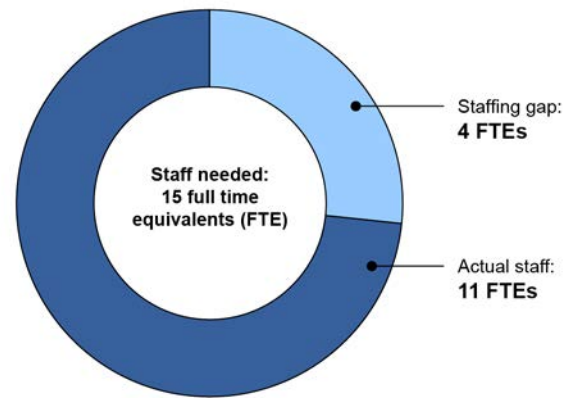## U.S. Coast Guard (USCG)

HC-144A, Source: USCG.

Program Description

In October 2014, Department of Homeland Security (DHS) leadership directed the USCG to restructure its HC-144A acquisition program to accommodate 14 C-27J aircraft from the U.S. Air Force, and designated this combined acquisition the Medium Range Surveillance Aircraft program. All 32 aircraft—14 C-27J aircraft plus 18 previously purchased HC-144A aircraft—are twin-engine propeller-driven platforms that the USCG plans to use to conduct all types of Coast Guard missions, including search and rescue and disaster response. DHS leadership has not yet approved an Acquisition Program Baseline (APB) for the combined acquisition, which would establish its cost, schedule, and performance parameters. GAO reported on the combined acquisition in April 2015, and the C-27J aircraft in March 2015 (GAO-15-171SP, GAO-15-325).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	2016	2017	2018	2019	2020
Estimated costs	$259	$382	$267	$329	$388

Projected funding
Estimated costs

Program Office Staffing Profile

Staffing gap: 4 FTEs

Staff needed: 15 full time equivalents (FTE)

Actual staff: 11 FTEs

Schedule Changes over Time

As of: February 2009

HC-144A full operational capability Sept. 2020

As of: January 2016

HC-144A acquisition program baseline approved Feb. 2009

HC-144A initial operational capability Apr. 2009

HC-144A initial operational test and evaluation July 2012

HC-144A program rebaselined Oct. 2012

Combined aircraft program established Oct. 2014

USCG received fourth C-27J Oct. 2015

Initial C-27J baseline due date Dec. 2015

| 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |

Cost Estimate Changes over Time

Dollars in millions

As of: February 2009 (HC-144A)

Acquisition cost $2,223
Life-cycle cost $12,285

As of: January 2016

(No approved acquisition program baseline as of January 2016)

Appropriations through fiscal year 2015 $1,120

Performance

The HC-144A has not fully met four of its seven key performance parameters (KPP). The HC-144A has met the KPPs for loading cargo, on-scene time, and low altitude patrol speed, but has not fully met KPPs for search and rescue arrival time, availability for operations, communicating with other assets, and detection of targets. The HC-144A will not meet the detection of targets KPP until the USCG installs a new mission system processor on the aircraft. The HC-144A KPPs will apply to the C-27J aircraft, but the C-27J will not meet the detection of targets KPP until the USCG installs an entire mission system, consisting of the processor and sensor package, on the aircraft.

Program Governance

In December 2014, DHS's Acquisition Review Board reviewed the combined acquisition program. Based on that review, DHS's Acting Chief Acquisition Officer required the USCG to produce an initial APB, cost estimate, logistics support plan, and acquisition plan for the C-27J aircraft by December 2015. USCG officials said they are in the process of creating these documents, and that they will account for both the C-27J and the HC-144A aircraft as part of the overall Medium Range Surveillance Aircraft program. However, they also said they will not complete these documents on time. As of January 2016, DHS had only approved the revised acquisition plan. As a result, DHS and the USCG will not have a full understanding of the operating costs and the capabilities of the C-27J even as the USCG begins to stand up the first operational unit of C-27J aircraft in fiscal year 2016. This information is crucial for DHS to effectively oversee and manage the operations of the combined C-27J and HC-144A fleet.

Acquisition Strategy

In March 2015, GAO found that the successful and cost-effective fielding of the C-27J aircraft is contingent on the USCG's ability to address three risk areas: (1) purchasing spare parts, (2) accessing technical data, and (3) understanding the condition of the aircraft. According to program officials, purchasing spare parts remains the greatest risk to the program as the USCG is in the process of learning which parts it can buy competitively versus which parts must be bought from the original manufacturer. The condition of the aircraft also remains a concern. For example, an aircraft still under contract with the U.S. Air Force continues to have issues with spare parts that have delayed its transfer to the USCG by at least 12 months, from February 2015 to February 2016.

The USCG is currently working to replace the mission system processor on all of its fixed-wing aircraft with a system used by the U.S. Navy and Customs and Border Protection. USCG officials expect to begin installing a prototype system on the HC-144A near the end of fiscal year 2016, and plan to outfit all 18 HC-144A aircraft by 2019. However, according to officials, it will take longer for the USCG to tailor this system to the C-27J because that aircraft also needs a sensor package—primarily a radar and electro-optical camera—to meet its requirements. The USCG has estimated that it will cost approximately $300 million to integrate surveillance systems into the C-27J aircraft, and another $300 million to transform all 14 aircraft into fully functioning USCG assets. Currently it is unclear whether the USCG can afford to do so. It appears that the program faces a significant funding gap in the future. However, the funding gap may not be as large as it appears. The HC-144A and C-27J funding plans DHS has presented to Congress do not identify all of the funding the USCG plans to allocate to their operations. GAO has reported on USCG affordability issues since 2011 (GAO-11-743). In April 2015, GAO recommended DHS account for all of the operations and maintenance funding the USCG is allocating to its major acquisition programs in an annual report to Congress. DHS concurred with this recommendation, but USCG officials told GAO they have made no progress in accounting for these funding allocations.

This issue obscures the size of the future funding gaps, and the amount allocated through fiscal year 2015 may be greater than $1.1 billion.

Program Execution

GAO is not assessing the extent to which the combined acquisition program is on track to meet its cost estimate or schedule because DHS leadership has not yet approved a baseline that GAO could use to assess the program.

Test Activities

In July 2012, U.S. Navy officials responsible for testing the HC-144A aircraft reported that it was operationally effective and suitable, but had not fully met four of its seven KPPs. Program officials told GAO they are addressing the KPP deficiencies by changing operational tactics until the USCG installs a new mission system processor and other items. USCG officials plan to test the upgraded aircraft in fiscal year 2017.

DHS leadership has established that the USCG must test the C-27J mission system in an operational setting. In 2015, program officials said that the operational tests were tentatively scheduled for fiscal year 2017, but they may not be conducted until fiscal year 2018 or later.

Other Issues

Despite reporting an approximately 25 percent staffing gap, program officials did not attribute any negative effects to workforce shortages.

Program Office Comments

As the GAO noted, the MRS program baseline is being revised to account for C-27Js gained in lieu of continued HC-144A procurements. In the 'Projected Funding' chart, acquisition (AC&I) funding assumes an 18 HC-144/14 C-27J fleet, while 'Estimated Costs' depicts the combined fleet AC&I with HC-144 operating expenses (OE) based on the current life-cycle cost estimate (LCCE) for 36 HC-144s. In regards to Governance, the revised Acquisition Plan was approved by DHS, and the APB, LCCE, and Integrated Logistics Support Plan will be completed to support the acquisition decision events in fiscal year 2016. The schedule reflects a change from earlier direction to use a Rough Order of Magnitude, however the approved APB will be based on a more robust cost estimate.

GAO Response

To determine the adequacy of the project funding level for the Medium Range Surveillance Aircraft program—and the 24 other acquisition programs GAO assessed—GAO compared the funding plans DHS presented to Congress in the fiscal year 2015 Future Years Homeland Security Program report to the program's yearly cost estimates from 2016 to 2020. As noted in the Acquisition Strategy section, the funding plans DHS has presented to Congress have not identified all of the funding the USCG has planned to allocate to the aircrafts' operations, and GAO has recommended DHS correct this issue. Additionally, as noted in the Program Governance section, because the program lacks a comprehensive cost estimate, DHS and the USCG do not have a full understanding of the program's operating costs even as the USCG has begun to stand up the first operational units.

National Security Cutter (NSC)
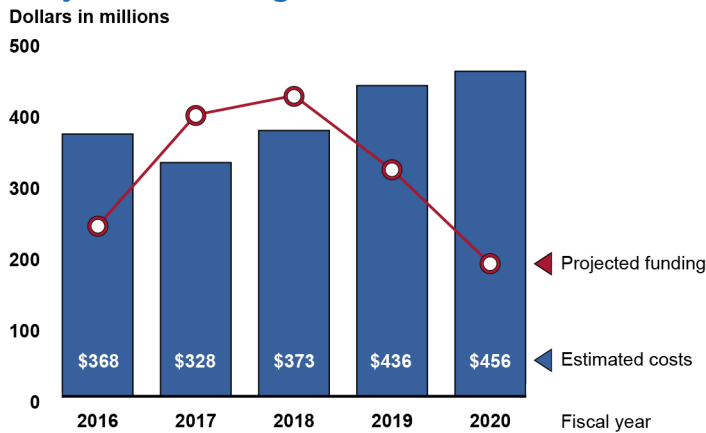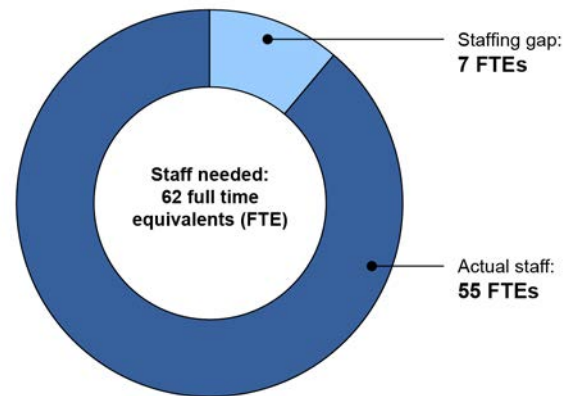## U.S. Coast Guard (USCG)

Source: USCG.

Program Description

The USCG uses the 418-foot NSC to conduct search and rescue, migrant and drug interdiction, environmental protection, and other missions. The NSC replaces the USCG's High Endurance Cutter and is intended to provide improved capabilities over this legacy asset. The NSC carries helicopters and cutter boats, provides an extended on-scene presence at forward deployed locations, and operates worldwide. As of January 2016, the USCG had received five of eight originally planned NSCs, and three were under construction. USCG officials expect to receive the eighth NSC in 2019. The Consolidated Appropriations Act of 2016 stated that not less than $640 million shall be immediately available and allotted to contract for the production of the ninth NSC. Each NSC is designed to have a 30-year service life. GAO previously reported on the NSC in January 2016 and April 2015 (GAO-16-148, GAO-15-171SP).

Projected Funding vs. Estimated Costs

Dollars in millions

Fiscal year	Estimated costs
2016	$368
2017	$328
2018	$373
2019	$436
2020	$456

◄ Projected funding

◄ Estimated costs

Program Office Staffing Profile

Staffing gap: 7 FTEs

Staff needed: 62 full time equivalents (FTE)

Actual staff: 55 FTEs

Schedule Changes over Time

As of: December 2008

As of: January 2016

- Initial baseline approved Dec. 2008
- Program rebaselined Jan. 2014
- Developmental testing complete Mar. 2014
- Initial operational test and evaluation complete Apr. 2014
- Full operational capability Sept. 2020

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

Cost Estimate Changes over Time

Dollars in millions

As of: December 2008	Acquisition cost	$4,749
	Life-cycle cost	$24,277
As of: January 2016	Acquisition cost	$5,682
	Life-cycle cost	$21,901
Appropriations through fiscal year 2015		$5,731

Performance

The USCG has been operating the NSC since 2010, and it initiated production of the eighth NSC in 2015, but it has not yet demonstrated the NSC can fully meet 7 of its 19 key performance parameters (KPP). In September 2015, USCG officials indicated they were in the process of validating data that would demonstrate the NSC could meet the KPP that establishes the NSC's transit range requirement. The NSC's other unmet KPPs include those related to unmanned aircraft, cutter-boat deployment, and interoperability requirements.

Acquisition Strategy

The USCG awarded delivery and task orders to produce the first three NSCs to Integrated Coast Guard Systems—a joint venture between Northrop Grumman and Lockheed Martin—as part of the now-defunct acquisition effort designated Deepwater. In 2006, the USCG revised its Deepwater acquisition strategy, citing cost increases, and took over the role of lead systems integrator, acknowledging that it had relied too heavily on contractors. In 2010, the USCG awarded the production contract for the fourth NSC to Northrop Grumman. In 2011, Northrop Grumman spun off its shipbuilding sector as an independent company named Huntington Ingalls Industries (HII). HII is producing the sixth, seventh, and eighth NSCs for the USCG, and plans to deliver the eighth NSC in 2019.

Program Execution

From 2008 to 2014, the program's schedule for completing developmental testing slipped nearly 5 years, and its schedule for completing initial operational testing slipped nearly 3 years. In July 2011, GAO reported on a number of issues the USCG identified during developmental testing that the USCG needed to address before initiating operational testing, including performance and safety issues (GAO-11-743). The program's full operational capability date also slipped, from fiscal year 2016 to fiscal year 2020, although program officials anticipate it will occur sooner. USCG officials attributed the schedule slips to, among other things, funding shortfalls. The NSC has adhered to the revised schedule since January 2014, but going forward, the NSC is projected to face additional funding shortfalls. From fiscal year 2016 to fiscal year 2020, the NSC's costs are projected to exceed its funding by $401 million. However, the funding gap may not be as large as it appears. The NSC funding plan DHS has presented to Congress does not identify all of the funding the USCG plans to allocate to the NSC's operations. GAO has reported on USCG affordability issues since 2011. In April 2015, GAO recommended DHS account for all of the operations and maintenance funding the USCG is allocating to its major acquisition programs in an annual report to Congress. DHS concurred with this recommendation, but USCG officials told GAO they have made no progress in accounting for these funding allocations. This issue obscures the size of the future funding gaps, and the amount allocated through fiscal year 2015 may be greater than $5.7 billion.

From 2008 to 2014, the program's acquisition cost estimate increased from $4.7 billion to $5.7 billion. The USCG primarily attributed this increase to the lingering impacts of Hurricane Katrina, which struck the region where the NSCs are being built in 2005. USCG officials explained that the hurricane created labor shortages, which increased rates and decreased productivity. Alternatively, from 2008 to 2014, the program's life-cycle cost estimate decreased from $24.3 billion to $21.9 billion. USCG officials attributed this decrease to increasingly accurate cost estimates for personnel, materials, and maintenance. The program's approved cost thresholds remained stable from January 2014 to January 2016.

Test Activities

The NSC completed its initial operational testing in 2014, and

the Department of Homeland Security's (DHS) Director of Operational Test and Evaluation (DOT&E) subsequently found the NSC operationally effective and suitable. However, testing identified several major deficiencies, and the USCG did not demonstrate the NSC could fully meet 7 of its 19 KPPs. For example, the USCG has not yet procured an unmanned aircraft system for the NSC, and has not yet demonstrated the NSC can meet the related KPP. Three of the NSC's unmet KPPs are related to cutter-boat deployment in rough seas. USCG officials indicated that challenges remain in determining a path forward to resolve these KPPs because the USCG and its operational test agent have different interpretations of the cutter boat requirements. In January 2016, GAO recommended the NSC program office clarify the KPPs for the cutter boats.

USCG officials have indicated that all deficiencies and unmet KPPs will be tested as part of follow-on operational test and evaluation (FOT&E), but it is unclear when the USCG will complete the NSC's FOT&E. The USCG has planned test activities through the end of fiscal year 2017 and USCG officials indicated that DOT&E will independently assess the FOT&E results. However, it is unclear when the USCG will actually demonstrate the NSC can meet its unmanned aircraft and intelligence requirements. In January 2016, GAO recommended DHS specify when the USCG must complete the NSC's FOT&E and any further actions the NSC program should take following FOT&E.

Other Issues

In May 2015, DHS reported the program office had 55 full time equivalents (FTE) but needed 62 FTEs. USCG officials have told GAO this has made it difficult to obligate funds in a timely manner. However, according to USCG officials, as of September 2015 the program office was in the process of hiring staff to fill several vacancies.

Program Office Comments

Cost estimates cited herein are threshold values taken from the approved NSC baseline. They do not reflect current estimates to complete based on updated data, which includes actual production contract award amounts for NSCs 7 and 8. The NSC program completed IOT&E in 2014 and continues to work with DHS to complete remaining testing and resolve pending discrepancies. Delaying IOT&E was a deliberate decision to ensure maximum benefits from the testing and resulted in the Navy evaluator's assessment that the NSC is "Operationally Effective and Suitable." Despite not fully completing all aspects of IOT&E, recent NSC operations have resulted in rarely seen magnitudes of law enforcement success. USCGC BERTHOLF recently seized nearly 29,000 pounds of cocaine, part of a remarkable 2015 interagency/partner nation effort which included more than 110 interdictions, the arrest of 700 suspected smugglers, and the seizure of 709,888 pounds of cocaine worth roughly $9.4 billion.

GAO Response

Across all 25 program assessments, GAO has reported threshold cost estimates because they are the maximum costs authorized by DHS leadership. DHS leadership approved an updated NSC cost estimate in September 2014, but it has not changed the program's maximum authorized cost.

Offshore Patrol Cutter (OPC)
## U.S. Coast Guard (USCG)

Source: USCG.

Note: The conceptual rendering of the OPC included in the GAO's report is for artistic display purposes only and does not convey any particular design, USCG design preference, or other requirements for the OPC.

Program Description

The USCG plans to use the OPC to conduct patrols for homeland security, law enforcement, and search-and-rescue operations, among other things. It will be designed for long-distance transit, extended on-scene presence, and operations with deployable aircraft and boats. The OPC is intended to replace the USCG's aging Medium Endurance Cutters. The USCG plans to procure 25 OPCs, and it expects to receive the first OPC in 2021. GAO previously reported on the OPC program in April 2015 and June 2014 (GAO-15-171SP, GAO-14-450).

Projected Funding vs. Estimated Costs
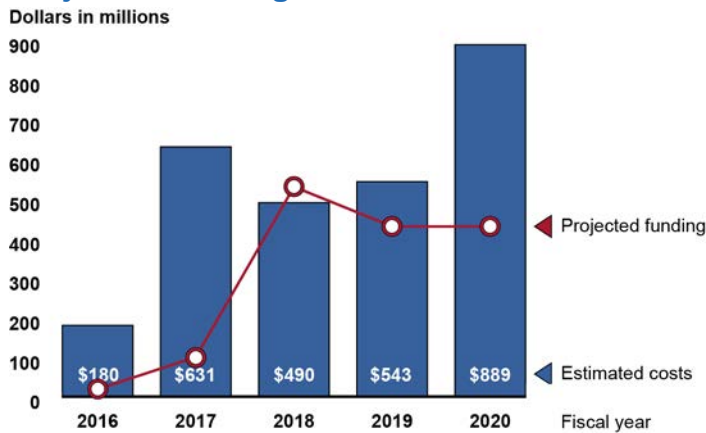
Program Office Staffing Profile
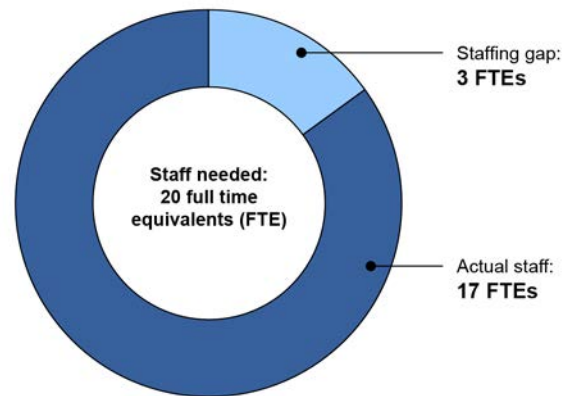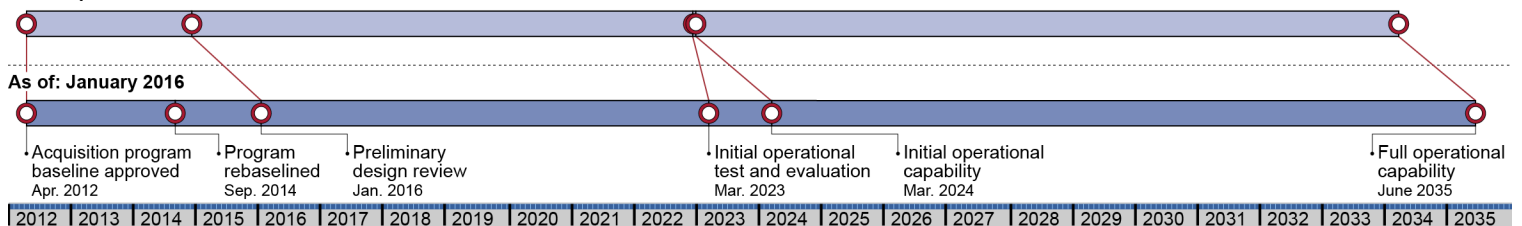
Schedule Changes over Time

Cost Estimate Changes over Time
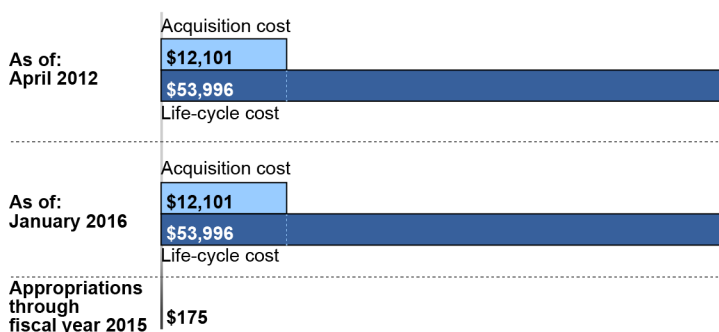
Performance

Department of Homeland Security (DHS) leadership has approved six key performance parameters (KPP) for the OPC, establishing goals for the ship's operating range and duration, crew size, interoperability and maneuverability, and ability to conduct operations in moderate to rough seas. The first OPC has not yet been constructed, so the USCG has not yet demonstrated whether it can meet these KPPs. The USCG plans to use engineering reviews, and developmental and operational tests throughout the acquisition to measure the OPC's performance.

Acquisition Strategy

The USCG is using a two-phased down-select strategy to select a contractor to deliver the OPC. First, the USCG conducted a full and open competition to select three contractors to perform preliminary and contract design work, and in February 2014, the USCG awarded fixed-price contracts to Eastern Shipbuilding Group, Bollinger Shipyards, and Bath Iron Works for phase 1. Second, in late fiscal year 2016, for phase 2, the USCG plans to select one of these three contractors to develop a detailed design of the OPC, and construct the first 9 to 11 ships.

Program Execution

From 2012 to 2016, the program's initial operational test and evaluation (IOT&E) date slipped 12 months, and its initial and full operational capability dates both slipped 15 months. Additionally, the program's preliminary design review date slipped 13 months, including 4 months during 2015. USCG officials said they completed the contract design review in March 2015, but they did not expect to complete the preliminary design review until January 2016. USCG officials attributed these schedule slips to delays in awarding the three preliminary and contract design contracts, and a subsequent bid protest that was filed with GAO. GAO denied the protest in June 2014.

In June 2014, GAO identified that the OPC's schedule had slipped 14 years between 2007 and 2014. Going forward, USCG officials have stated that additional OPC delays will decrease the USCG's operational capacity because the aging Medium Endurance Cutters will require increased downtime for maintenance and other issues, reducing their availability.

The OPC's acquisition and life-cycle cost estimates did not change from 2012 to 2015. However, in June 2014, GAO reported that the OPC program's acquisition cost estimate had increased by $4 billion from 2007 to 2012. USCG officials said this increase was largely due to invalid assumptions in the earlier cost estimate, along with schedule delays and inflation.

Test Activities

DHS's Director of Operational Test and Evaluation approved the OPC Test and Evaluation Master Plan (TEMP) in October 2011, but the USCG has issued an interim TEMP to reflect schedule changes resulting from the bid protest. The USCG now plans to conduct IOT&E on the first OPC in fiscal year 2023. USCG officials told GAO that they have been working closely with DHS's Office of Test and Evaluation and U.S. Navy test officials since 2010 to incorporate testing into the program.

Other Issues

The program is currently projected to have a $1.2 billion funding shortfall from fiscal years 2016 to 2020. Program officials said this is because the OPC's current cost estimate does not reflect its schedule delays, and that they are working to update the cost estimate. Nonetheless, in 2012,

DHS's Chief Financial Officer raised concerns that the OPC's costs could grow as other shipbuilding programs' costs have grown in the past, and could ultimately affect the affordability of other USCG acquisition programs. In June 2014, GAO reported that the OPC will absorb about two-thirds of the USCG's acquisition funding from 2018 to 2032, and recommended that the USCG develop a 20-year fleet modernization plan that identifies all acquisitions needed to maintain the current level of service, along with tradeoffs if the funding needed to execute the plan is not consistent with annual budgets. The USCG concurred with this recommendation but did not identify an estimated date for completing the plan, and USCG officials told GAO they had not identified what tradeoffs they would make to address affordability issues.

In May 2015, DHS headquarters identified that the program office needed 26 full time equivalents (FTE) and actually had 20 FTEs. However, in December 2015, program officials told GAO the program now only needs 20 FTEs, but is still 3 short. Program officials also said that these shortfalls did not significantly affect the program.

Program Office Comments
The USCG provided technical comments that GAO addressed as appropriate.

Transformation
## U.S. Citizenship and Immigration Services (USCIS)

Program Description

USCIS spans more than 200 offices across the world, and processes tens of thousands of immigration and citizenship applications each day. The Transformation program was established in 2006 to transition USCIS from a fragmented, paper-based filing environment to a consolidated, paperless environment using electronic case management tools. However, it struggled to deliver capability for several years, and in 2013, USCIS revised its acquisition plan. According to USCIS, the program is now pursuing a simpler solution based on a new system architecture. Because of this change, USCIS cannot use any of the architecture delivered under the old strategy, despite having invested more than $475 million in its development. GAO previously reported on the Transformation program in May 2015 and April 2015 (GAO-15-415, GAO-15-171SP).

Source: USCIS.

Projected Funding vs. Estimated Costs
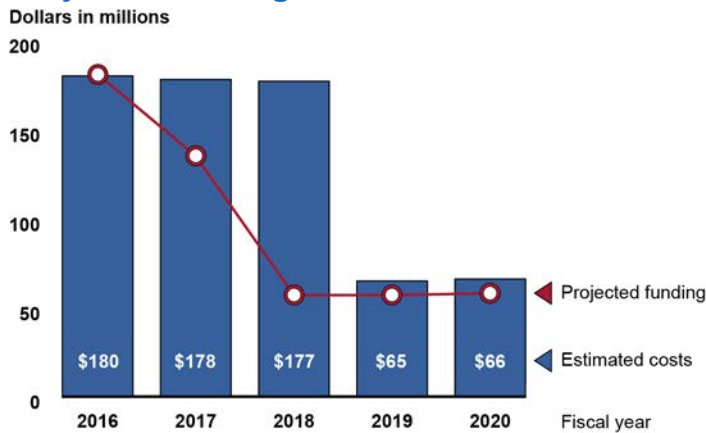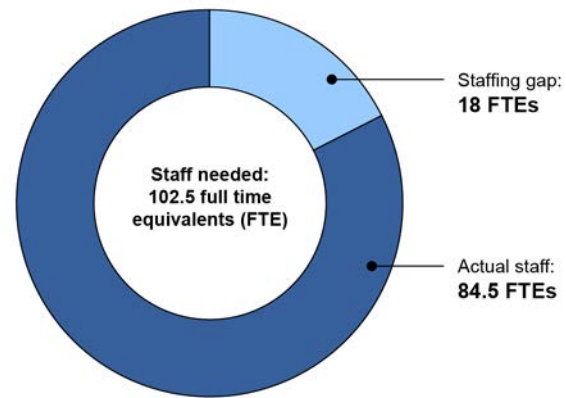
Program Office Staffing Profile

Schedule Changes over Time
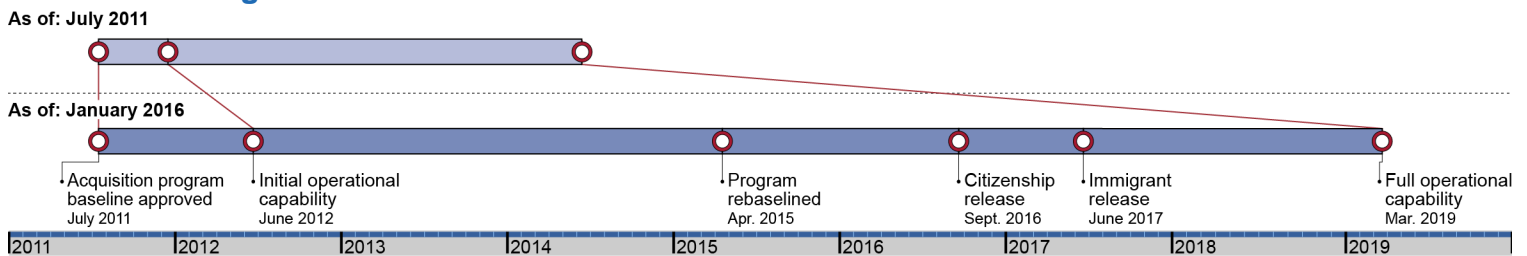
Cost Estimate Changes over Time
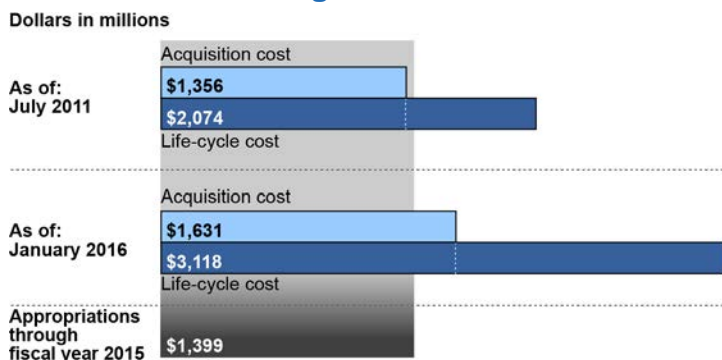
Performance

In 2011, the department's Under Secretary for Management (USM) approved 11 key performance parameters (KPP) for the Transformation program, but the program struggled to meet its requirements, and in 2013, the USM directed USCIS to revise the KPPs. In April 2015, the Acting Deputy USM approved a new set of KPPs, removing 4 of the 11 previously approved KPPs, and adding a new KPP establishing that the system shall have the ability to support future growth. Additionally, the Acting Deputy USM approved revisions to the other 7 KPPs, and relaxed the reliability, maintainability, and operational availability requirements.

Acquisition Strategy

In 2008, DHS awarded IBM a task order to deliver the original solution through five software releases. The first release was launched in May 2012, approximately 5 months behind schedule. DHS attributed this delay to its decision to give a single contractor too much responsibility for the program's execution, weak contractor performance, pursuing an unnecessarily complex system, and adopting a development methodology that did not allow DHS to see problems early in the process. To address the delay, the Office of Management and Budget, DHS, and USCIS determined the program should implement a new acquisition strategy, which allowed for an agile software development methodology and increased competition for development work. Under an agile software development methodology, end users, subject matter experts, and testers collaborate with developers, increasing visibility into interim progress. By September 2014, USCIS had awarded four agile development contracts. Each consists of a 6-month base period and three 6-month options. The program now plans to deliver capability through 16 releases.

Program Execution

From July 2011 to January 2016, the program's life-cycle cost estimate (LCCE) increased from approximately $2.1 billion to approximately $3.1 billion—this includes a $500 million increase since January 2015. Program officials primarily attributed the LCCE increase to an adjustment to a key assumption. In 2011, the LCCE was based on the assumption that the solution would only be in service for 8 years beyond the full operational capability (FOC) date, but program officials subsequently determined that this assumption was not reasonable, and adjusted it to 15 years beyond the FOC date, which they said was consistent with industry standards.

From July 2011 to January 2016, the program's acquisition cost estimate increased by $275 million—this includes a $263 million increase since January 2015. USCIS officials primarily attributed this increase to the four additional years of development work needed to execute the current plan. When USCIS decided to adopt a new system architecture, it also decided that it would retire its old system architecture. As a result, USCIS is not using any of the capability developed for the old system architecture, meaning the program must recreate a significant amount of software on the new system architecture.

From July 2011 to January 2016, the program's full operational capability (FOC) date slipped from June 2014 to March 2019—this includes a 9-month slip since January 2015. Program officials primarily attributed this slip to time lost pursuing an unachievable solution. They explained the program was previously working to automate the entire adjudication process, which is not feasible. Now, USCIS is more narrowly focused on presenting information to adjudicators in a more efficient manner, and is no longer trying to automate their decision-making processes.

Test Activities

In February 2014, DHS's USM directed USCIS to update the Transformation program's Test and Evaluation Master Plan. USCIS did so in January 2015, and that same month the program conducted its first operational assessment since adopting its new system architecture. The assessment was designed to evaluate a new software release intended to help USCIS employees process an immigration form. During the assessment, adjudicators worked to process approximately 2,000 applications, but program officials said they could not use the results due to an error. From March to August 2015, the program conducted a subsequent assessment, and in November 2015, DHS's Director of Operational Test and Evaluation (DOT&E) concluded that the program should move forward with deployment. That said, the DOT&E also noted that the capability assessed was a minor subset of the system's FOC. Going forward, the program plans to conduct similar operational assessments several more times from June 2016 to March 2019, when the program plans to achieve FOC.

Other Issues

DHS reporting indicates the program faces a $180 million funding gap from fiscal year 2016 to fiscal year 2020, but this is misleading. USCIS uses revenue from premium processing fees to fund the Transformation program, and this revenue far exceeds the program's costs. Going into fiscal year 2016, USCIS expected to carryover $548 million in premium processing revenue, and at the end of fiscal year 2020, USCIS expects it will still have $341 million in unobligated funds. In addition to the Transformation program, USCIS also plans to use the premium processing revenue to fund more than $750 million in service center operations, infrastructure investments, and other activities during this 5-year period.

In April 2015, DHS reported that the program lacked 18 percent of the staff it required, but in September 2015, USCIS officials said the program had filled the vacant positions, and that personnel from across DHS had been detailed to the program office in the interim. The program officials said there have been no negative effects as a result of staffing shortfalls.

Program Office Comments

In 2012, USCIS reviewed the program due to the limited capability deployed after 5 years and made the hard decision to fundamentally change the program. Relying on a single, large contract with one contractor was not working and reliance on multiple off-the-shelf technology products to support a major system was too complex and ultimately did not provide USCIS the flexibility it needed for rapid development and deployment of functionality. The technical design of the system was simplified. Industry best practices were adopted including agile development, open source, cloud technologies and continuous delivery. The new system was deployed in November 2014 and currently 16 percent of USCIS receipts are being processed in the rebuilt system.

GAO Response

To clarify, a portion of Transformation's capabilities has been deployed, but the program is not scheduled to complete its deployments until it achieves FOC in March 2019.

Appendix II: Objectives, Scope, and Methodology

The objectives of this audit were designed to provide Congress insights into the Department of Homeland Security's (DHS) major acquisition programs. We assessed the extent to which (1) DHS's major acquisition programs are on track to meet their schedule and cost goals, (2) major acquisition programs changed key performance parameters (KPP) after initiation, and (3) DHS has addressed major acquisition programs' affordability issues. To answer these questions, we reviewed 25 of DHS's major acquisition programs, including 22 that we reviewed in 2015.[1] We reviewed all 16 of DHS's Level 1 acquisition programs—those with Life-Cycle Cost Estimates (LCCE) of $1 billion or more—that had at least one project, increment, or segment in the Obtain phase—the stage in the acquisition life cycle that program managers develop, test, and evaluate systems—at the initiation of our audit. Additionally, to provide insight into some of the factors that can lead to poor acquisition outcomes, we reviewed 9 other major acquisition programs—those with LCCEs of $300 million or more—that we or DHS leadership had identified were at risk of not meeting their cost estimates, schedules, or capability requirements. We have reported on many of these programs in our past work. As part of our scoping effort, we met with representatives from DHS's Office of Program Accountability and Risk Management (PARM), DHS's main body for acquisition oversight, to determine which programs were facing difficulties in meeting their cost estimates, schedules, or capability requirements. The 25 selected programs were sponsored by 9 different components, and they are identified in table 5, along with our rationale for selecting them.

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[1]GAO-15-171SP. We did not review NPPD CDM, S&T NBAF, or TSA TIM in GAO-15-171SP.

Table 5: Rationale for Selecting Programs for Review

Component	Program	Level 1 program in the Obtain phase at the initiation of our audit	At risk of not meeting cost estimates, schedule, or capability requirements
Customs and Border Protection (CBP)	Automated Commercial Environment (ACE)	X	
	Integrated Fixed Towers (IFT)[a]		X
	Land Border Integration (LBI)	X	
	Non-Intrusive Inspection (NII) Systems	X	
	Strategic Air and Marine Program (StAMP)	X	
	Tactical Communications (TACCOM) Modernization[a]		X
	TECS (not an acronym) Modernization[a]		X
Federal Emergency Management Agency (FEMA)	Logistics Supply Chain Management System (LSCMS)[a]		X
Immigration and Customs Enforcement (ICE)	TECS (not an acronym) Modernization[a]		X
National Protection and Programs Directorate (NPPD)	Continuous Diagnostics & Mitigation (CDM)	X	
	National Cybersecurity Protection System (NCPS)	X	
	Next Generation Networks Priority Services (NGN-PS)	X	
Office of the Chief Information Officer (OCIO)	Homeland Security Information Network (HSIN)[a]		X
Science and Technology Directorate (S&T)	National Bio and Agro-Defense Facility (NBAF)	X	
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)	X	
	Passenger Screening Program (PSP)	X	
	Technology Infrastructure Modernization (TIM)[a]		X
U.S. Coast Guard (USCG)	C4ISR[b]	X	
	Fast Response Cutter (FRC)		X
	HH-65 Conversion/Sustainment Projects	X	
	Long Range Surveillance Aircraft (HC-130H/J)	X	
	Medium Range Surveillance Aircraft (HC-144A & C-27J)	X	
	National Security Cutter (NSC)		X
	Offshore Patrol Cutter (OPC)	X	
U.S. Citizenship and Immigration Services (USCIS)	Transformation	X	

Source: GAO analysis of DHS documentation and data. | GAO-16-338SP

[a]Level 2 program.

[b]C4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.

To determine the extent to which DHS's major acquisition programs are
on track to meet their schedule and cost goals, we collected key
acquisition documentation for each of the 25 programs, including all
program baselines approved at the department level since DHS's current
acquisition policy went into effect in November 2008. An Acquisition
Program Baseline establishes a program's critical cost, schedule, and
performance parameters. DHS policy establishes that all major programs
should have department-approved baselines before they initiate efforts to
obtain new capabilities. Nineteen of the 25 programs had one or more
department-approved baseline between November 2008 and December
15, 2015. We used these baselines to establish the initial and current cost
and schedule goals for these 19 programs. We also developed a data
collection instrument to help validate the information from the baselines.
Specifically, for each program, we pre-populated a data collection
instrument to the extent possible with the cost and schedule information
we had collected from the baselines and our 2015 assessment (if
applicable) to identify cost growth and schedule slips, if any, since the
program's initial baseline was approved (if applicable). We shared our
data collection instruments with officials from the program offices and
components to confirm or correct our initial analysis and to collect
additional information to enhance the timeliness and comprehensiveness
of our data sets.

Additionally, in July 2015, we collected program cost data from DHS's
INVEST System (formerly known as the Next Generation Periodic
Reporting System), which is the department's system for information on
its major acquisition programs. We then met with program and
component officials to identify causes and effects associated with any
cost growth and schedule slips since their initial baselines, and since
January 2015. Subsequently, we drafted preliminary assessments for
each of the 25 programs, shared them with program and component
officials, and gave these officials an opportunity to submit comments to
help us correct any inaccuracies, which we accounted for as appropriate
(such as when new information was available). We also met with senior
acquisition oversight officials to share observations about trends and
issues across the portfolio. Through this process, we determined that our
data elements were sufficiently reliable for the purpose of our reporting
objectives. For 22 of the 25 programs, the cost estimates we report as of
January 2016 are based on department-approved documentation, such
as baselines and LCCEs. For one of the three remaining programs—
Immigration and Customs Enforcement's TECS Modernization program—
the cost estimates were based on component-approved documentation.
For the final two programs—the Customs and Border Protection (CBP)

Strategic Air and Marine Program (StAMP) and the U.S. Coast Guard
(USCG) Medium Range Surveillance Aircraft program—we did not report
cost estimates as of January 2016 because CBP planned to discontinue
StAMP by March 2016, and the USCG was still in the process of
developing the Medium Range Surveillance Aircraft program baseline.
We did not include the six programs that lacked department-approved
baselines as of December 15, 2015 when we formally assessed the
extent to which DHS's major acquisition programs are on track to meet
their schedule and cost goals because the programs lacked goals
approved by DHS leadership. However, we did include observations on
how the programs were being executed, and, in their individual
assessments, we compared the cost and schedule information as of
January 2016 to the cost and schedule information from our 2015
assessment.

To determine the extent to which DHS's major acquisition programs'
KPPs changed after program initiation, we reviewed acquisition
documentation, including all program baselines and operational
requirements documents, approved at the department level since DHS's
current acquisition policy went into effect in November 2008. An
operational requirements document provides a number of performance
parameters, including the KPPs, which must be met by a program to
close an existing capability gap and provide a useful capability to the
operator. For each program, we compared the KPPs in all available
documentation to determine the number of changes made since DHS's
current acquisition policy went into effect. We subsequently met with
officials from the program offices to identify causes and effects associated
with any KPP changes. For the three programs with the greatest number
of KPP changes, we also interviewed operators (such as customs
officers) to discuss the operational effects of those changes, if any.

To determine the extent to which DHS has addressed major acquisition
programs' affordability issues, we reviewed DHS's acquisition
management and resource allocation policies and processes, key
acquisition documentation, including program cost estimates, affordability
memos issued by the components' senior financial officers, and funding
documentation, such as resource allocation decisions and the fiscal year
2015 Future Years Homeland Security Program (FYHSP) report to
Congress, which presents 5-year funding plans for each of DHS's major
acquisition programs. For each of the 25 programs in our scope, we
compared current yearly cost estimates from department-approved
LCCEs, INVEST, or program office updates to the funding plan presented
in the FYHSP to assess the extent to which a program was projected to

have a funding gap from fiscal year 2016 through fiscal year 2020. These calculations also accounted for any fiscal year 2015 carry over funds. We shared our analysis with officials from the program offices and components to confirm or correct our calculations. We subsequently identified actions DHS had taken or planned to take to address projected program funding gaps. We reviewed certification of acquisition funding memos submitted for those programs that had completed an Acquisition Decision Event since June 2014—when the certification requirement went into effect—and resource allocation decisions, which communicate the DHS headquarters-approved funding levels for DHS's acquisition programs. Lastly, we interviewed senior financial officials from DHS headquarters, CBP, TSA, and the USCG to discuss actions they had taken to ensure programs are affordable. We selected these three components because they accounted for nearly 90 percent of the total acquisition and life-cycle costs of the 25 programs we reviewed. We assessed DHS's acquisition management and resource allocation policies and practices against the *Standards for Internal Control in the Federal Government*—specifically, the standards for information and communications.[2] The standards indicate that information should be communicated to management in a form that enables them to carry out their responsibilities, and that management should ensure there are adequate means of communicating with external stakeholders that may have a significant impact on the agency achieving its goals. We also assessed DHS's acquisition management and resource allocation policies and practices against GAO's key program management practice that programs should secure stable funding that matches resources to requirements.[3]

We conducted this performance audit from June 2015 to March 2016 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.

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[2]GAO/AIMD-00-21.3.1.

[3]GAO-12-833.

Appendix III: Comments from the Department of Homeland Security

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

Homeland Security

March 11, 2016

Michele Mackin
Director, Acquisition and Sourcing Management
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Draft Report GAO-16-338SP, "HOMELAND SECURITY ACQUISITIONS:
       DHS has Strengthened Management, but Execution and Affordability Concerns
       Endure"

Dear Ms. Mackin:

Thank you for the opportunity to review and comment on this draft report. The U.S.
Department of Homeland Security (DHS) appreciates the U.S. Government
Accountability Office's (GAO) work in planning and conducting its review and issuing
this report.

The Department is pleased to note GAO's acknowledgement of the approval of baselines
establishing cost and schedule goals for programs that previously did not have baselines,
and the positive impact this should have on DHS efforts to oversee and manage these
programs going forward. In addition, we appreciate GAO's positive recognition of steps
DHS leadership has taken to improve the affordability of a major acquisition portfolio,
such as establishing a requirement for Components to certify programs' funding levels
and identify tradeoffs necessary to address any funding gaps prior to major decisions.

The draft report contained four recommendations with which the Department concurs.
Specifically, GAO recommended that the Secretary of Homeland Security:

Recommendation 1: Establish that components' senior financial officers explicitly
quantify cost estimates, funding streams, and the monetary value of proposed tradeoffs in
the funding certification memos they submit to DHS's CFO [Chief Financial Officer].

Response: Concur. DHS CFO direction already requires senior financial officers to
explicitly identify program costs, funding profiles, and mitigating actions for programs
between Acquisition Decision Event (ADE)-2 and ADE-3 if a program is less than fully
funded in the Component Resource Allocation Plan. In February 2016, the Deputy

Under Secretary for Management (DUSM) and CFO reissued direction for Components to submit affordability certification, which added a template that provides a detailed breakdown of available funding and any associated shortfalls. A copy of this direction has been provided to GAO under separate cover. We request GAO consider this recommendation resolved and closed.

Recommendation 2: Require the components to submit to DHS's CFO funding certification memos for all major acquisition programs that have not yet been reviewed at an ADE since the funding certification requirement was established; and convene ARBs [Acquisition Review Boards] to discuss affordability and make tradeoffs between cost, schedule, and performance, as necessary.

Response: Concur. DHS has strengthened acquisition affordability reviews. In fact, the current resource allocation process has a requirement for all Components to report the funding status of all capital investments between ADE-2 and ADE-3, including:

(1) funding sources,
(2) a comparison to the program's most recent cost estimate,
(3) affordability gaps, and
(4) the impact of any gaps on cost, schedule, and performance.

Once this information has been submitted by Components as part of the resource allocation process, DHS Program Analysis and Evaluation (PA&E), in coordination with the DHS Office of Program Accountability and Risk Management, will assess these certifications that have not yet been reviewed at an ADE and will make recommendations for potential ARBs, as necessary. Estimated Completion Date (ECD): September 30, 2016.

Recommendation 3: Ensure that the fiscal year 2017 FYHSP [Future Years Homeland Security Program] report, which DHS must submit to Congress at or about the same time as the President's fiscal year 2018 budget request, reflects the results of any tradeoffs stemming from the acquisition affordability reviews recommended above.

Response: Concur. DHS PA&E will ensure the FYHSP will reflect decisions made as a consequence of both resource allocation and acquisition management processes. ECD: February 28, 2017.

Recommendation 4: Require components to establish formal, repeatable processes for addressing major acquisition affordability issues, similar to the process TSA [Transportation Security Administration] has established.

Response: Concur. On January 11, 2016, the DUSM and CFO signed a memorandum clarifying instructions to DHS Components for conducting annual updates of cost

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estimates for DHS Major Acquisition Programs (copy provided to GAO under separate cover). The memorandum focused on the outcome of the process and allows Components the flexibility needed to best align their internal processes in order to ensure credible and timely estimates to inform the program and budgeting review process, similar to the TSA practice. The memorandum applies to all DHS Components to ensure programs address affordability issues.

DHS requires all major acquisition programs update their cost estimate by April 1st of every year, document their results, and use the updated cost estimate to inform the annual program and budget review process. The DHS CFO Cost Analysis Division will ensure that all Components fully comply with this practice. ECD: March 31, 2017

Again, thank you for the opportunity to review and comment on this draft report. Technical comments were previously provided under separate cover. Please feel free to contact me if you have any questions. We look forward to working with you in the future.

Sincerely,

Jim H. Crumpacker, CIA, CFE
Director
Departmental GAO-OIG Liaison Office

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Appendix IV: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

In addition to the contact listed above, Katherine Trimble (Assistant Director), Nathan Tranquilli (Analyst-in-Charge), Peter Anderson, Mathew Bader, Jason Berman, Carissa Bryant, Molly Callaghan, Lisa Canini, Adam Couvillion, John Crawford, Lindsey Cross, Aryn Ehlow, Lorraine Ettaro, Laurier R. Fish, Yvette Gutierrez, Peter Haderlein, Douglas Hunker, Erin O'Brien, Alexis Olson, Sylvia Schatz, Jillian Schofield, Charlie Shivers III, Lindsay Taylor, Oziel Trevino, and Linda Wu made key contributions to this report.

In memory of Gary Carter

Related GAO Products

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