



April 2015

HOMELAND SECURITY ACQUISITIONS

Major Program Assessments Reveal Actions Needed to Improve Accountability

GAO Highlights

Highlights of [GAO-15-171SP](#), a report to congressional requesters

Why GAO Did This Study

Each year, DHS invests billions of dollars in major acquisition programs. In fiscal year 2014, DHS planned to invest \$10.7 billion in these programs. DHS's acquisition management activities have been on GAO's High Risk List, in part due to program management, funding, workforce, and requirements issues.

Congress requested GAO assess DHS's major acquisition programs. This report addresses the extent to which DHS's major acquisition programs: (1) are on track to meet their schedules and cost estimates; (2) have successfully completed operational testing; and (3) are facing common issues department-wide.

GAO assessed all 14 of DHS's largest acquisition programs that were in the process of obtaining new capabilities as of June 2014, and 8 other major acquisition programs GAO or DHS identified were at risk of poor outcomes to provide additional insight into factors that lead to poor acquisition outcomes. For all 22 programs, GAO reviewed documents required by DHS policy, and met program representatives and headquarters officials responsible for overseeing the programs.

What GAO Recommends

GAO continues to believe DHS should fully implement the September 2012 recommendation. GAO also recommends DHS address all KPPs in its test assessments, ensure TSA programs' future baselines capture historical changes, and ensure USCG funding plans presented to Congress are comprehensive. DHS concurred with GAO's recommendations.

View [GAO-15-171SP](#). For more information, contact Michele Mackin at (202) 512-4841 or mackinm@gao.gov.

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What GAO Found

GAO found two of the 22 Department of Homeland Security (DHS) programs it reviewed were on track to meet the initial schedule and cost parameters established after DHS's current acquisition policy went into effect in November 2008. Fourteen programs had experienced schedule slips, or schedule slips and cost growth, including five programs GAO reviewed because they were at-risk of poor outcomes and nine others. These programs' cost estimates increased by \$9.7 billion, or 18 percent. GAO was unable to assess six programs because DHS leadership had not yet approved baselines establishing their schedules and cost estimates even though these baselines are required by DHS policy. In September 2012, GAO recommended DHS ensure all programs obtain department-level approval for their baselines, and DHS concurred. Individual assessments of each of the 22 programs are presented in appendix I.

GAO Assessment of 22 Major DHS Acquisition Programs

Total number of programs GAO assessed	Programs on track to meet cost and schedule parameters	Programs with schedule slips	Programs with schedule slips and cost growth	Programs that lacked approved schedules and cost estimates
22	2	7	7	6

Source: GAO analysis of DHS documentation and data. | GAO-15-171SP

The 22 programs are at different stages of operational testing, and assessments did not always address the key performance parameters (KPP) required to meet the DHS mission. Nineteen of the programs had delivered capabilities to operators, DHS's Director of Operational Test and Evaluation had assessed operational test results for 13 of these programs, and six had passed the testing. One of these six programs did not meet all of its KPPs, and it was unclear whether two of the other programs had done so because the test assessments did not explicitly address the KPPs. GAO found such ambiguity in 11 of 30 test assessments DHS produced from 2010 to 2014. The risks and benefits of deploying capability without operational testing vary on a program-by-program basis. However, when programs do conduct operational testing, DHS leadership would be better informed to make deployment decisions if it consistently received documentation clearly stating whether systems have met all of their KPPs.

DHS is taking steps to address enduring challenges, but certain issues may hinder oversight. DHS acquisition programs continue to face staffing, funding, and requirements issues, which increase the likelihood that acquisition programs' schedules will slip and costs will grow. DHS leadership has taken steps to address these challenges. In response to a prior GAO recommendation, DHS established that it would specifically address funding issues during all program reviews. However, it will likely take years to fully resolve the challenges. Additionally, GAO found that certain issues were prevalent at particular components. Both of the Transportation Security Administration (TSA) programs GAO reviewed have changed their scope significantly over time, but these changes are not clearly identified in their current baselines, making it difficult to assess how well the programs have been executed. In fiscal year 2014, the funding plans DHS presented to Congress for the U.S. Coast Guard (USCG) acquisition programs were incomplete, obscuring affordability issues GAO has reported on since 2011. These component-specific issues make it more challenging for DHS leadership and Congress to exercise oversight.

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Abbreviations

ARB	Acquisition Review Board
CAE	Component Acquisition Executive
DHS	Department of Homeland Security
DOT&E	Director of Operational Test and Evaluation
FYHSP	Future Years Homeland Security Program
MD	Management Directive
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

A&O	Analysis and Operations
CBP	Customs and Border Protection
FEMA	Federal Emergency Management Agency
ICE	Immigration and Customs Enforcement
NPPD	National Protection and Programs 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
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
MRS	Medium Range Surveillance
NCPS	National Cybersecurity Protection System
NGN-PS	Next Generation Network – Priority Service
NII	Non-Intrusive Inspection
NSC	National Security Cutter
OPC	Offshore Patrol Cutter
PSP	Passenger Screening Program
StAMP	Strategic Air and Marine Program
TACCOM	Tactical Communications
TECS	Not an acronym

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April 22, 2015

Congressional Requesters

Each year, the Department of Homeland Security (DHS) invests billions of dollars in its major acquisition programs to help execute its many critical missions. In fiscal year 2014 alone, DHS planned to spend approximately \$10.7 billion on these acquisition programs, and the department expects it will ultimately invest more than \$200 billion in them. 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 several years.

To help manage these programs, DHS has established policies and processes for acquisition management, test and evaluation, and resource allocation. We have reported that DHS's acquisition policy is generally sound, in that it reflects key program management practices. Due to shortfalls in executing the policy, however, we have highlighted DHS acquisition management issues in our high-risk updates since 2005.¹

Over the past several years, our work has identified significant shortcomings in the department's ability to manage its expanding portfolio of major acquisitions.² For example, in September 2012, we reported that 43 of 63 major acquisition programs lacked a department-approved baseline, which establishes a program's cost, schedule, and performance goals.³ We also reported that most of the acquisition programs faced funding instability, workforce shortfalls, and changes to requirements or planned capabilities. These challenges can contribute to poor acquisition outcomes, such as cost increases or the risk of end users—such as

¹ GAO, *High-Risk Series: An Update*, [GAO-05-207](#) (Washington, D.C.: January 2005); *High-Risk Series: An Update*, [GAO-15-290](#) (Washington, D.C.: February 11, 2015).

² 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.

³ GAO, *Homeland Security: DHS Requires More Disciplined Investment Management to Help Meet Mission Needs*, [GAO-12-833](#) (Washington, D.C.: Sept. 18, 2012).

border patrol agents or first responders in a disaster—receiving technologies that do not work as expected. We have made several recommendations to help address these challenges. For example, we recommended DHS leadership specifically address funding issues during all program reviews, and that program managers remain with their programs until their next major milestone when possible.⁴ DHS concurred with these recommendations, and has taken steps to implement them.

DHS has taken several steps to improve acquisition management in response to our previous 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, certain recommendations have yet to be fully addressed. One key recommendation is that DHS ensure all major acquisition programs fully comply with acquisition policy by obtaining department-level approval for acquisition documents before the programs are allowed to proceed. We are encouraged that DHS leadership has acknowledged the importance of these issues, and put forth realistic estimates of the time and effort required to address them.

You asked us to assess DHS's major acquisition programs, and the Explanatory Statement accompanying a bill to the DHS Appropriations Act, 2015 requires GAO develop a plan for ongoing reviews of these programs.⁵ We assessed the extent to which DHS's major acquisition programs (1) are on track to meet their schedules and cost estimates, (2) have successfully completed operational testing, and (3) are facing common issues department-wide.

To answer these questions, we reviewed all 14 of DHS's Level 1 acquisition programs—those with life-cycle cost estimates 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 8 other major acquisition programs that we or DHS management identified were at risk

⁴ 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](#).

⁵ 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).

of not meeting their schedules, cost estimates, or capability requirements. We use table notes to explicitly identify each of these programs throughout our portfolio analysis. Two of these programs were Level 1 acquisitions, while six of them were Level 2 acquisitions with life-cycle cost estimates between \$300 million and \$1 billion. In total, the 22 selected programs were sponsored by 8 different DHS components.

For each of the 22 programs, we analyzed acquisition documentation, including schedules, cost estimates, and acquisition program baselines. As of November 2008, these documents required DHS-level approval. We used these documents to construct a data collection instrument for each program, identifying cost growth and schedule slips, if any. We subsequently shared this information with each of the 22 program offices and met with program officials to identify causes and effects associated with any cost growth and schedule slips. We also collected all approved Test and Evaluation Master Plans and letters of assessment issued by DHS's Director of Operational Test and Evaluation (DOT&E) for each of the 22 programs, and compared them to DHS policy. We met with program officials to identify causes and effects associated with any testing shortfalls, and met with officials responsible for overseeing each programs' test activities. Finally, we supplemented our own analysis by interviewing DHS headquarters officials and program officials from each of the 22 programs in our scope to gain insight into common challenges across the programs and within specific components. We discussed challenges that contributed to schedule slips, cost growth, or poor test results. We also asked these officials to identify whether funding, workforce, and requirements issues we previously identified were enduring. Additionally, we reviewed key documentation, including the fiscal year 2014 Future Years Homeland Security Program report to Congress, which presents five-year funding plans for each of DHS's major acquisition programs.

We conducted this performance audit from June 2014 to April 2015 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.

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, and 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.⁶ 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 life-cycle cost estimates 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 22 major acquisition programs we assess in this report, and table 6 in appendix II specifically identifies the programs within each level.

⁶ DHS issued an updated version of MD 102-01 in January 2010 and subsequently updated the guidebook and its appendices.

Table 1: DHS Acquisition Levels for Major Acquisition Programs

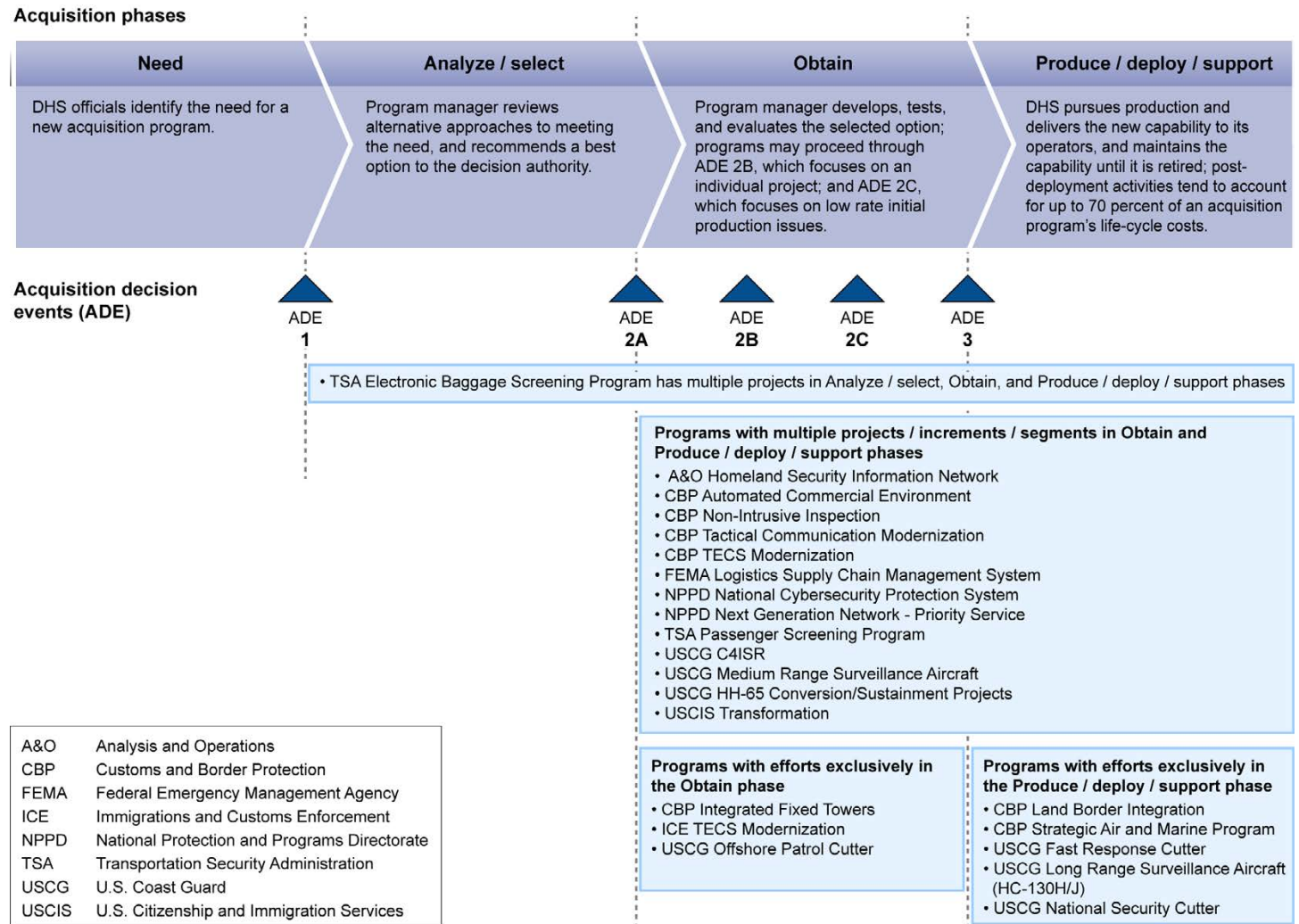
Level	Life-cycle cost	Acquisition decision authority	Number of programs assessed in this report
1	Greater than or equal to \$1 billion	Deputy Secretary, Under Secretary for Management/Chief Acquisition Officer	16
2	\$300 million or more, but less than \$1 billion	Under Secretary for Management/ Chief Acquisition Officer, or the Component Acquisition Executive	6

Source: GAO analysis of MD 102-01 and DHS's Master Acquisition Oversight List. | GAO-15-171SP

Notes: Non-major acquisition programs expected to cost less than \$300 million are designated Level 3. An acquisition may be raised to a higher acquisition level if (a) its importance to DHS's strategic and performance plans is disproportionate to its size, (b) it has high executive visibility, (c) it impacts more than one component, (d) it has significant program or policy implications, or (e) the Deputy Secretary, Chief Acquisition Officer, or acquisition decision authority recommends an increase to a higher level.

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 to assess whether the major program is ready to proceed through the acquisition life-cycle phases. An important aspect of a decision 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 and where the 22 major acquisition programs we assess in this report fell as of January 2015.

Figure 1: DHS Acquisition Life Cycle and the Major Acquisition Programs GAO Assessed



Source: GAO analysis of MD 102-01 and program information. | GAO-15-171SP

Notes: TECS is not an acronym. C4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance. USCG NSC advanced from the Obtain to Produce/deploy/support phase in September 2014, three months after we initiated our audit.

The acquisition decision authority is supported by DHS's Acquisition Review Board (ARB), which reviews major acquisition programs for proper management, oversight, accountability, and alignment with the department's strategic functions at acquisition decision events 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.⁷

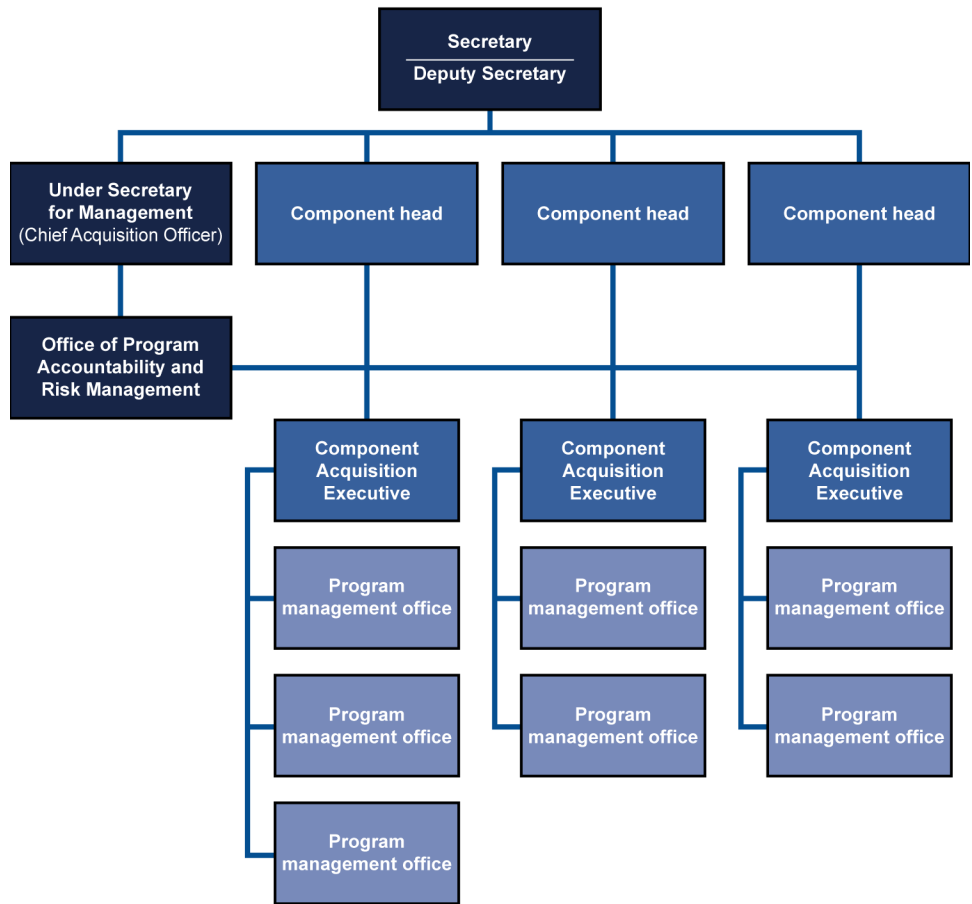
The 22 programs we assess in this report are sponsored by 8 of the department's component agencies, such as Customs and Border Protection (CBP), the Transportation Security Administration (TSA), and the U.S. Coast Guard (USCG). Within these components, CAEs are responsible for establishing acquisition processes and overseeing the execution of their respective portfolios.

Within the components, program management offices 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 program baselines. If they cannot do so, the programs' decision authority is to rebaseline the program, that is, establish new cost, schedule, or performance goals.

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

⁷ 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).

Figure 2: DHS's Acquisition Management Structure



- Department level
- Component level
- Program level

Source: GAO analysis of DHS acquisition policy. | GAO-15-171SP

Test and Evaluation Policy

In May 2009, DHS established policies and processes for testing the capabilities delivered by the department's major acquisition programs.⁸ 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. DHS testing policy assigns specific responsibilities to particular individuals and entities throughout the department:

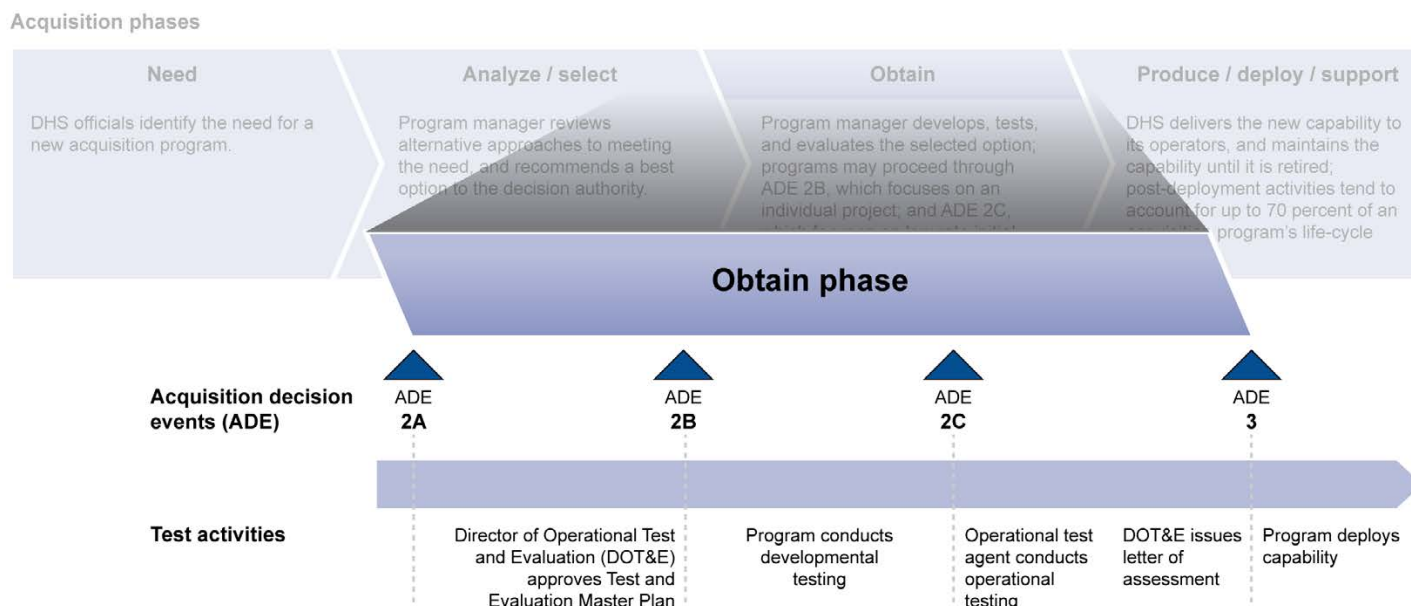
- **Program managers** have overall responsibility for planning and executing their programs' testing strategies. They are responsible for scheduling and funding test activities and delivering systems for testing. They are also responsible for controlling developmental testing. Programs use developmental testing to assist in the development and maturation of products, product elements, or manufacturing or support processes. Developmental testing include any engineering-type test 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 provide the acquisition decision authority an evaluation of the operational effectiveness and suitability of a system in a realistic environment. 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.
- **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. Operational effectiveness refers to the overall ability of a system to provide desired capability when used by representative personnel.

⁸ Department of Homeland Security, Directive No. 026-06, Test and Evaluation, May 29, 2009.

Operational suitability refers to the degree to which a system can be placed in field use and sustained satisfactorily. 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. See figure 3.

Figure 3: Test Activities Established by DHS Policy



Source: GAO analysis of DHS testing and acquisition policies. | GAO-15-171SP

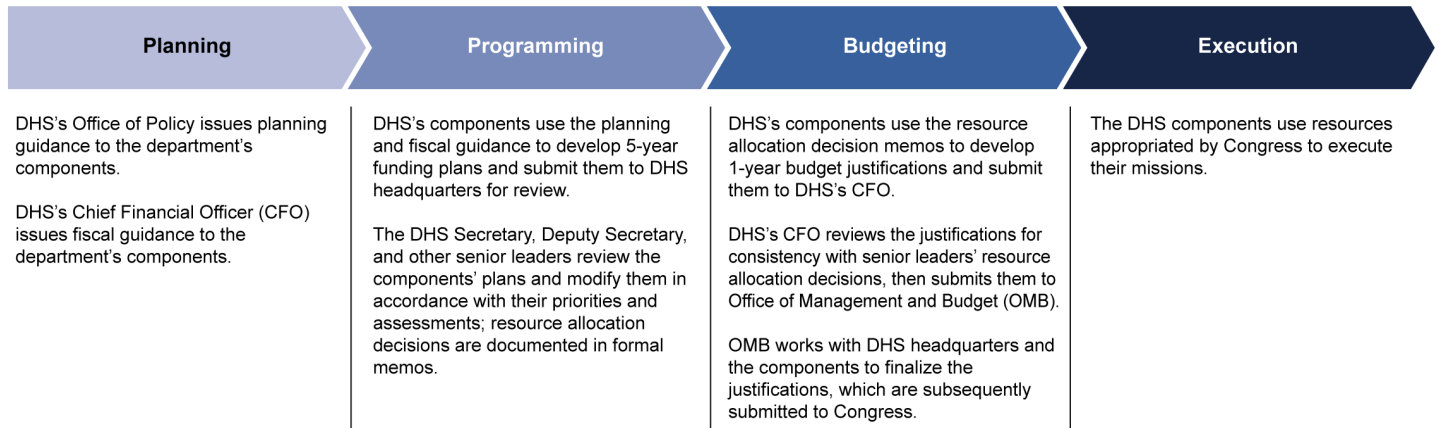
Resource Allocation Process

DHS has established a planning, programming, budgeting, and execution (PPBE) process to allocate resources to acquisition programs and other entities throughout the department.⁹ DHS's PPBE process produces the multi-year funding plans presented in the Future Years Homeland Security Program (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 to modify the plans in accordance with their priorities and assessments, and submit them to the Office of Management and Budget, which uses the plans to inform the President's annual budget request. Figure 4 depicts DHS's annual PPBE process.

⁹ Department of Homeland Security, Planning, Programming, Budgeting, and Execution System Operating Handbook, Rev. June 2012.

Figure 4: DHS’s Annual Planning, Programming, Budgeting, and Execution Process



Source: GAO analysis of DHS guidance. | GAO-15-171SP

Federal law requires DHS to submit an annual FYHSP report to Congress at or about the same time as the President’s budget request.¹⁰ This FYHSP report presents the 5-year funding plans in the FYHSP database at that time.¹¹

Within DHS’s Office of the Chief Financial Officer, the Office of Program Analysis and Evaluation is responsible for establishing policies for the PPBE process and overseeing the development of the FYHSP. In this role, the Office of Program Analysis and Evaluation reviews the components’ 5-year funding plans, advises DHS’s senior leaders on resource allocation issues, maintains the FYHSP database, and submits the annual FYHSP report to Congress.

¹⁰ 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.

¹¹ For additional information on past FYHSP reports, see [GAO-14-332](#).

Two Programs On Track to Meet Schedule and Cost, 14 Were Not, and Six Could Not Be Assessed

CBP's Automated Commercial Environment (ACE) program and TSA's Electronic Baggage Screening Program (EBSP) were on track to meet the initial schedules and cost estimates established after DHS's current acquisition policy went into effect in November 2008. Fourteen other programs experienced schedule slips, including seven that also experienced cost growth. These 14 programs included five that we reviewed because we identified them as at-risk programs and nine others. In aggregate, these programs' cost estimates increased by \$9.7 billion. We were unable to assess schedule and cost progress for six programs because DHS leadership had not yet approved baselines establishing their schedules and cost estimates. Table 2 summarizes our findings, and more detail is presented below the table.

Table 2: Major Acquisition Programs' Progress Against Their Schedules and Cost Estimates

Component	Program	On track against initial baselines	Schedule slips	Cost growth	No department-approved baseline
Analysis and Operations (A&O)	Homeland Security Information Network (HSIN) ^a		X		
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) ^a				X
	Tactical Communications (TACCOM) Modernization ^a				X
	TECS (not an acronym) Modernization ^a		X	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)	National Cybersecurity Protection System (NCPS)		X	X	
	Next Generation Network – Priority Service (NGN-PS)		X	X	
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)	X			
	Passenger Screening Program (PSP)		X		
U.S. Coast Guard (USCG)	C4ISR ^b		X		
	Fast Response Cutter (FRC) ^a		X		
	HH-65 Conversion/Sustainment Projects		X	X	
	Long Range Surveillance Aircraft (HC-130H/J)		X	X	
	Medium Range Surveillance (MRS) Aircraft				X
	National Security Cutter (NSC)		X	X	
	Offshore Patrol Cutter (OPC)		X		
U.S. Citizenship and Immigration Services (USCIS)	Transformation		X	X	

Source: GAO analysis of DHS documentation and data. | GAO-15-171SP

^aAt risk program that we reviewed to provide insight into some factors that can lead to poor acquisition outcomes.

^bC4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.

Programs on Track to Meet Schedules and Cost Estimates

CBP ACE and TSA EBSP were on track to meet schedules and cost estimates approved by DHS leadership. Officials from both programs identified specific actions they had taken to keep their programs on track, and other programs could potentially benefit from taking similar actions. However, in the future, it may be difficult to determine whether EBSP has remained on track because TSA officials plan to eliminate major milestones from the program's baseline.

CBP ACE

The ACE program struggled to develop capability for several years, but recently, it has remained on track to meet its approved schedule and cost estimate. From January 2006 to August 2013, the program's full operational capability date slipped more than five years, and its life-cycle cost estimate increased by \$1.1 billion. In 2010, the program manager stated that ACE requirements had not been clearly established and that the scope and complexity of various projects had been underestimated. The program manager also said that the program had used approximately 80 percent of its budget to deliver approximately 35 percent of its end product. The program subsequently initiated a re-planning effort, and in August 2013, the program rebaselined. Since that time, ACE's schedule and cost estimates have remained stable. Program officials attributed this 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 lowered licensing costs.

TSA EBSP

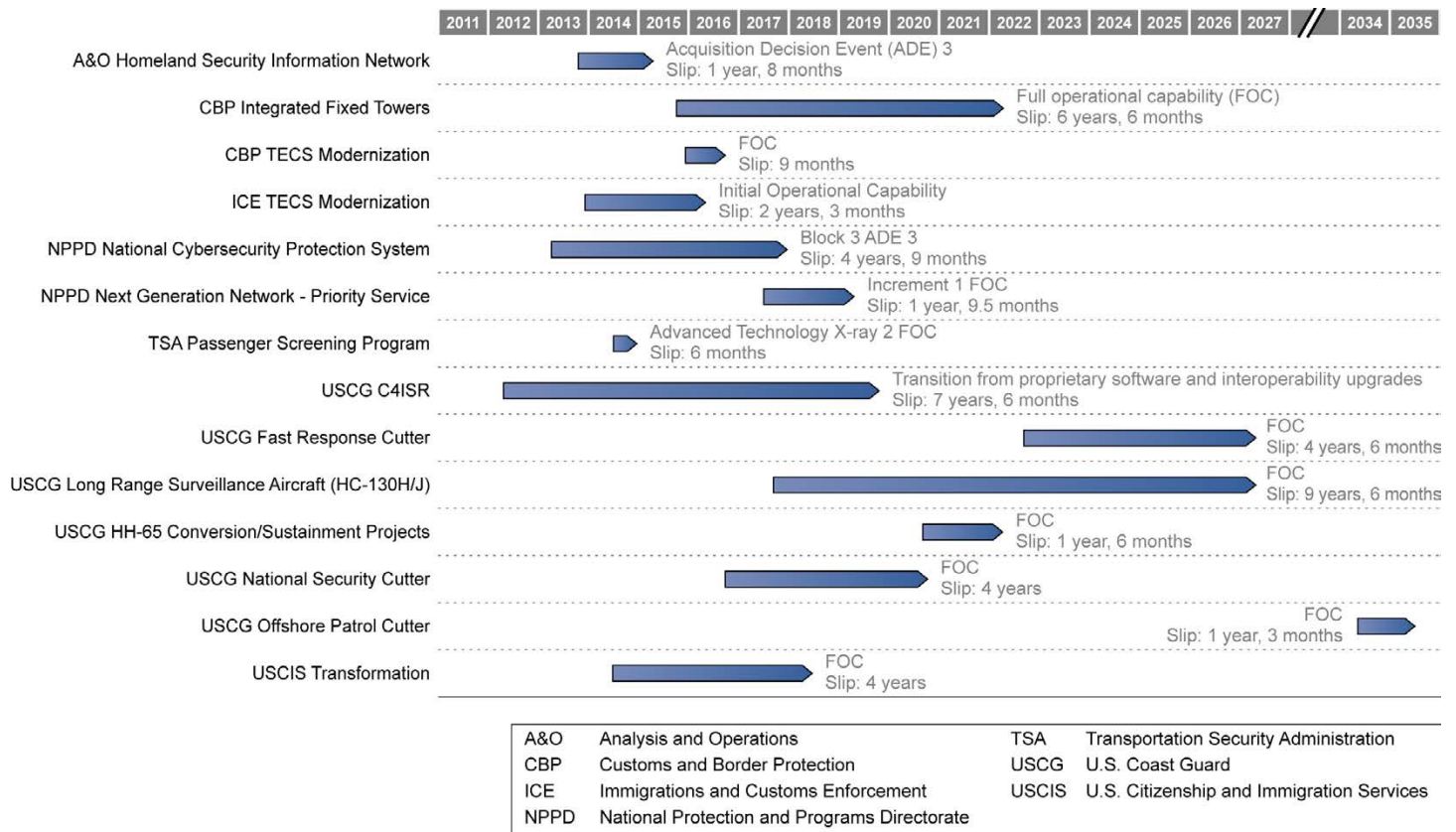
From August 2012 to January 2015, TSA decreased EBSP's acquisition cost estimate from \$14.5 billion to \$14.1 billion, and its life-cycle cost estimate from \$21.2 billion to \$20.3 billion. TSA officials said they did so by extending the useful lifespan of baggage screening systems, implementing improved 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 nearly all of the program's estimated costs. However, it is less clear whether EBSP will remain on schedule going forward. In August 2012, when the USM approved the EBSP baseline, the program planned to award contracts to procure screening systems that could detect five new threat materials by September 2015, and additional systems that could detect certain home-made explosives by September 2018. In December 2014, though, TSA officials told us they could not provide an update identifying when they expected to award these procurement contracts. Program officials said certain contractors' systems have had difficulty achieving new detection requirements, and in June 2014, DHS's Deputy

Chief Procurement Officer approved a revised acquisition plan that eliminated specific procurement timelines. The EBSP program manager told us that, going forward, the program wants to focus on demonstrating that systems can deliver enhanced detection capabilities rather than deploying specific quantities in certain timeframes. They said this approach will provide TSA flexibility to make risk-based decisions about the scale of capability deployments. However, the USM has not yet approved the elimination of the specific procurement timelines, which are currently the program's only remaining milestones. If the USM does approve the elimination of these milestones, it could be difficult to identify future schedule slips and hold the program accountable for these slips. EBSP program officials expect the USM will decide whether to approve the elimination of the milestones by the end of June 2015.

Programs with Schedule Slips

Fourteen programs have at least one major milestone that slipped since DHS established its current acquisition policy in November 2008. Figure 5 identifies the 14 programs that have had schedule slips and the extent to which their major milestones have slipped.

Figure 5: Major DHS Acquisition Programs' Schedule Slips



Source: GAO analysis of DHS data. | GAO-15-171SP

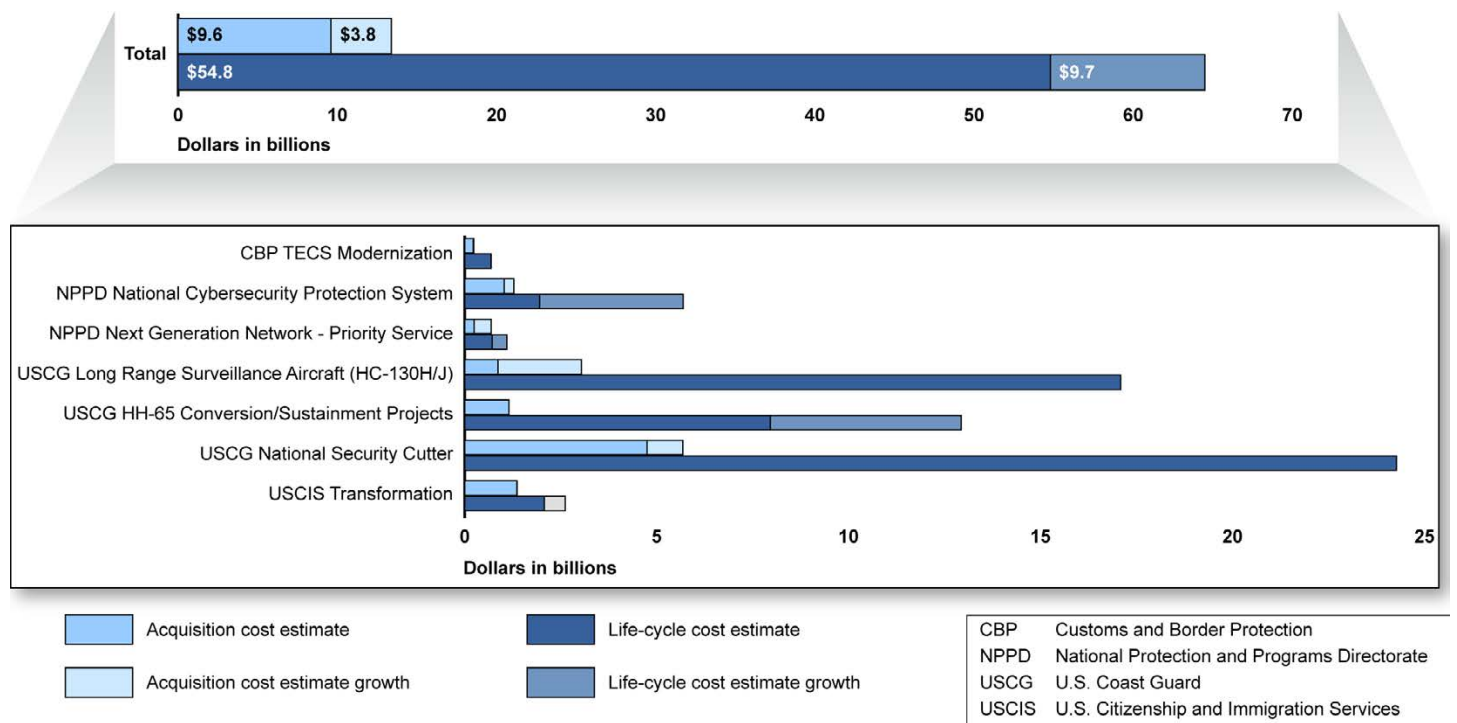
On average, these program milestones slipped more than three-and-a-half years. Program officials identified a number of reasons why this happened. Some cited challenges in meeting requirements. For example, officials from the USCIS Transformation program said they spent years trying to automate some of the agency’s activities before determining they could not do so. Officials from the CBP TECS Modernization program attributed its schedule delays to technical difficulties. In another case, officials from the TSA PSP program said they had originally established unachievable milestones. Additionally, officials from seven programs—including one that had not yet experienced a slip: CBP LBI—said their programs were at risk of future schedule slips due to anticipated funding constraints, bid protests, or workforce shortfalls.

We elaborate on the reasons for all 14 programs’ schedule slips in their individual assessments in appendix I.

Programs with Cost Growth

Seven programs' costs have grown beyond the thresholds initially approved by DHS leadership after the department established its current acquisition policy in 2008. In total, the seven programs' acquisition cost estimates have increased by 40 percent, and their life-cycle cost estimates have increased by almost 18 percent, or \$9.7 billion. Figure 6 identifies the seven programs that have experienced cost growth, and the extent to which their acquisition and life-cycle cost estimates have increased.

Figure 6: Major DHS Acquisition Programs' Cost Growth



Source: GAO analysis of DHS data. | GAO-15-171SP

Program officials identified a number of reasons why their cost estimates increased.

- In some instances, these officials attributed cost growth to the introduction of new capability requirements. For example, officials from the USCG HC-130H/J program said their acquisition cost estimate increased when they increased the number of HC-130J aircraft they expected to procure. Officials from the NPPD NGN-PS program said their cost estimate increased when they included an

additional capability increment.

- In other instances, officials said they said they developed more reliable cost estimates. For example, the USCIS Transformation program's life-cycle cost estimate increased when the program accounted for seven additional years of operational costs to be consistent with industry standards. Similarly, the USCG HH-65 program's life-cycle cost estimate increased when the program accounted for USCG's decision to extend the aircraft's operational life from 2030 to 2039.

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

Programs without Baselines

Six programs lacked baselines approved by DHS leadership even though they were required by DHS policy. This prevented us from assessing whether the programs were on track to meet their cost estimates and schedules. DHS acquisition policy establishes that the program baseline is the agreement between the program manager, component head, and acquisition decision authority—often DHS's Deputy Secretary or USM—establishing how systems will perform, when they will be delivered, and what they will cost. Four of these programs are sponsored by CBP: LBI, NII, StAMP, and TACCOM Modernization. These programs received more than \$5 billion in appropriations through fiscal year 2014. A fifth program, FEMA's LSCMS, also lacks a department-approved baseline. In April 2014, based on the preliminary results of a DHS Office of Inspector General report that identified this deficiency, the acting USM directed FEMA not to initiate the development of any new LSCMS capabilities until further notice. As a relatively new program, USCG's MRS Aircraft program has not yet had its baseline approved. The MRS Aircraft program was established in October 2014 when DHS leadership directed USCG to restructure the HC-144A Maritime Patrol Aircraft program to accommodate the addition of 14 C-27J aircraft.¹²

We have previously reported on this issue. In September 2012, we found that 43 of 63 major acquisition programs lacked a department-approved baseline. At that time, we recommended DHS ensure all major acquisition

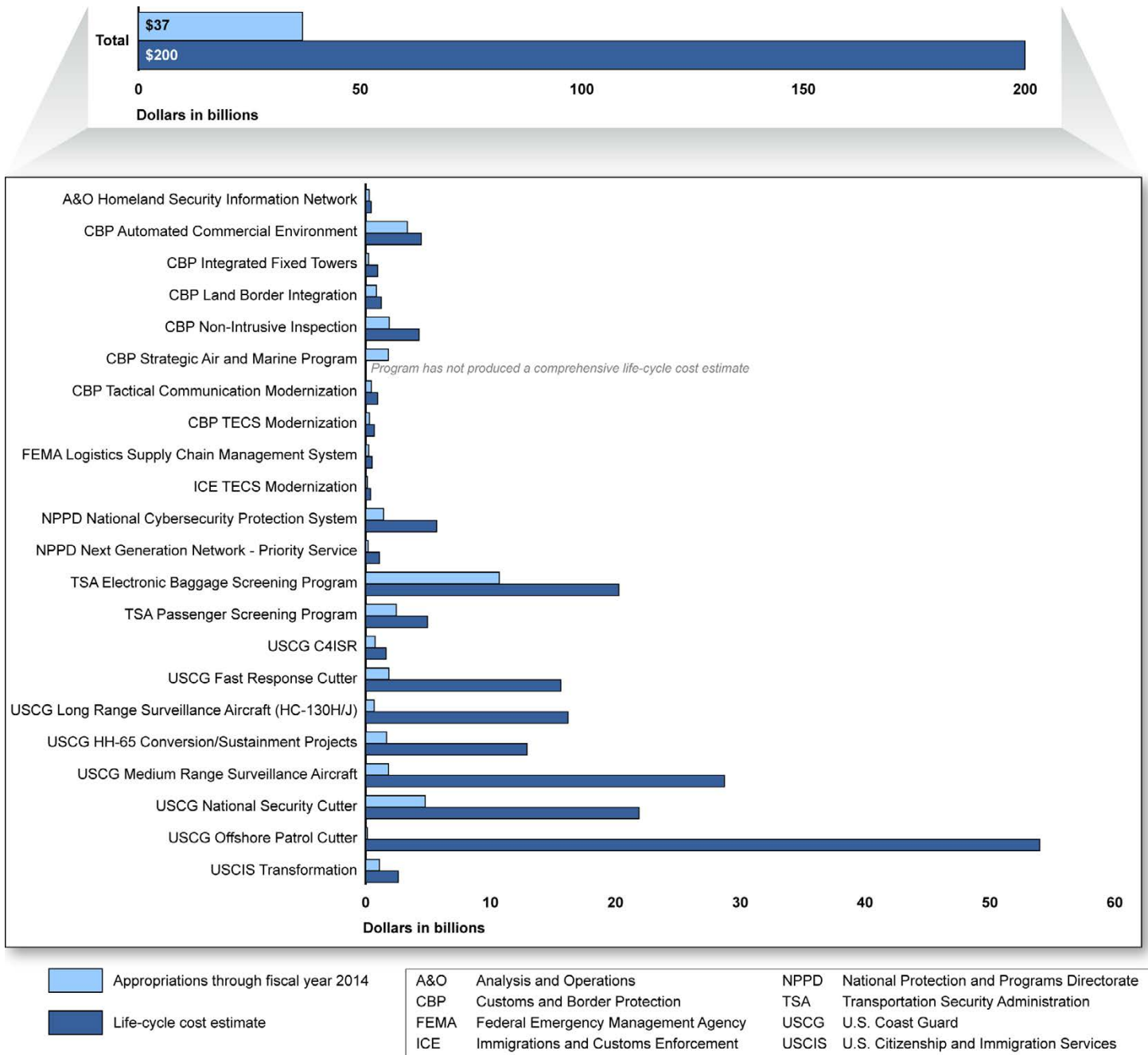
¹² We are issuing a separate report focused on the transfer of the C-27J aircraft from the Air Force to the Coast Guard.

programs fully comply with DHS acquisition policy by obtaining department-level approval for program baselines before approving their movement through the acquisition life cycle. The department concurred with this recommendation, but until DHS ensures full compliance with its policy, as we previously recommended, department leadership and Congress will be hindered in their efforts to hold the programs accountable for their performance. PARM officials said it is realistic to expect DHS leadership can approve baselines for five of the six programs by the end of fiscal year 2015. The exception is FEMA LSCMS, which needs an approved life-cycle cost estimate before it can submit its baseline to DHS leadership for approval.

Future Funding Requirements

For the 22 programs we reviewed, DHS reported Congress had appropriated more than \$37 billion through fiscal year 2014, but DHS will require much more funding in the future to fully execute these programs. In aggregate, these programs' life-cycle cost estimates total nearly \$200 billion. Life-cycle cost estimates account for all past, present and future costs, spanning development, production, deployment, sustainment, and disposal activities. These 22 programs, at a minimum, have initiated development efforts, and in most cases have initiated production. This means that while DHS has invested significant time and resources to date, it likely requires well over \$100 billion in future funding to fully execute the programs. Based on information reported in the FYHSP, the USCG programs account for the bulk—more than 85 percent—of the anticipated funding requirements. The Offshore Patrol Cutter program alone, which is expected to remain in service through 2065, accounts for almost \$54 billion, while the other six USCG programs account for an additional \$86 billion. However, DHS officials told us they did not account for all of the appropriations allocated to USCG programs in the past when they reported this information to Congress. Specifically, they told us that they did not account for all of the operations and maintenance funding USCG allocated to its major acquisition programs. This shortfall hinders independent efforts to calculate the magnitude of DHS's future funding requirements. Nonetheless, figure 7 presents the 22 programs' appropriations through fiscal year 2014, as DHS reports them to Congress, adjacent to their respective life-cycle cost estimates, and provides a sense of the magnitude of future funding requirements.

Figure 7: Major DHS Acquisition Programs' Appropriations through Fiscal Year 2014 vs. Life-cycle cost estimates



Source: GAO analysis of DHS data. | GAO-15-171SP

Note: According to DHS officials, the appropriations data reported in the FYHSP do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs.

Therefore, the data in this figure do not reflect the complete amounts appropriated to the USCG programs.

According to a senior CBP official, the CBP Strategic Air and Marine Program (StAMP) has not produced a comprehensive life-cycle cost estimate because CBP's Office of Air and Marine is not set up to create such estimates. However, in January 2015, the Acting Deputy USM established that the ARB will review StAMP semiannually until the program is in compliance with DHS acquisition policy, which requires programs produce life-cycle cost estimates. DHS Instruction Manual 102-01-001, Acquisition Management Instruction/Guidebook, October 1, 2011 at 35.

We have previously concluded that DHS's major acquisition portfolio is not affordable, and recommended that the department update its resource allocation guidance to fully reflect key portfolio management practices.¹³ At that same time, we recommended DHS establish priorities across functional portfolios—such as cybersecurity, domain awareness, and law enforcement—and allocate resources accordingly in order to address its major acquisition funding gap. DHS concurred with both recommendations, but has not yet implemented them. We believe that fully implementing these recommendations would help DHS improve the affordability of its major acquisition portfolio.

The 22 Programs Are at Different Stages of Operational Testing and Assessments Did Not Always Address Key Performance Parameters

Nineteen of the 22 programs we reviewed had deployed capabilities, meaning that some capabilities had been delivered to operators. Fifteen of these 19 programs were operationally tested, while DHS leadership had exempted four of them. Operational testing is intended to help DOT&E determine how well a system will provide desired capability before the system is actually deployed.¹⁴ As part of this process, DOT&E issues letters of assessment that communicate an appraisal of the adequacy of an operational test, a concurrence or non-concurrence with the operational test report's conclusions, and any further independent analysis DOT&E conducted. DOT&E had assessed the operational test results for 13 of these 15 programs, and six of these 13 programs had passed the test. DOT&E did not assess two programs' test results. Table 3 identifies all 22 programs we reviewed, whether they had deployed capabilities, whether they were operationally tested, whether DOT&E assessed the results, and if so, whether the programs passed. Under

¹³ [GAO-14-332](#).

¹⁴ For the purposes of this review, our definition of operational testing includes operational test and evaluation, including initial and follow-on operational test and evaluation; operational assessment; and limited user test. We chose to define operational testing in this manner to develop a more comprehensive account of how DHS is testing its major acquisition programs.

DHS policy, programs generally should be operationally tested before deploying capabilities. Further detail is presented after the table.

Table 3: The Director of Operational Test and Evaluation’s (DOT&E) Assessments of Major Acquisitions

Component	Program	Program deployed capabilities	Program was operationally tested	DOT&E assessed test(s)	Program passed test(s)
Analysis and Operations (A&O)	Homeland Security Information Network (HSIN) ^a	X	X	X	
Customs and Border Protection (CBP)	Automated Commercial Environment (ACE)	X	X	X	
	Integrated Fixed Towers (IFT) ^a				
	Land Border Integration (LBI)	X	X		
	Non-Intrusive Inspection (NII) Systems	X			
	Strategic Air and Marine Program (StAMP)/Multi-Role Enforcement Aircraft ^a	X	X	X	
	Tactical Communications (TACCOM) Modernization ^a	X	X	X	
	TECS (not an acronym) Modernization ^a	X	X	X	X
Federal Emergency Management Agency (FEMA)	Logistics Supply Chain Management System (LSCMS) ^a	X	X	X	
Immigration and Customs Enforcement (ICE)	TECS (not an acronym) Modernization ^a				
National Protection and Programs Directorate (NPPD)	National Cybersecurity Protection System (NCPS)	X	X	X	X
	Next Generation Network – Priority Service (NGN-PS)	X			
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)	X	X	X	X
	Passenger Screening Program (PSP)	X	X	X	X
U.S. Coast Guard (USCG)	C4ISR ^b	X			
	Fast Response Cutter (FRC) ^a	X	X	X	
	HH-65 Conversion/Sustainment Projects	X	X		
	Long Range Surveillance Aircraft (HC-130H/J)	X			
	Medium Range Surveillance (MRS) Aircraft/HC-144A	X	X	X	X
	National Security Cutter (NSC) Offshore Patrol Cutter (OPC)	X	X	X	X
U.S. Citizenship and Immigration Services (USCIS)	Transformation	X	X	X	

Source: GAO analysis of DHS documentation and data. | GAO-15-171SP

^aAt risk program that we reviewed to provide insight into some factors that can lead to poor acquisition outcomes.

^bC4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.

Programs that Were Operationally Tested

Fifteen programs were operationally tested. DOT&E assessed the operational test results for 13 of these programs, and determined that six programs had developed systems that were effective and suitable, meaning the programs passed operational testing. However, one of the six programs, the USCG NSC, did not meet all of its key performance parameters during testing. Key performance parameters are capability/system attributes or characteristics that are considered critical or essential, and are required to successfully meet the DHS mission. Further, it was unclear whether systems developed by two of the other programs that passed operational testing had met all of their key performance parameters: CBP TECS Modernization inspection systems, and the USCG's HC-144A aircraft, which has now been incorporated within the new MRS Aircraft program. Of the 15 programs that were operationally tested, table 4 identifies the six that passed the tests, and the five with systems that clearly met their key performance parameters.

Table 4: Programs That Were Operationally Tested

Component	Program	Program passed operational testing	Assessment(s) clearly indicated key performance parameters were met
Analysis and Operations (A&O)	Homeland Security Information Network (HSIN) ^a		
Customs and Border Protection (CBP)	Automated Commercial Environment (ACE)		
	Land Border Integration (LBI) ^b		
	Strategic Air and Marine Program (StAMP)/Multi-Role Enforcement Aircraft ^a		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		
National Protection and Programs Directorate (NPPD)	National Cybersecurity Protection System (NCPS)	X	X
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP) ^c	X	X
	Passenger Screening Program (PSP) ^d	X	X
U.S. Coast Guard (USCG)	Fast Response Cutter (FRC) ^a		
	HH-65 Conversion/Sustainment Projects ^b		
	Medium Range Surveillance (MRS) Aircraft/HC-144A	X	
	National Security Cutter (NSC)	X	
U.S. Citizenship and Immigration Services (USCIS)	Transformation		

Source: GAO analysis of DHS documentation and data. | GAO-15-171SP

^aAt risk program that we reviewed to provide insight into some factors that can lead to poor acquisition outcomes.

^bDHS's Director of Operational Test and Evaluation (DOT&E) did not assess the test results.

^cDOT&E assessed nine EBSP systems, including four that DOT&E did not determine were effective and suitable.

^dDOT&E assessed seven PSP systems, including four that DOT&E did not determine were effective and suitable.

Programs That Passed Operational Testing

As reflected in table 4, DOT&E determined that six programs' systems were operationally effective and suitable, and clearly documented in the assessments that three of these programs had developed systems that met their key performance parameters: NPPD's NCPS, and TSA's EBSP and PSP. These programs have not yet completed all of their development efforts, and will require further operational testing in the

future. DOT&E determined that one of NCPS's five capability "blocks" was operationally effective and suitable, but the program has not yet demonstrated it can meet the requirements for its other blocks, including one that NCPS is currently deploying, and one that NCPS plans to deploy in the coming years. Additionally, DOT&E determined that three of the seven PSP systems were operationally effective and suitable, but identified problems with the other four. For example, DOT&E found that three PSP systems did not meet key performance parameters concerning the number of bags they were required to process per hour. As for EBSP, DOT&E determined that five of its nine systems were operationally effective and suitable. However, it was unclear whether three of these systems could meet all of their key performance parameters because they were not explicitly addressed in the DOT&E letters of assessment. Similarly, DOT&E determined that the USCG MRS program's HC-144A aircraft and two increments of the CBP TECS Modernization program's inspection system were effective and suitable, but it was again unclear whether they had met all of their key performance parameters because they were not explicitly addressed in the letters of assessment.

We found such ambiguity was a relatively common issue across DOT&E's letters of assessment. We reviewed 30 letters of assessment that DOT&E issued from 2010 to 2014, and we found that 11 did not clearly identify whether the respective systems met all of their key performance parameters. DHS testing policy establishes that DOT&E's role is to help determine whether a program is prepared to initiate deployments and that DOT&E will identify whether systems are operationally effective and suitable.¹⁵ However, the policy does not explicitly state that DOT&E must identify whether a system meets all of the key performance parameters set forth in its program baseline. This is an important distinction because there is not a consistent correlation between a system meeting all key performance parameters and being deemed operationally effective and suitable. For example, DOT&E determined that the CBP TACCOM Modernization system and the StAMP program's Multi-Role Enforcement Aircraft could meet their key performance parameters, but did not determine these systems were both operationally effective and operationally suitable. Alternatively, DOT&E did not determine that the USCG NSC could meet all of its key performance parameters, but did determine it was operationally effective

¹⁵ DHS Directive No. 026-06, May 22, 2009.

and suitable. In February 2015, DHS's DOT&E told us that DHS leadership decided to emulate the Department of Defense when it established DHS's test policy in 2009, and that DHS needs to revise the policy to more directly address key performance parameters, as well as cybersecurity and interoperability requirements.

DHS testing policy establishes that 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. To this end, DOT&E generally identified whether the programs' systems were operationally effective and suitable. However, without a specific discussion of whether systems met all of their key performance parameters in each letter of assessment, DHS leadership may not have all of the information needed to make deployment authorization decisions.

Programs That Did Not Pass Operational Testing

DOT&E did not determine that seven programs had developed systems that were both operationally effective and operationally suitable, including the CBP StAMP and TACCOM Modernization systems, which met their key performance parameters. In these two cases, DOT&E identified shortfalls with the operational tests themselves, rather than the systems. For example, the StAMP test evaluated the Multi-Role Enforcement Aircraft, but the test did not address the air interdiction capability, which does not have a corresponding key performance parameter. Additionally, the TACCOM Modernization test was not conducted over a sufficient period of time, and DOT&E could not determine whether the system was operationally suitable, although it was deemed operationally effective. DOT&E did not determine the other five programs had developed systems that were operationally effective and suitable for various reasons, including technical challenges. DOT&E recommended that many of these programs schedule follow-on testing. In one case—USCG FRC—DOT&E recommended USCG field the FRC even though USCG had not yet demonstrated it had corrected severe deficiencies, citing USCG's ongoing mitigation efforts.

Programs That DOT&E Did Not Assess

DOT&E did not issue letters of assessment for two programs that were operationally tested: CBP's LBI and USCG's HH-65 Conversion/Sustainment Projects. Officials from CBP's LBI program told us that they were operationally tested and proceeded with deployments even though DOT&E had not assessed the test results. The Director told us his office did not provide an official assessment because the program did not request formal authorization from DHS leadership to deploy. In the case of the HH-65 program, the former DOT&E responsible for producing

letters of assessment when the program was operationally tested in 2009 said he did not do so because his office was not yet fully staffed, and he had not yet established a process for implementing DHS's test policy. The current DOT&E is not scheduled to issue a letter of assessment for the HH-65 program until fiscal year 2019 at the earliest, after all of the program's planned upgrades are tested.

We elaborate on each of the programs' test activities in their individual program assessments in appendix I.

Programs That Were Not Operationally Tested

Seven of the 22 programs we reviewed were not operationally tested. Three of these programs had not yet deployed capability, meaning they were not yet to the point when DHS policy suggests programs should be operationally tested. DHS leadership had authorized four to deploy capabilities without operational testing. Table 5 identifies the programs that were not operationally tested and whether they had deployed capability.

Table 5: Programs That Were Not Operationally Tested

Component	Program	Deployed capability
Customs and Border Protection (CBP)	Integrated Fixed Towers (IFT) ^a	
	Non-Intrusive Inspection (NII) Systems	X
Immigration and Customs Enforcement (ICE)	TECS (not an acronym) Modernization ^a	
National Protection and Programs Directorate (NPPD)	Next Generation Network – Priority Service (NGN-PS)	X
U.S. Coast Guard (USCG)	C4ISR ^b	X
	Long Range Surveillance Aircraft (HC-130H/J)	X
	Offshore Patrol Cutter (OPC)	

Source: GAO analysis of DHS documentation and data. | GAO-15-171SP

^aAt risk program that we reviewed to provide insight into some factors that can lead to poor acquisition outcomes.

^bC4ISR is an acronym for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.

DHS policy establishes that programs generally should be operationally tested before deploying capabilities, but DHS leadership allowed four programs to deploy capability without operational testing for various reasons: CBP's NII, NPPD's NGN-PS, and USCG's C4ISR and HC-130H/J programs. DOT&E determined that the NII program does adequate acceptance testing on commercial-off-the-shelf systems, and

that it does not need a TEMP or operational testing until CBP begins to pursue the next generation of NII capabilities. Similarly, DOT&E established that the NGN-PS program could use acceptance testing, among other things, to determine whether service providers are meeting requirements. As for the HC-130H/J program, the U.S. Air Force previously conducted operational testing on the HC-130J aircraft, and DOT&E determined that it did not need additional operational testing. In the case of the C4ISR program, DHS leadership approved USCG's plan to deploy capability without operational testing. USCG officials have decided to test the C4ISR system in conjunction with aircraft and vessels, rather than on a standalone basis, to save money and avoid duplication. The risks and benefits associated with deploying capability without operational testing vary on a program-by-program basis. This review was not designed to assess DHS leadership's rationale for these deployment decisions. However, we did identify that the USCG C4ISR system's key performance parameters were not specifically evaluated during past aircraft and vessel tests, and in 2014 we recommended USCG fully integrate C4ISR assessments into other assets' test plans or test the C4ISR program independently.¹⁶ USCG concurred with this recommendation, and stated it would implement it in fiscal year 2015.

We elaborate on each of the programs' test activities in their individual program assessments, presented in appendix I.

Increased Focus On Developmental Testing

Going forward, DOT&E has expressed interest in becoming more involved in testing earlier in the development process to increase influence over program execution. The Director told us that this would help mitigate risk for all types of programs, particularly those that are fielding IT-centric systems. PARM officials and DOT&E representatives identified that DHS's current policy for operational testing is not appropriate for IT-centric systems. DOT&E explained that key decisions are often made earlier in the development process, particularly when IT programs are using an agile software development approach, which typically delivers new capabilities every one to eight weeks. Operational testing is often conducted after these key decisions have already been made, meaning operational testing was not conducted early enough to

¹⁶ GAO, *Coast Guard Acquisitions: Better Information on Performance and Funding Needed to Address Shortfalls*, [GAO-14-450](#), (Washington, D.C.: June 5, 2014).

inform the key decisions and mitigate risk as intended by DHS testing policy. DHS is working to determine how test activities should inform agile software development programs' key decisions in the future. DOT&E has stated that operational test agents should be more involved with developmental testing in the future.

DHS Is Taking Steps to Address Enduring Challenges but Certain Component-Specific Issues May Hinder Oversight

DHS acquisition programs continue to face staffing, funding, and requirements issues that we previously identified were prevalent department-wide.¹⁷ These challenges increase the likelihood that acquisition programs will cost more and take longer to deliver capabilities than expected. DHS leadership is aware of these problems and has taken some steps to address them, but it will likely take years to fully resolve them. Additionally, we found that certain issues were particularly prevalent at particular components. Each of these component-specific issues makes it more challenging for DHS headquarters and Congress to exercise oversight.

Staffing Shortfalls

DHS headquarters reported that 21 of the 22 programs we reviewed faced shortfalls in their program office workforce in fiscal year 2014. These shortfalls can pertain to such positions as program managers, systems engineers, and logisticians. However, officials from 15 of the 21 programs did not identify negative effects from these shortfalls, suggesting that officials at DHS headquarters and program offices have different views on staffing needs. The Executive Director of PARM acknowledged that standardized staffing templates do not always account for the varying quality of people, or particular aspects of specific programs, and said that PARM officials developed the templates to help prioritize future staffing assessments.

Funding Gaps

For the 22 programs in our review, we compared their estimated funding needs for fiscal years 2014 to 2018 to the amounts set forth in the Future Years Homeland Security Program report DHS submitted to Congress in fiscal year 2014. We found that 11 of the 22 programs face funding gaps of 10 percent or greater over this period, including five programs that face funding gaps of 30 percent or greater. These funding gaps can be caused

¹⁷ [GAO-12-833](#), [GAO-14-332](#).

by cost growth, unreliable cost estimates, requirements changes, revised funding priorities, and other factors.

We previously found that DHS's Chief Financial Officer had identified a 30 percent funding gap, from fiscal years 2014 to 2018, across the department's entire major acquisition portfolio.¹⁸ While we noted this acknowledgement was a positive step toward addressing the department's funding gap, funding gaps of this extent are likely to negatively impact program execution. For example, officials from six of the 22 programs in our review attributed schedule slips to past funding gaps. We have made prior recommendations that the Secretary of Homeland Security require the ARB to assess program-specific affordability tradeoffs at all of its meetings. In response, in June 2014, DHS's acting Chief Financial Officer established that the ARB would specifically address affordability issues during all program reviews, and as necessary, document explicit tradeoffs among cost, schedule, and capability requirements. This is an important step toward closing the department's acquisition funding gap.

Requirements Changes

We found that requirements changes were common across the 22 acquisition programs in our review. These are situations where programs have revised their requirements after they initiated efforts to obtain new capabilities. We have previously concluded that relaxing requirements can help mitigate affordability and schedule risks.¹⁹ These changes, however, can also indicate that a program is facing execution challenges or expanding its scope beyond what was initially envisioned. During this audit, we found programs changed requirements for various reasons. Some reduced them in response to technology development challenges or affordability issues. For example, the CBP TECS Modernization program worked with end users to eliminate certain capability requirements in order to reduce operating costs. Alternatively, the two TSA programs increased requirements in response to evolving threats and operator feedback. Several program officials said they changed their programs' requirements because they were not defined properly in the first place. For example, USCIS's Transformation program eliminated some of its requirements after determining they were unnecessarily

¹⁸ [GAO-14-332](#).

¹⁹ [GAO-12-833](#).

demanding and unrealistic. We elaborate on the programs' requirements changes in their individual assessments, presented in appendix I.

Component-Specific Concerns

We found certain issues that were particularly prevalent at three DHS components. These issues make it more difficult to determine how well the programs have been executed and can hinder the ability of DHS leadership and Congress to hold the programs and components accountable for acquisition outcomes.

- **CBP:** We found that DHS leadership had not baselined four of the seven CBP programs we reviewed in accordance with DHS policy, meaning there is no agreed upon standard against which program performance can be measured. These programs include StAMP, which has never produced a life-cycle cost estimate that accounts for all of the program's expected operations and maintenance costs. In this case, we determined that this omission may be understating the programs' future costs by billions of dollars. However, DHS leadership has recently increased its oversight of this program. For example, in January 2015, the Acting Deputy USM established that the ARB will review StAMP every six months until the program is in compliance with DHS acquisition policy, which requires comprehensive life-cycle cost estimates. PARM officials told us they expect DHS leadership can approve baselines for all four of the CBP programs by the end of fiscal year 2015. These would be positive steps to improve accountability.
- **TSA:** We found that both of the TSA programs in our review lacked traceability across their various baseline iterations, even though DHS acquisition policy establishes that program baselines should capture the overall historical record of a program's changes. The original baselines for these two programs have been revised multiple times and now include different systems and cover different time frames. In addition, some requirements have been dropped and some costs incurred under the programs have been excluded from their current baselines. For example, the 2014 version of the PSP program's baseline did not account for the Stand Off Detection project, which was estimated to cost \$267 million in the 2008 version of the PSP baseline. Not tracking changes clearly from one baseline to the next obscures how well the programs have been executed over time. These inconsistencies make it difficult to identify whether the programs are actually on track to meet their initial cost estimates and schedules, or the extent to which the programs costs have grown and

schedules have slipped.

- USCG: We found that the funding plans DHS presented to Congress in fiscal year 2014 for the USCG programs are incomplete, in that they do not account for all of the operations and maintenance funding USCG plans to allocate to its major acquisition programs. We previously found that the USCG funding plans presented to Congress in fiscal year 2012 had a similar shortfall.²⁰ Internal control standards for the federal government state that management should ensure there is adequate communication with external stakeholders that may have a significant impact on the agency achieving its goals.²¹ These persistent gaps in funding information reduce the value of the funding plans presented to Congress. They also obscure the affordability of USCG programs, which we have reported on since 2011.²² Similarly, in October 2014, DHS leadership expressed concerns about the affordability of USCG programs and directed USCG to conduct an affordability analysis. DHS headquarters officials said the USCG funding plans are not accurate because of the way the component's personnel are entering data into the FYHSP system. The other components' funding plans did not have this omission.

Conclusions

DHS leadership has taken a number of steps in recent years to improve acquisition management, establishing a policy that largely reflects key program management practices, and baselining many of its major acquisition programs. These steps have improved DHS's ability to manage these programs and enabled more robust oversight. Additionally, in fiscal year 2015, DHS officials are continuing to work to establish baselines for the programs—mostly under CBP—that lack them. However, most of the programs that have baselines are not delivering capability on time, which means operators in the field are being asked to do their jobs without the tools they have been promised. Additionally, many of these programs are costing more than DHS leadership had approved, effectively decreasing DHS's buying power and reducing the amount of capability the department will be able to afford in the future.

²⁰ [GAO-14-332](#).

²¹ GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

²² GAO, *Coast Guard: Action Needed As Approved Deepwater Program Remains Unachievable*, [GAO-11-743](#) (Washington, D.C.: July 28, 2011); [GAO-14-450](#).

We recognize that DHS leadership is responsible for making difficult tradeoff decisions about deploying imperfect solutions, but these decisions should be informed by the most relevant knowledge available, and that was not always the case. DOT&E generally identified whether systems were operationally effective and suitable, but in several instances, DOT&E did not explicitly identify whether the systems could meet the key performance parameters that DHS leadership established were required to successfully meet the DHS mission. Presenting this information to DHS leadership when deployment decisions are being considered would better inform those decisions.

Within this generally challenging environment, we found that some specific problems have endured, including staffing shortfalls and funding gaps. DHS headquarters is actively working to improve its understanding of the staffing shortfalls and the affordability requirement established in June 2014 may help close the department's acquisition funding gap. We found some other problems were specific to particular components, and it is less clear whether necessary steps are being taken to address those challenges. When program baselines, such as those from the two TSA programs, lack traceability over time, there is no clear way to determine whether promised capabilities are being delivered at the agreed upon cost. Additionally, the USCG's continued reporting of incomplete information on its planned operations and maintenance funding means decision makers cannot have knowledgeable deliberations about affordability trade-offs. This impact is larger than USCG itself. Given that the 7 USCG programs we reviewed currently appear to account for more than 85 percent of the future funding needs for all 22 programs in our scope, this shortfall hinders DHS leadership's ability to determine whether the department has realistic and achievable plans for delivering capabilities to front-line operators across all of DHS's homeland security missions.

Recommendations for Executive Action

We are making the following three recommendations to help improve major acquisition outcomes at DHS:

- To improve how operational testing informs deployment authorizations, we recommend the Secretary of Homeland Security ensure DOT&E explicitly address all of the relevant key performance parameters in each letter of assessment appraising operational test results.

-
- To improve DHS's management of major acquisition programs, we recommend the Secretary of Homeland Security ensure future baselines for all of TSA's major acquisition programs capture the overall historical record of change.
 - To more accurately communicate DHS's funding plans for USCG's major acquisition programs, we recommend the Secretary of Homeland Security ensure the funding plans presented to Congress in fiscal year 2015 are comprehensive and clearly account for all operations and maintenance funding DHS plans to allocate to each of the USCG's major acquisition programs.

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 three of our recommendations and provided estimated completion dates for each. DHS also provided technical comments that were incorporated, as appropriate.

We are sending copies of this report to congressional requesters 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 Offices 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

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

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

The Honorable Claire McCaskill
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Committee on Homeland Security
and Governmental Affairs
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Ranking Member
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The Honorable John Carter
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Committee on Appropriations
House of Representatives

The Honorable Scott Perry
Chairman
The Honorable Bonnie Watson Coleman
Ranking Member
Subcommittee on Oversight and Management Efficiency
Committee on Homeland Security
House of Representatives

The Honorable Jeff Duncan
House of Representatives

Appendix I: Program Assessments

This appendix presents individual assessments for each of the 22 programs we reviewed. Each of these assessments is two pages, presents information current as of January 2015, and includes 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.

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 baseline Department of Homeland Security (DHS) leadership approved after the department's current acquisition policy went into effect in November 2008. Because these baselines were approved at different times, the first as-of date varies across programs, and in some cases, a program did not have a baseline approved as of January 2015. The second timeline identifies when that program expected to reach its major milestones as of January 2015 based on an update the program office provided when it commented on a draft of the assessment. The second timeline also identifies any new major milestones that were introduced after the initial baseline 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 baseline approved after DHS's current acquisition policy went into effect to the program's expected costs as of January 2015 based on an update the program office provided when it commented on a draft of the assessment. This figure also identifies how much funding had been appropriated to the program through fiscal year 2014 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.

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Homeland Security Information Network (HSIN)

Analysis and Operations (A&O)

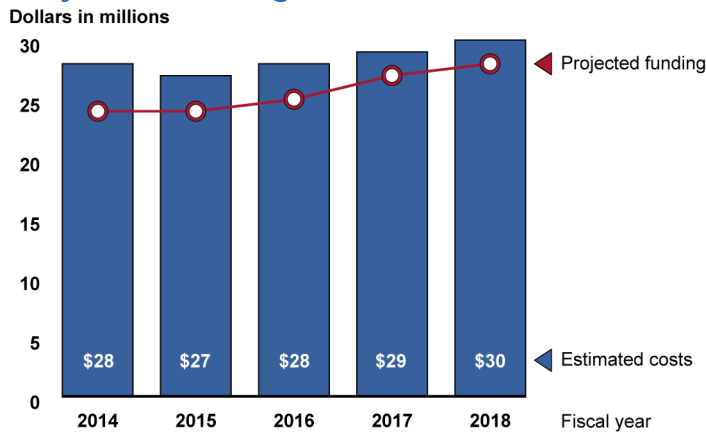


Source: A&O.

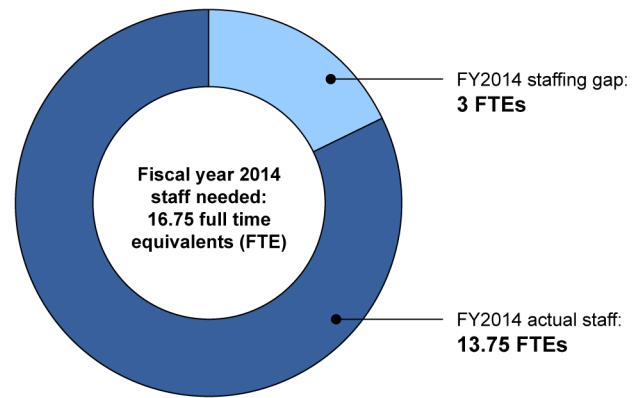
Program Description

HSIN is a secure web portal that federal, state, local, international, and private sector homeland security partners use to share 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.

Projected Funding vs. Estimated Costs



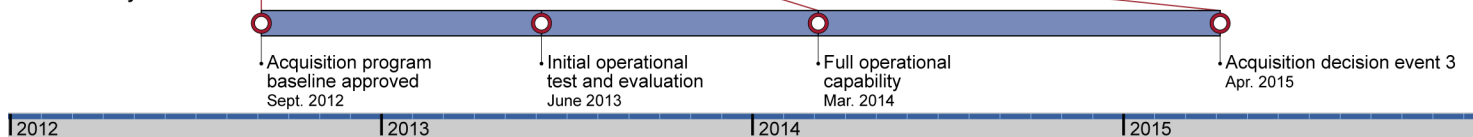
Program Office Staffing Profile



Schedule Changes over Time

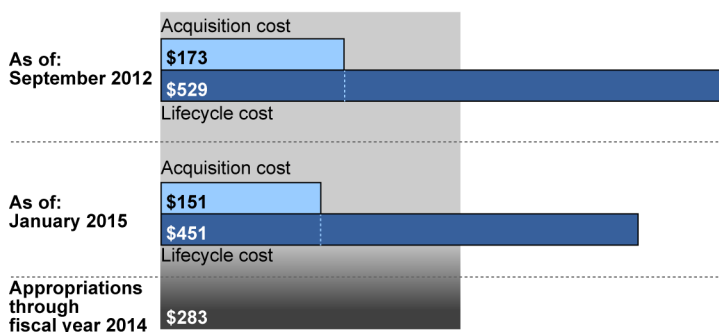
As of: September 2012

As of: January 2015



Cost Estimate Changes over Time

Dollars in millions



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. Additionally, DOT&E expressed concern that the program had not demonstrated its cybersecurity capabilities against a realistic threat.

Acquisition Strategy

The program uses an agile software development methodology. Program officials told GAO this methodology allows them to identify issues early in the development process. They explained the program develops software through month-long sprints, and that they generally release new capabilities every 3 months. However, they also said it can be challenging to link the program's top-level requirements to the individual sprints.

To facilitate the agile approach, the program awarded a hybrid firm-fixed-price and time-and-materials task order to Hewlett Packard, which has used modified commercial-off-the-shelf (COTS) software to develop the third HSIN release. Program officials said this was the best approach for rapidly delivering capabilities in response to evolving requirements. However, they also said that vendors are updating the COTS software more often than in the past, and that it can be difficult to determine when the program should procure new versions. The officials explained that the program incurs costs each time it procures a new version, but if they choose to skip an update, the implementation of subsequent versions can be technically challenging.

Program officials told GAO they anticipate DHS leadership will convene an Acquisition Decision Event (ADE) 3 in fiscal year 2015, which will provide senior leaders an opportunity to decide how the program office should manage future HSIN development efforts. They explained the program is continuing to develop new capabilities even though it has already met its KPPs, and that the program is working with DHS leadership to determine how much development work should constitute a new increment or program, and at what point DHS leadership should review future development efforts.

Program Execution

Program officials said, from September 2012 to September 2014, the program's full operational capability (FOC) date slipped approximately 7 months, and in January 2015, GAO concluded it may have slipped further. Program officials said the FOC date slipped from August 2013 to March 2014 because the program decided to migrate users from the old HSIN system before meeting the program's interoperability KPP. They said sequencing their efforts in this manner reduced costs by hundreds of thousands of dollars. They also said the program had to transition to a new development contractor during this time. However, in January 2015, GAO concluded the program may require additional work to achieve FOC because it had not yet met its availability KPP.

As for ADE 3, program officials said the date slipped from August 2013 to April 2015 because the program had to conduct operational testing, and because it had taken longer than expected to develop an updated life-cycle cost estimate (LCCE), which DHS acquisition policy requires at ADE 3.

From 2012 to 2014, the program's acquisition cost estimate and LCCE both decreased. Program officials said these

decreases were the result of increasingly accurate estimates rather than program changes.

Test Activities

DOT&E approved the program's Test and Evaluation Master Plan (TEMP) in 2012, but in October 2014, program officials said they planned to revise the TEMP to better account for the program's agile development methodology.

In August 2013, DOT&E issued a letter of assessment identifying that HSIN had not met availability and reliability requirements during operational testing. Additional operational testing was conducted in 2014, and DOT&E found that HSIN still had not met its availability KPP. Additionally, DOT&E raised concerns that realistic cybersecurity testing was not conducted, and recommended the program be reviewed again prior to a major expansion of its user base.

Other Issues

Program officials told GAO they anticipate HSIN will receive more funding than currently projected through fiscal year 2018, shrinking the program's projected funding gap. Nonetheless, they also said they plan to work with senior DHS leaders to prioritize the program's funding requirements, and that they will make trade-offs across new development efforts, sustainment activities, and the expansion of the user community.

DHS reported the program had an 18 percent staffing shortfall in 2014. In October 2014, program officials said they currently had adequate staff to manage the program, but that they wanted to increase their systems engineering capability.

Program Office Comments

HSIN is a user-driven information sharing platform connecting all homeland security mission partners across federal, state, local, territorial, tribal, international, and private sector partners within a wide spectrum of homeland security mission areas. HSIN capabilities are developed based on end user requirements from across the user base—and are reflected in regular product improvement releases. As a mission critical system, end users turn to HSIN to solve operational challenges; collaborate during daily operations, planned events and exercises, and for incident management; and finally, to share information more efficiently. Based on user feedback, the program is working with senior leadership to fund new functionality that will benefit all partners. The program is looking to bring on new federal outreach personnel to support managed information sharing. Recent testing results confirm that structured outreach engagement produces lasting results for the department's investment.

Automated Commercial Environment (ACE)

Customs and Border Protection (CBP)

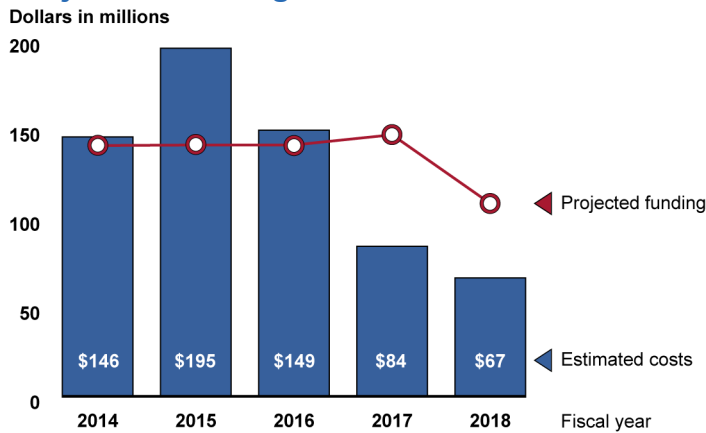


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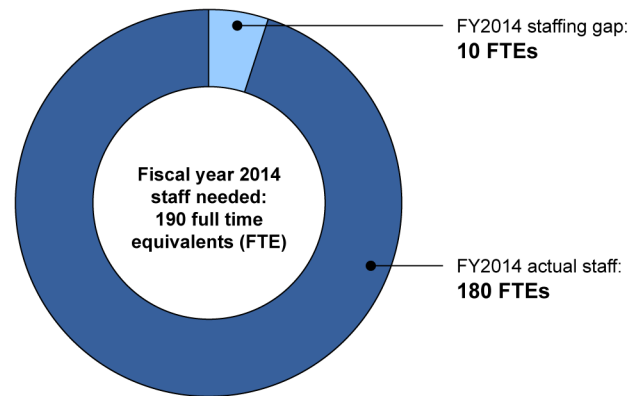
Program Description

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. The program was rebaselined in August 2013 after struggling to deliver capability for several years.

Projected Funding vs. Estimated Costs

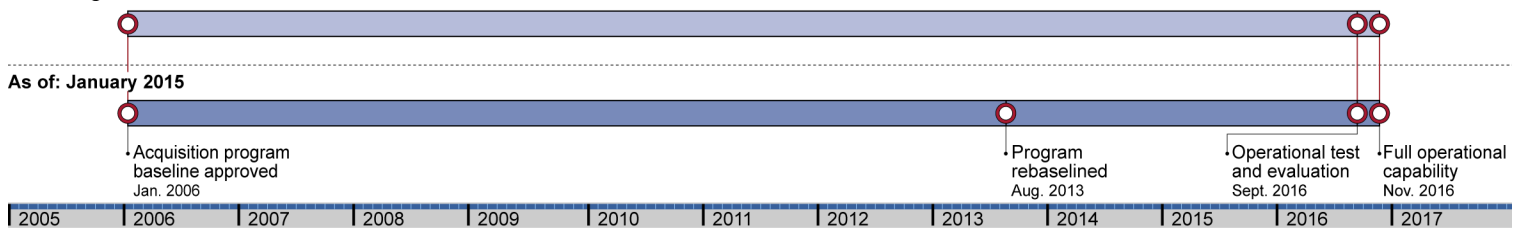


Program Office Staffing Profile

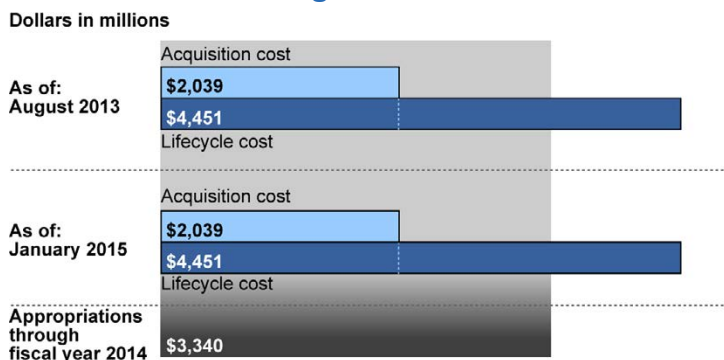


Schedule Changes over Time

As of: August 2013



Cost Estimate Changes over Time



Performance

In August 2013, CBP personnel 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. Department of Homeland Security (DHS) officials said ACE software releases had performed well as of July 2014, but ACE will not demonstrate the system can meet its KPPs until November 2016, when it achieves full operational capability (FOC).

Acquisition Strategy

DHS's Under Secretary for Management (USM) rebaselined ACE's cost, schedule, and performance parameters in August 2013, and 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 12 increments, which are to be completed every 13 weeks 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. 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 2010, DHS leadership directed CBP to halt all new ACE development. DHS did not authorize CBP to restart development efforts until 2013, when DHS's USM rebaselined the ACE program. At that time, ACE's FOC date slipped more than five years, and its life-cycle cost estimate increased by about \$1.1 billion. Going forward, CBP officials told GAO they anticipate ACE's projected funding levels will be adjusted to match the program's current cost estimate.

Test Activities

DHS's Director of Operational Test and Evaluation approved ACE's Test and Evaluation Master Plan in September 2013, and in April 2015 the program will conduct its first major operational test since rebaselining. DHS officials said that testing to date has focused on relatively small capability sets, and has occurred within the agile development teams. After each 2-week sprint, the teams demonstrate new capabilities to end users who confirm that lower-order requirements are met.

Prior to rebaselining in 2013, ACE conducted a major 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.

Other Issues

DHS officials said the department currently operates a mainframe that hosts a wide range of software capabilities spanning various components, including CBP's ACE program. According to program officials, DHS leadership directed all components to migrate off the mainframe by September 2015. If they do not, CBP will likely have to pay a monthly fee approaching \$4 million for continued use. Program officials stated they have made progress migrating ACE capabilities off the mainframe, but they may not complete this effort until December 2016.

Despite reporting a 5 percent staffing gap in fiscal year 2014, program officials told GAO that they had adequate staffing levels to execute the program.

Program Office Comments

ACE provided technical comments, which GAO incorporated as appropriate.

Integrated Fixed Towers (IFT)

Customs and Border Protection (CBP)

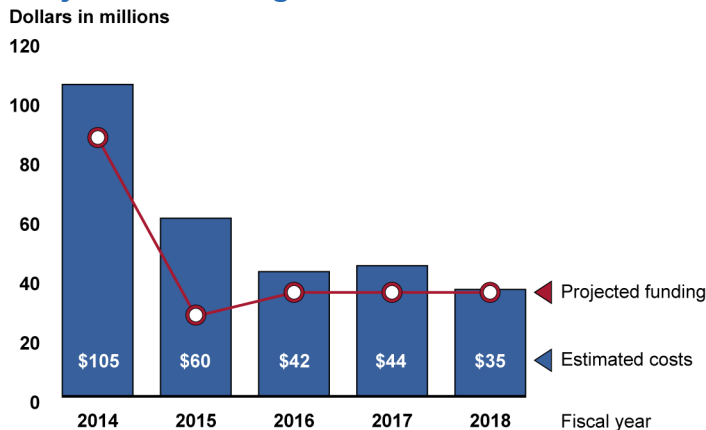


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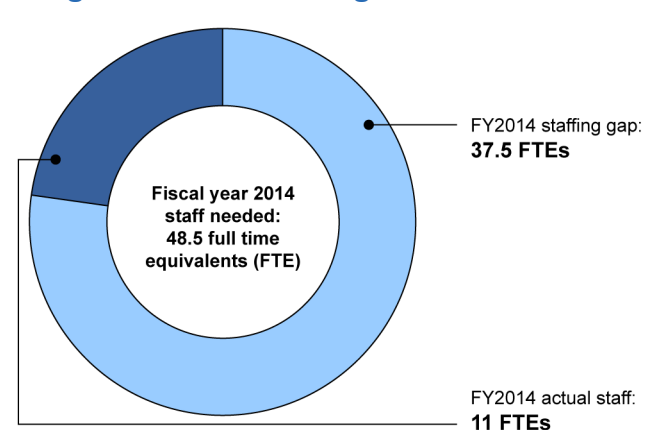
Program Description

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 planned to deliver 52 fixed surveillance tower units equipped with ground surveillance radar, infrared cameras, and communications systems linking the towers to command and control centers. CBP planned 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. However, CBP is reducing the program's scope in response to changing threats. GAO previously reported on the IFT program in [GAO-14-368](#).

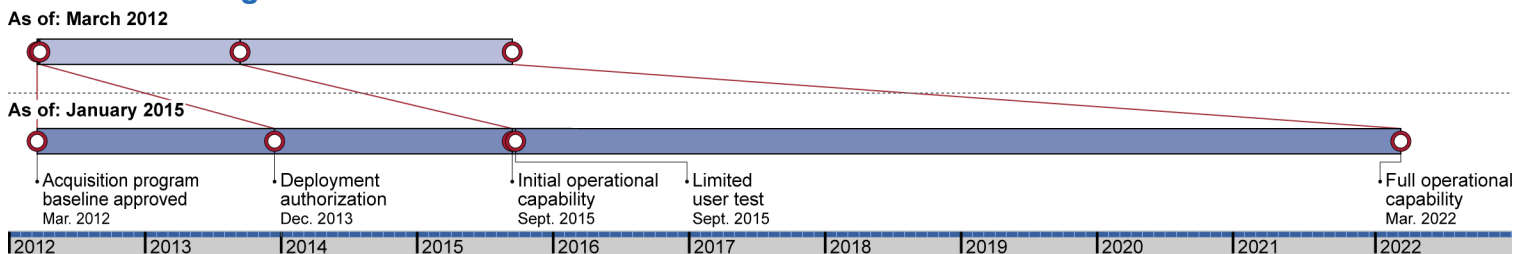
Projected Funding vs. Estimated Costs



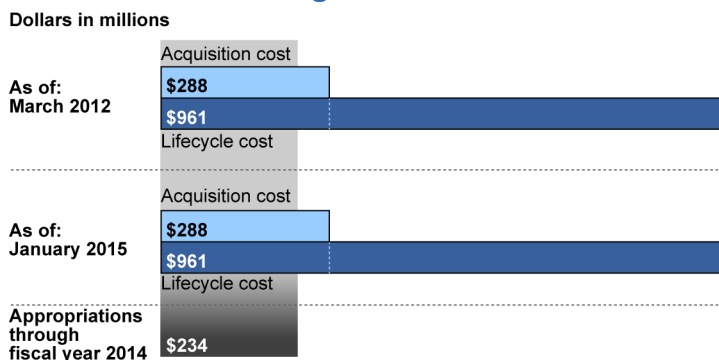
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

As of September 2014, CBP has not yet demonstrated whether the IFT systems can meet the program's three key performance parameters, but CBP did require that prospective contractors demonstrate their systems prior to awarding the program's procurement contract in February 2014. CBP plans to conduct a limited user test by the end of fiscal year 2015, after deploying the first seven IFT units. The Chief of the Border Patrol will use the test results to assess whether the IFT system meets operational requirements.

Program Governance

In March 2012, the DHS 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 Director of Operational Test and Evaluation (DOT&E) approving the IFT TEMP, which DOT&E approved 17 months later in November 2013.

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 issues 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 the program's procurement contract.

The program awarded the procurement contract to Elbit Fort Worth in February 2014, but it was protested, which caused delays. GAO sustained the protest, and CBP had to re-evaluate the offerors' proposals before it again decided to award the contract to Elbit. As a result, Elbit had not done any work at the deployment sites as of October 2014. According to program officials, the contract is valued at \$145 million, and covers the entire system acquisition cost for six AoRs and seven years of operations and maintenance.

Program Execution

From March 2012 to September 2014, the program's Initial Operational Capability (IOC) date slipped from the end of September 2013 to the end of September 2015. CBP officials said IOC slipped because the program released its request for proposals behind schedule, and then received more proposals than anticipated. The subsequent bid protest extended the slip.

CBP officials said these delays contributed to the IFT's full operational capability (FOC) slip, but funding shortfalls are the major contributor to the FOC delay. Originally, FOC was scheduled to occur by September 2015, but as of December 2014 it was scheduled for March 2022. The program anticipates it will receive less than half the fiscal year 2015 funding it needs to remain on track, and it anticipates its funding plan will be reduced further in the future. As a result of this funding shortage, the program anticipates it will only be able to deliver 24 of 52 planned IFT units through 2020, and that it will only deploy the IFT units to 3 of the 6 original AoRs. Further, the Chief of the Border Patrol has informed the program that 12 of the 28 remaining IFT units are not needed given changing threats. In December 2014, program officials told GAO the program's life-cycle cost estimate was being updated to inform a new APB, and that they planned

to brief DHS leadership on the updates in the second half of 2015.

Test Activities

The DOT&E-approved TEMP established that CBP will conduct a limited user test to validate operational requirements and determine how the IFT system contribute to CBP's mission. DOT&E will approve the test plan and issue a letter assessing the test results. As of January 2015, the test was scheduled for September 2015.

Other Issues

CBP reported the IFT program had less than 25 percent of the staff it needed in fiscal year 2014. However, program officials told GAO they effectively leverage staff from other offices, agencies, and support contractors when demands surge, and that they currently have enough staff to manage the deployment to 3 AoRs.

Program Office Comments

CBP provided technical comments, which GAO incorporated as appropriate.

Land Border Integration (LBI)

Customs and Border Protection (CBP)

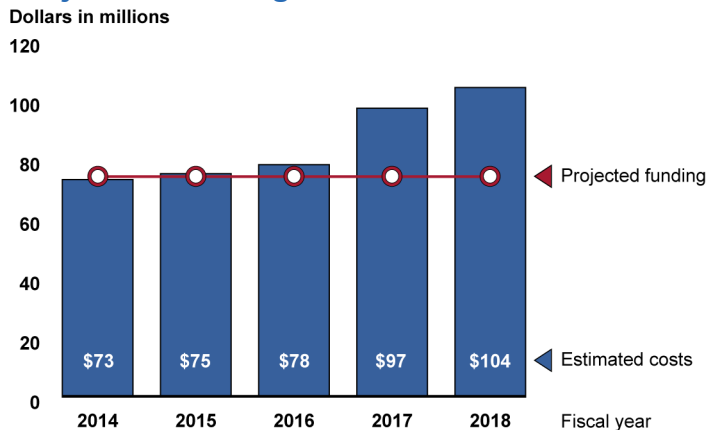


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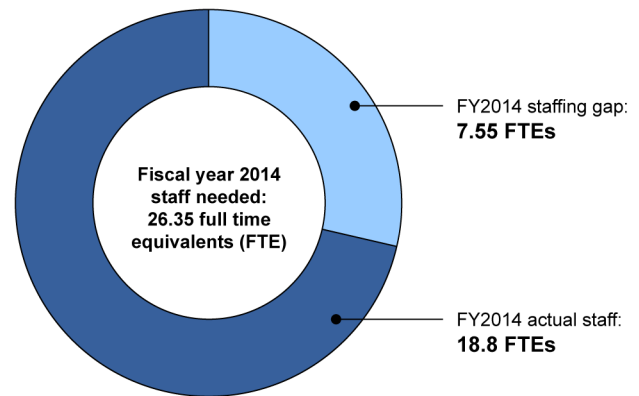
Program Description

The LBI program delivers License Plate Reader (LPR) and Radio Frequency Identification systems to 64 land border crossings. The program's ultimate goal is to facilitate legitimate trade and travel while enhancing border security. LBI systems are intended to enhance inbound, pedestrian and outbound vehicle processing, as well as Border Patrol checkpoint screening. LBI leverages technology delivered through a previous CBP acquisition program known as the Western Hemisphere Travel Initiative, which sought to enhance inbound vehicle processing. Department leadership has not yet approved an LBI baseline establishing the program's cost, schedule, and performance parameters.

Projected Funding vs. Estimated Costs

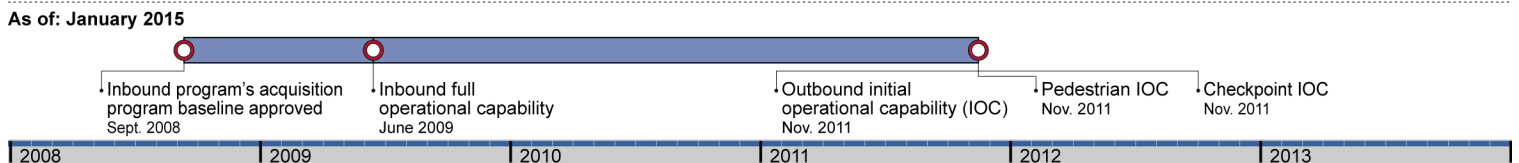


Program Office Staffing Profile

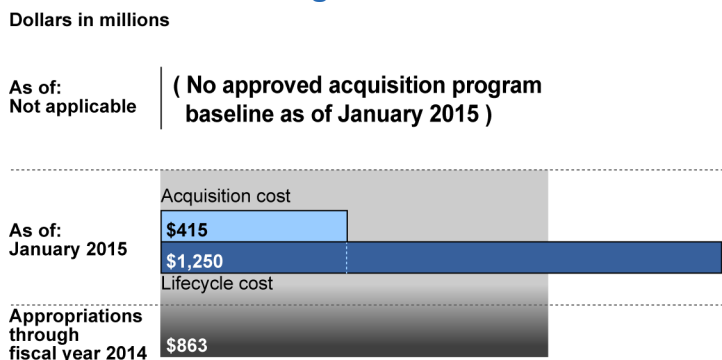


Schedule Changes over Time

(No approved acquisition program baseline as of January 2015)



Cost Estimate Changes over Time



Performance

According to program officials, LBI demonstrated its systems' performance against key performance parameters (KPP) during two operational tests in 2009 and 2012. Headquarters officials did not independently validate the results, but program officials said the systems met their respective requirements, with the exception of the checkpoint LPR system, which still does not perform as required. However, program officials stated that checkpoint LPR systems have improved incrementally over time.

Program Governance

The Department of Homeland Security's (DHS) Under Secretary for Management (USM) authorized CBP to transition from the Western Hemisphere Travel Initiative to LBI in May 2011. At that time, the USM authorized a limited deployment of LBI 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 actually did so. Nonetheless, program officials stated that CBP expanded the deployment of LBI capabilities from 51 traffic lanes at U.S. border crossings and checkpoints in 2011 to 158 lanes by the end of September 2014.

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. 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 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 efficient equipment to reduce costs.

Currently, CBP officials said they are attempting to extend the functional lifespan of LBI systems to reduce future costs, which is important because LBI is projected to receive less than 75 percent of its required funding across fiscal years 2017 and 2018. DHS leadership still has not approved an LBI APB defining the program, and CBP officials said any future deployments are contingent on available funding. In [GAO-12-833](#), GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions. However, in September 2014, LBI officials told GAO there was still a general sense of confusion about whether DHS's USM or CBP's CAE was responsible for overseeing the program.

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 has not yet approved a baseline that GAO could use to assess the program.

Test Activities

DHS's Director of Operational Test and Evaluation (DOT&E) approved LBI's Test and Evaluation Master Plan in November 2011, and the program conducted operational testing in January 2012; six months before DHS's USM approved the program's operational requirements. According to CBP officials, LBI's operational requirements were approved by CBP's CAE prior to the test, but were not

approved by the USM at that time because of department-level oversight challenges and delays they said were common between 2009 and 2012.

DOT&E did not validate the 2012 test results, but CBP officials told GAO that LBI systems met all KPPs during the 2012 operational test with the exception of the checkpoint LPR system, which still does not perform as required. According to program officials, checkpoint LPR systems cannot identify vehicles without front license plates.

Other Issues

Despite reporting an approximately 30 percent staffing gap for fiscal year 2014, LBI officials told GAO the program is adequately staffed.

Program Office Comments

In 2011, LBI incorporated the Western Hemisphere Travel Initiative and baselined the program to expand technology to outbound, pedestrian, and checkpoint processing. In May 2011, the USM authorized deployment of outbound, checkpoint and pedestrian technology; LBI did so and continued to implement technology. LBI will submit a revised APB to rebaseline the program and establish full operational capability. LBI has an operational imperative to secure the land border. LBI continually assesses key performance metrics to ensure operational goals are achieved for inbound and outbound LPRs. Although incremental improvements have been realized, checkpoints remain a challenge and LBI is exploring options for further improvement. LBI continues to meet mission requirements by prioritizing activities based on funding, need and return on investment to ensure a constant state of operational readiness in support of the flow of lawful trade and travel.

GAO Response

LBI states that the program was baselined in 2011, but as identified in the Program Governance section, the USM did not approve the program's APB, and had not done so as of January 2015.

Non-Intrusive Inspection (NII) Systems Program

Customs and Border Protection (CBP)

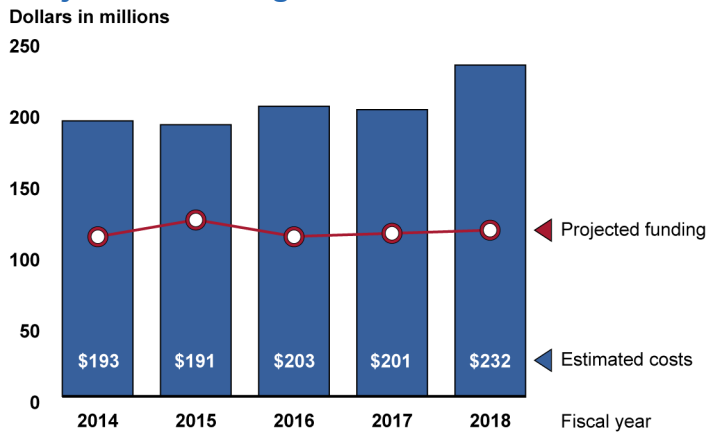


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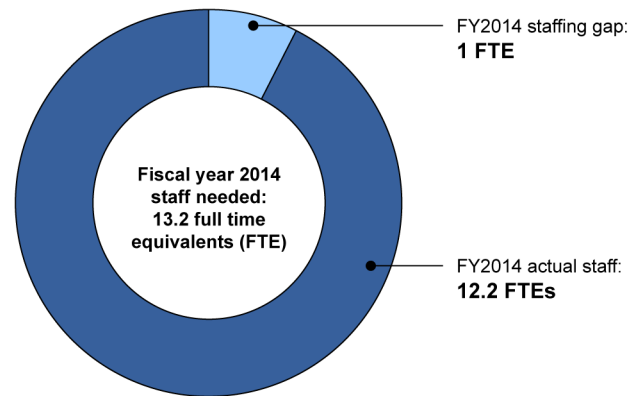
Program Description

The NII Systems Program supports CBP's interdiction of weapons of mass destruction, contraband, 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 contents of conveyances, such as trucks and cars, without breaching them. Small-scale NII systems include X-ray systems, fiber optic scopes, and other devices. Department leadership has not yet approved a baseline establishing the program's cost, schedule, and performance parameters.

Projected Funding vs. Estimated Costs

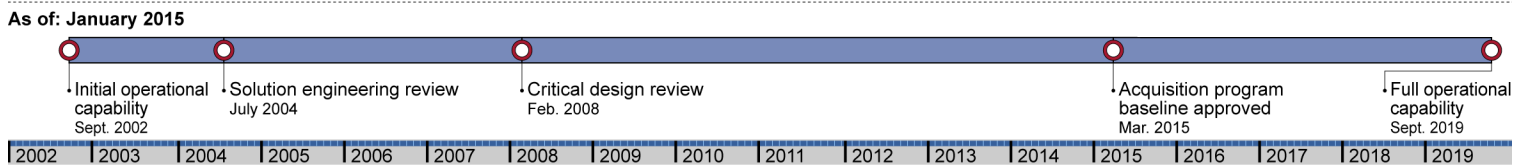


Program Office Staffing Profile



Schedule Changes over Time

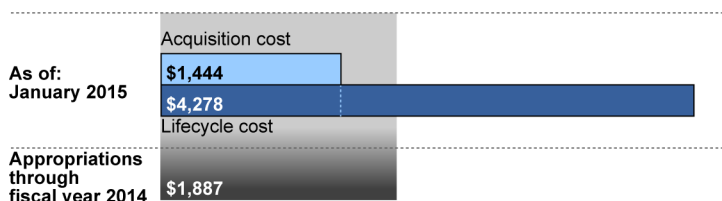
(No approved acquisition program baseline as of January 2015)



Cost Estimate Changes over Time

Dollars in millions

As of: Not applicable (No approved acquisition program baseline as of January 2015)



Performance

CBP officials told GAO the program has met 22 of its 24 key performance parameters (KPP). According to CBP officials, the program has not met the KPP for service coverage because it has not yet deployed 62 of the 376 large-scale NII systems it needs in the field. CBP believes it meets the KPP for examining 100 percent of the cargo identified for inspection; however, CBP lacks reliable examination data and may revise the examination KPP to make it measurable.

Program Governance

CBP has been deploying NII systems since the 1980s, but DHS leadership has not approved the NII program's Acquisition Program Baseline (APB) since DHS's current acquisition policy was established in 2008. In [GAO-12-833](#), GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions. CBP officials told GAO they plan to get an APB approved by DHS leadership in spring 2015. Currently, CBP officials said the program is focused on maintaining its fleet of aging NII systems, most of which will reach the end of their useful lifespan by 2020, and relocating equipment based on operational requirements. However, CBP is in the process of creating its 5- to 10-year vision for NII capabilities, which could lead to an expansion of the current NII program, or the creation of a new, separate acquisition program.

Acquisition Strategy

As of October 2014, CBP had procured 5,237 NII systems, and planned to procure an additional 755 through fiscal year 2019. These future procurements are expected to cost more than \$380 million. The NII program does not use a single, consolidated acquisition plan, but rather five acquisition plans tied to specific contracts for particular NII systems, which are commercial-off-the-shelf (COTS) products. CBP officials told GAO that they have identified multiple NII vendors, and that their competition for market share, including their response to CBP's needs, largely drives the development of new NII capabilities.

Program Execution

GAO is not assessing the extent to which the program is on track to meet its cost estimate or schedule because, as of January 2015, DHS leadership had not approved a baseline that GAO could use to assess the program.

Test Activities

The NII program does not have an approved Test and Evaluation Master Plan (TEMP). CBP officials said they drafted a TEMP in the 2008 to 2009 time frame, but DHS leadership ultimately decided that a TEMP was not warranted given that NII systems are COTS products largely proven through past performance. For this same reason, CBP officials said the program is conducting limited operational testing until CBP begins to pursue the next generation of NII capabilities. CBP officials told GAO that the procurement contracts for the NII systems require they meet many of the programs' key capability requirements, and that these systems are tested at the factory in accordance with the statement of work. They said additional tests are conducted upon delivery of the system, and that the program office procures contractor support for the testing efforts.

Other Issues

According to CBP officials, the NII program's anticipated funding shortfall is its greatest risk. They explained that deployed NII systems are aging and will need to be replaced, and that CBP needs to procure additional systems in order

to achieve its desired service coverage. CBP officials said the program's full operational capability date will slip one year for each year the program is underfunded. Additionally, the NII program reported it required one more FTE. Program officials told GAO that lengthy background investigations have slowed efforts to fill the position, and that because of hiring freezes CBP has not been able to replace staff who have left. As a result, CBP has relied increasingly on contractor support, which CBP officials said increases program costs. CBP officials also said that the staffing gap limits the time program officials have to attend some DHS-sponsored training on how to improve program execution.

Program Office Comments

CBP provided technical comments, which GAO incorporated as appropriate.

Strategic Air and Marine Program (StAMP)

Customs and Border Protection (CBP)

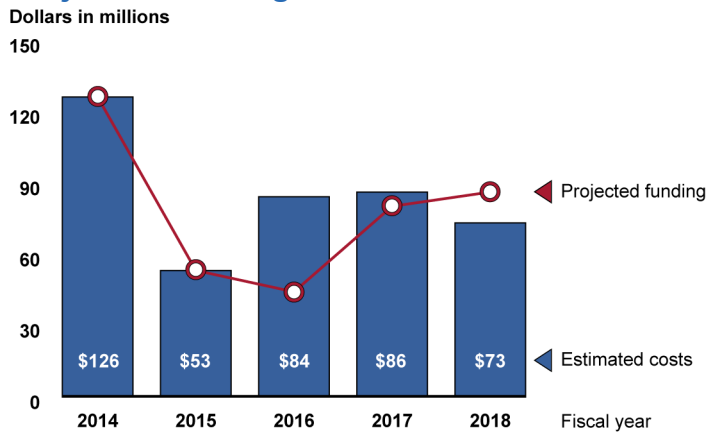


Source: CBP.

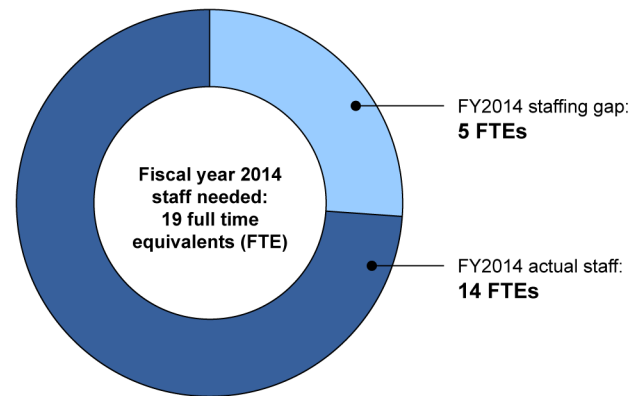
Program Description

CBP established StAMP in 2006 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 ground and marine interdiction operations. CBP has completed its acquisition of the majority of the StAMP assets. However, the program is continuing to extend the service life of CBP's P-3 aircraft, convert UH-60 Black Hawk Helicopters, and acquire the Multi-Role Enforcement Aircraft (MEA), Coastal Interceptor Vessel (CIV), and Riverine Shallow Draft Vessel (RSDV). Department leadership has not yet approved a baseline establishing the program's cost, schedule, and performance parameters.

Projected Funding vs. Estimated Costs

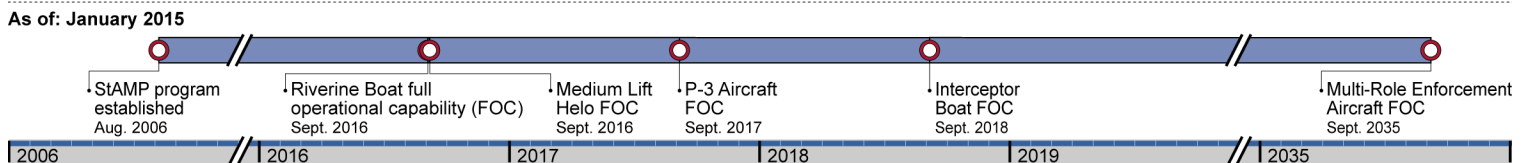


Program Office Staffing Profile



Schedule Changes over Time

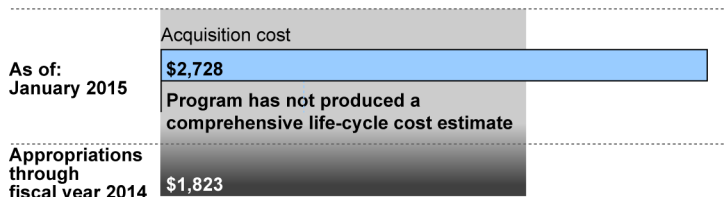
(No approved acquisition program baseline as of January 2015)



Cost Estimate Changes over Time

Dollars in millions

As of: Not applicable (No approved acquisition program baseline as of January 2015)



Performance

StAMP officials told GAO the MEA, UH-60, and RSDV have met all of their key performance parameters (KPP). However, the department's Director of Operational Test and Evaluation (DOT&E) has recommended StAMP take 28 actions to improve the MEA's performance, and DOT&E has not assessed the UH-60 or RSDV. Program officials told GAO they do not know if the P-3 has met its operational availability KPP. The CIV is not yet in production, and StAMP has not yet assessed its performance.

Program Governance

StAMP was established before the Department of Homeland Security (DHS) issued its current acquisition policy in 2008, and CBP officials maintain that the policy does not apply to the program. StAMP does not have a department-approved Acquisition Program Baseline (APB), which would document agreement between the program manager, CBP Commissioner, and DHS leadership on critical cost, schedule, and performance parameters. In [GAO-12-833](#), GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions, and DHS concurred.

Additionally, the life-cycle cost estimates (LCCE) the program provided to GAO in September 2014 did not include operations and maintenance (O&M) costs, and thus significantly underestimated the full cost of StAMP. For perspective, a draft 2008 APB reported acquisition costs of about \$1.3 billion for the MEA, but estimated O&M costs of \$3.5 billion, meaning the LCCE for the MEA could be approximately \$4.8 billion.

The Acquisition Review Board (ARB)—DHS’s senior-most acquisition oversight body—did not meet to review StAMP between September 2008 and November 2014. However, in October 2014 and January 2015, the acting Under Secretary for Management (USM) issued Acquisition Decision Memoranda (ADM) directing StAMP to take numerous actions to update or complete required acquisition documentation, such as cost estimates that include acquisitions, operations, and sustainment costs. In addition, the program was directed to provide a semiannual program review to the ARB until it proves compliance with current acquisition policy.

Acquisition Strategy

The StAMP program has primarily pursued commercial and government-off-the-shelf products to satisfy user requirements, but this approach has not mitigated all technical challenges. For example, the contractor initially responsible for delivering the CIV performed poorly, and StAMP is in the process of selecting a different contractor to meet the CIV requirements. It plans to award the new CIV contract in early 2015. Similarly, the MEA has not performed well during testing, and going forward, CBP plans to award a new MEA production contract. However, the October 2014 ADM established that StAMP may not procure or accept the transfer of additional MEA without DHS leadership’s approval. Further, the UH-60 acquisition plan has changed significantly over the years and CBP is currently pursuing a mixed plan that will procure new aircraft and upgrade much of the existing fleet.

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 has not yet approved a baseline that GAO could use to assess the program.

Test Activities

DHS’s DOT&E did not approve a Test and Evaluation Master Plan (TEMP) for the StAMP program and has not validated operational test results for the P-3, UH-60, and RSDV. CBP assessed these assets between 2010 and 2014. In January 2015, the acting USM directed CBP to update the TEMPs for the P-3 and UH-60 to reflect current testing requirements. However, the acting USM did not address the RSDV.

DOT&E approved a TEMP for the MEA in 2011 and issued its review of its test results in 2013, concluding that additional testing was needed to assess the MEA’s air interdiction capabilities. DOT&E also said StAMP needed to take specific actions as soon as possible to address flight safety issues. CBP officials said they addressed flight safety issues in January 2014 and plan to conduct another round of operational testing in spring/summer 2015. In January 2015, the acting USM directed CBP to update the TEMP for the MEA.

The program plans to schedule operational testing for the CIV after it awards the new production contract.

Other Issues

StAMP officials told GAO the program has received insufficient funding for most of its history. The program office has managed annual shortfalls by, among other things, altering delivery schedules and truncating projects. Going forward, it is unclear whether the program is projected to receive adequate funding because its LCCE does not include O&M costs.

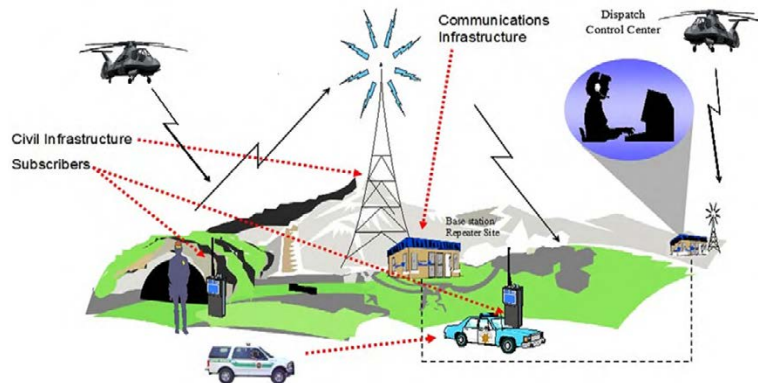
A StAMP official said the program had serious staffing shortfalls after losing 120 staff in 2010, which affected the program office’s ability to maintain program documentation and adhere to schedules. However, CBP reported to DHS headquarters that the program only needed 19 FTEs in 2014.

Program Office Comments

StAMP provided technical comments, which GAO incorporated as appropriate.

Tactical Communication (TACCOM) Modernization

Customs and Border Protection (CBP)

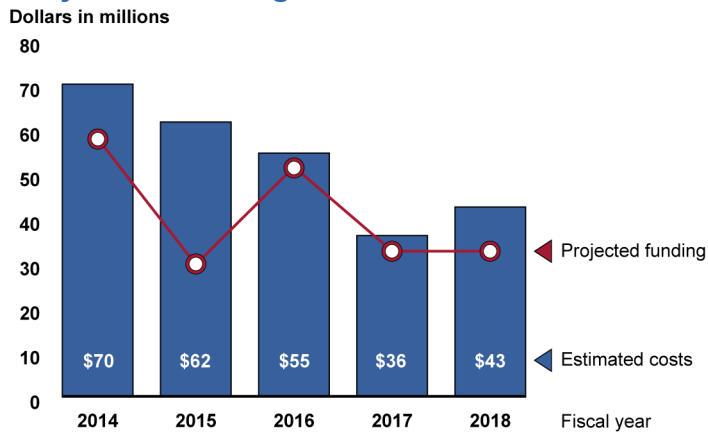


Program Description

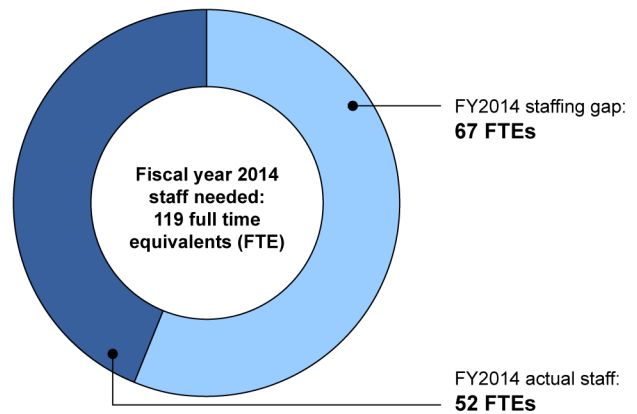
The TACCOM program is intended to upgrade land mobile radio (LMR) infrastructure and equipment. It is replacing obsolete radio systems with modern digital systems in 20 different service areas, linking these service areas to one another through a nationwide network, and building new communications towers 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. However, department leadership has not yet approved a baseline establishing the program's cost, schedule, and performance parameters. In addition to this assessment, GAO is currently conducting a more detailed evaluation of the program.

Source: CBP.

Projected Funding vs. Estimated Costs

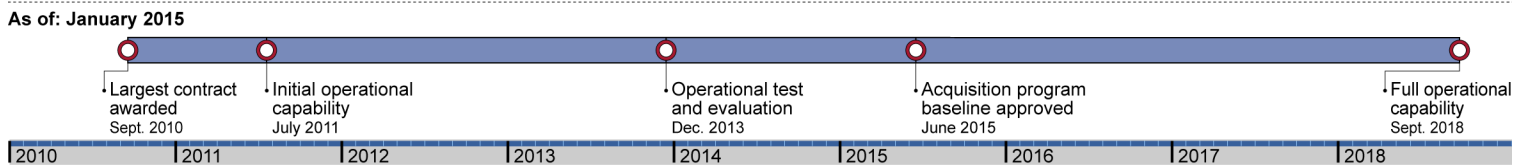


Program Office Staffing Profile



Schedule Changes over Time

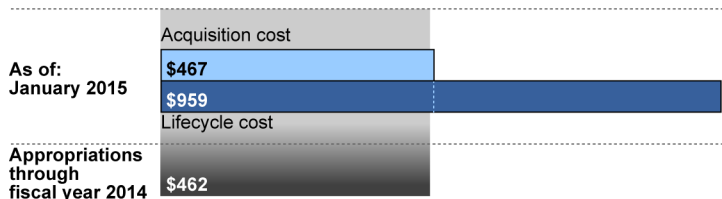
(No approved acquisition program baseline as of January 2015)



Cost Estimate Changes over Time

Dollars in millions

As of: Not applicable (No approved acquisition program baseline as of January 2015)



Performance

In December 2013, the department's Director of Operational Test and Evaluation (DOT&E) validated that the TACCOM program's systems could meet their minimum acceptable level of performance. 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 radio systems with modern digital systems, but it will not expand coverage. The funding needed for tower construction in one service area was adequate to replace systems in the 15 remaining service areas.

CBP officials told GAO that the program is primarily purchasing the communications systems and components from select contractors that are qualified to meet CBP's interoperability requirements. However, the program is upgrading CBP's communications systems to meet industry standards, which would allow CBP to leverage other contractors' solutions, increase competition, and likely decrease costs.

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, and that it will not be completed until September 2018.

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 has not yet approved the program's Acquisition Program Baseline (APB), which would establish 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 October 2014, CBP officials told GAO they are developing the TACCOM APB, and anticipate DHS leadership will approve it by June 2015. In [GAO-12-833](#), GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions.

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 has not yet approved a baseline that GAO could use to assess the program.

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.

Going forward, the program will 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

The TACCOM program reported a 56 percent staffing gap, and program officials said this gap is slowing program execution. Going forward, program officials said projected funding shortfalls will likely delay the program as well.

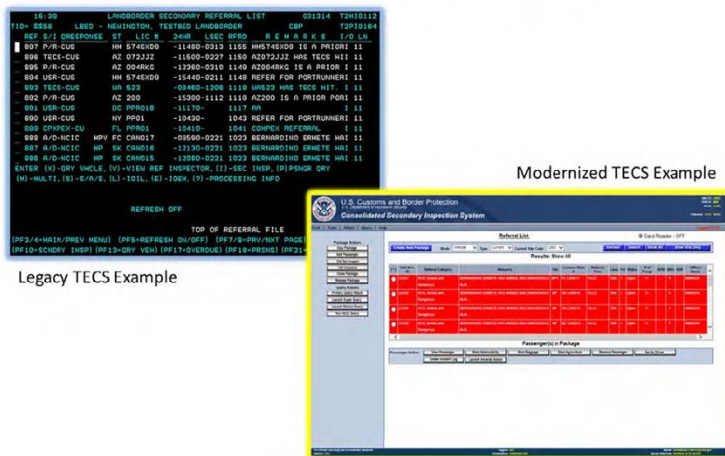
Program Office Comments

CBP provided technical comments, which GAO incorporated as appropriate.

TECS Modernization

Customs and Border Protection (CBP)

Legacy TECS vs Modernized TECS

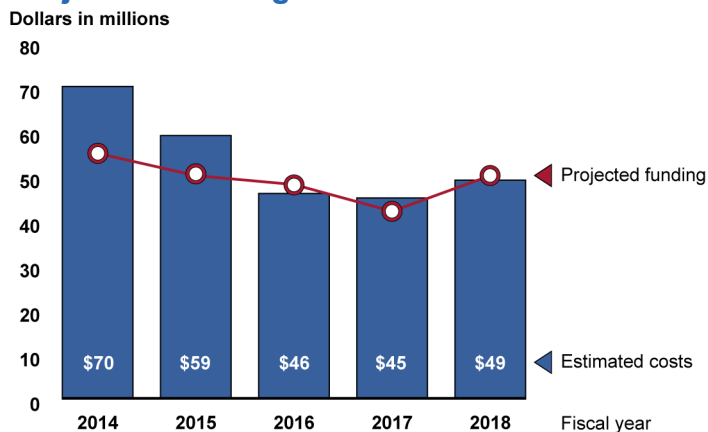


Program Description

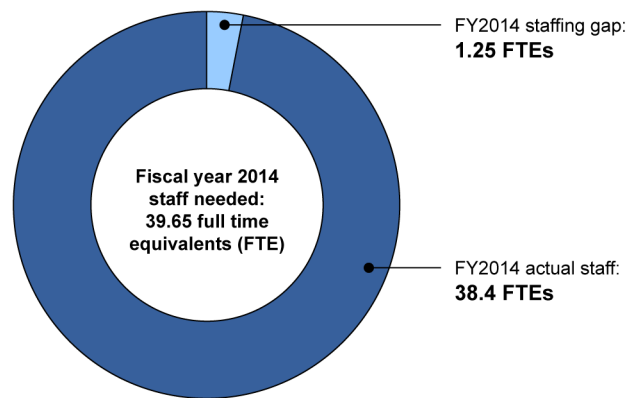
According to CBP, the legacy TECS (not an acronym) system is the main source of information used to determine the admissibility of persons wanting to enter the country. However, the legacy TECS system uses obsolete information technology that is increasingly difficult and expensive to maintain, and does not support CBP's evolving mission needs. In 2008, the Department of Homeland Security (DHS) initiated efforts to modernize TECS and provide users enhanced capabilities for accessing and managing data. Immigration and Customs Enforcement is executing a separate TECS Modernization program, which GAO is also assessing in this report. GAO previously reported on CBP's TECS Modernization program in [GAO-14-62](#).

Source: CBP.

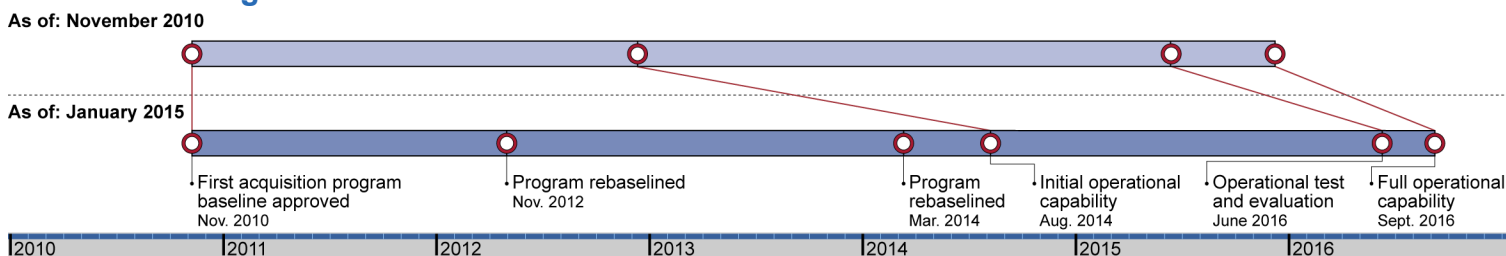
Projected Funding vs. Estimated Costs



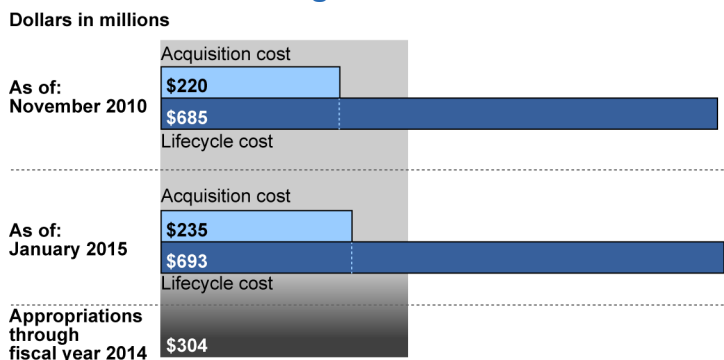
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

In September 2014, CBP officials told GAO the program had met three of its six key performance parameters (KPP), which establish goals for query response times and the percentage of time the system is available for operations. For the three outstanding KPPs, the officials told GAO the program had not yet delivered the associated capabilities. According to officials, between 2012 and 2014, CBP relaxed or eliminated many KPPs based on user-community feedback.

Acquisition Strategy

To modernize TECS, CBP is replacing its aging mainframe-based platform with a mixture of hardware, and custom-developed and commercial software, and is using a web portal to deliver capabilities to users within CBP and across other partner agencies within DHS. The TECS Modernization program consists of five projects, and officials stated CBP is using both an agile software development methodology and a more traditional approach. Under the agile software development methodology, programs deliver software in small, short increments rather than long, sequential phases, which allows programs to measure interim progress.

In June 2008, CBP awarded Bart & Associates, Inc. a contract to modernize TECS, and from 2009 to 2012, CBP exercised options on this contract. Among other things, Bart & Associates, Inc. developed software and provided operations and maintenance support. However, the program experienced delays during this period, and officials said that in 2013, CBP awarded a new development and support contract to Northrop Grumman. In February 2013, Bart & Associates, Inc. and two other companies 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.

Program Execution

In November 2010, DHS's Under Secretary for Management (USM) approved the initial Acquisition Program Baseline (APB) for CBP TECS Modernization, which established the program's cost, schedule, and performance parameters. DHS's USM approved a revised APB in November 2012 after the program experienced various technical difficulties, expanded requirements, and suffered delays due to a real-world terrorist threat. The USM approved another revised APB in March 2014 to account for additional requirements changes. 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 full operational capability date slipped from September 2015 to March 2016.

Test Activities

DHS's Director of Operational Test and Evaluation (DOT&E) approved the CBP TECS Modernization program's revised Test and Evaluation Master Plan (TEMP) in September 2012. In November 2014, DOT&E conditionally approved an updated TEMP, but requested more information on how cybersecurity threats will be tested by June 2015, when the next TEMP update is due. According to the program manager, part of the program's testing strategy is to conduct periodic field tests once certain capabilities are delivered. In September 2014, the program manager said the program had successfully completed two such field tests, and that a third was scheduled for February 2015. However, DOT&E is not scheduled to independently validate the program's performance until after the program's formal operational testing is completed in June 2016.

Other Issues

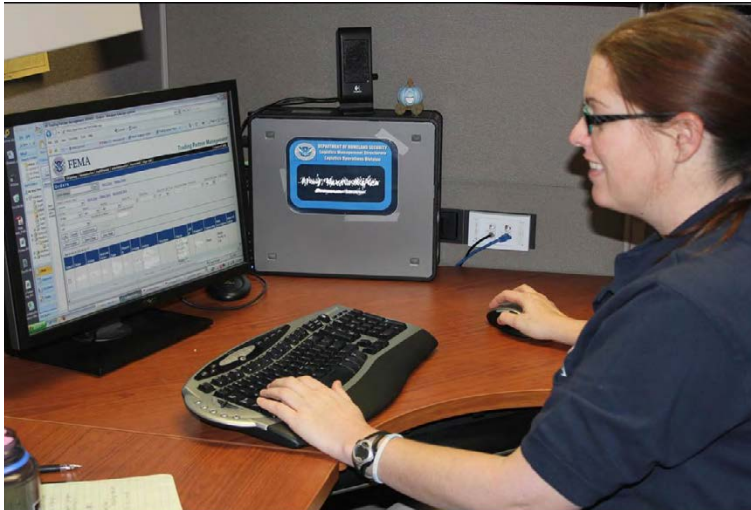
CBP reported the program office largely has sufficient staff. Program officials told GAO the open positions include a communications analyst and a requirements analyst.

Program Office Comments

CBP provided technical comments, which GAO incorporated as appropriate.

Logistics Supply Chain Management System (LSCMS)

Federal Emergency Management Agency (FEMA)

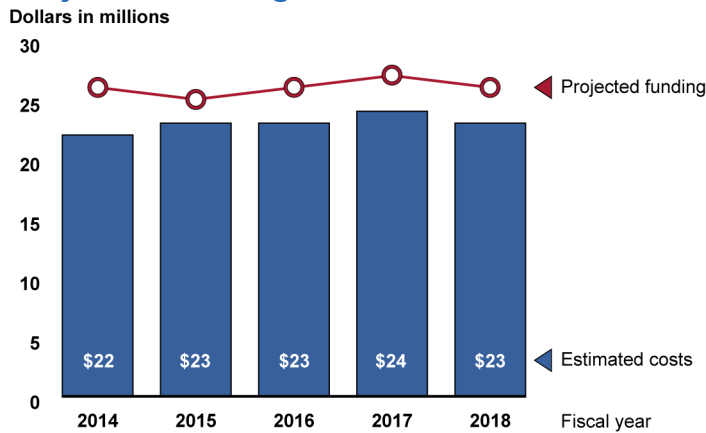


Source: FEMA.

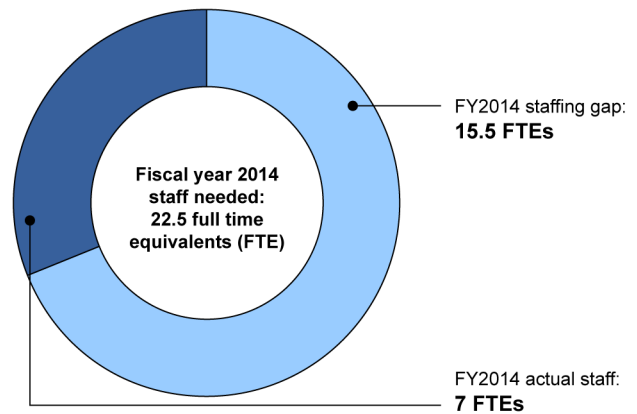
Program Description

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. Department leadership has not yet approved a baseline establishing the program's cost, schedule, and performance parameters.

Projected Funding vs. Estimated Costs



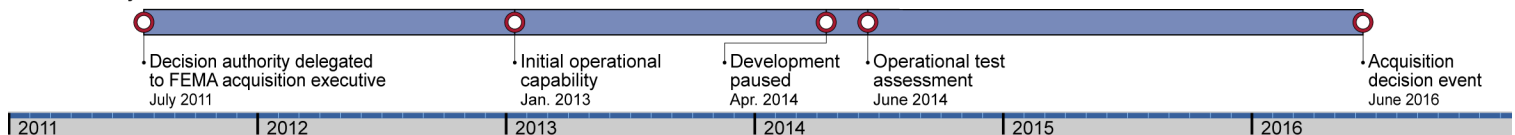
Program Office Staffing Profile



Schedule Changes over Time

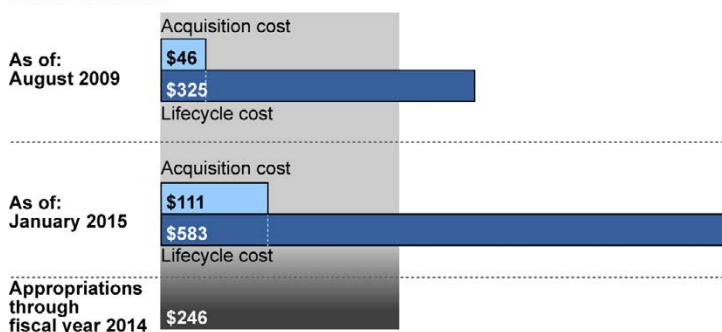
(No approved acquisition program baseline as of January 2015)

As of: January 2015



Cost Estimate Changes over Time

Dollars in millions



Performance

According to FEMA officials, LSCMS had met all seven of its key performance parameters (KPP) as of December 2014. However, the department's Director of Operational Test and Evaluation (DOT&E) had previously recommended FEMA test LSCMS further, noting that 2 of the 7 KPPs had not yet been assessed during operational testing. This follow-on test will be conducted after the program's test strategy is approved in 2015. Also, FEMA may pursue new LSCMS capabilities in the future to track more shipments en route and automate key interfaces.

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 September 2014, the DHS Office of Inspector General (OIG) reported that DHS and FEMA did not provide the oversight necessary to ensure the LSCMS program complied with acquisition requirements, highlighting that the program lacked a department-approved Acquisition Program Baseline (APB) that would have established the program's cost, schedule, and performance parameters. In [GAO-12-833](#), GAO recommended DHS ensure all major acquisition programs obtain department-level approval for their APBs before continuing with their acquisitions, and DHS concurred.

The DHS OIG also reported that neither DHS nor FEMA leadership ensured the program office identified all mission needs before selecting a solution. In April 2014, based on the preliminary results of the DHS OIG report, the acting USM directed FEMA not to initiate the development of any new LSCMS capabilities until further notice. The acting USM also instructed FEMA to conduct an analysis of alternatives for addressing LSCMS's remaining capability gaps, including the inability to track partner organizations' shipments en route to a FEMA staging area. FEMA officials anticipate that the analysis will be completed by May 2015, and that it will help management determine how FEMA should continue to enhance LSCMS, if at all. FEMA officials said the program office recently completed a new life-cycle cost estimate (LCCE) and is updating its APB in advance of an Acquisition Decision Event tentatively scheduled for June 2016.

Program Execution

GAO is not assessing the extent to which the program is on track to meet its schedule because DHS leadership has not yet approved a baseline that GAO could use to assess the program. However, LSCMS program officials told GAO the program's cost estimates have increased. From August 2009 to December 2014, the life-cycle cost estimate (LCCE) increased from \$325 million to \$583 million, and the acquisition cost estimate increased from \$46 million to \$111 million. Program officials explained that the 2009 LCCE and acquisition cost estimate did not account for costs beyond fiscal year 2017, and both were subsequently adjusted based on feedback from the Office of Management and Budget to account for costs through fiscal year 2024, inflation, and other variables.

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 found the testing of LSCMS to be 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 conduct follow-on operational testing. FEMA officials said the program anticipates it will select a new OTA following the completion of the analysis of alternatives, and that it will subsequently conduct follow-on operational testing after its testing strategy is approved in 2015.

Other Issues

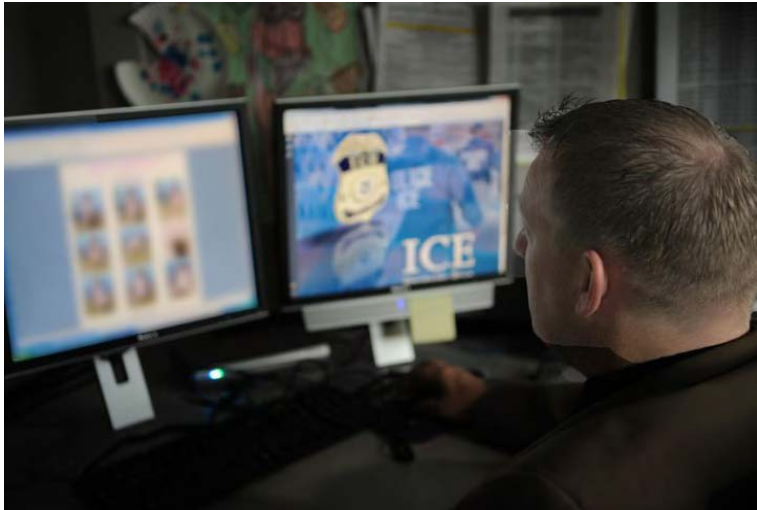
FEMA reported the LSCMS program only had about 30 percent of the staff needed in fiscal year 2014. FEMA officials attributed the program's governance and testing challenges to staffing shortages. They told GAO that critical positions, such as systems engineers, have been historically filled by contractors. In December 2014, they said that the program had added two full-time personnel, and was working to obtain funding to hire additional government employees. In the interim, the program is using interns and 6 to 8 other short-term staff to augment the office.

Program Office Comments

While inadequate staffing prevented the program office from properly addressing acquisition policies and procedures, LSCMS has successfully supported disasters since 2006, including Super Storm Sandy. The 2013 upgrade has closed all significant capability gaps except for full partner supply chain interoperability. In December 2014 the program office implemented a vendor portal as an interim solution prior to full integration through the industry standard Electronic Data Interchange, which is planned for 2015/2016. Since the release of the DHS OIG Report, the program office has resolved 8 of 10 recommendations; the program office has doubled in size and the reservist cadre has increased by 48 percent. In December 2014, LSCMS achieved KPPs for concurrent users and transaction volume. Based on the program office's testing and successful large scale commercial usage of the application, the program office is confident that LSCMS is capable of meeting catastrophic requirements.

TECS Modernization

Immigrations and Customs Enforcement (ICE)

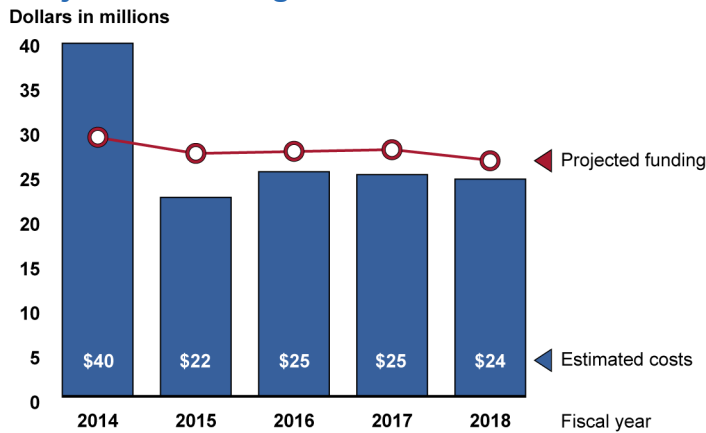


Source: ICE.

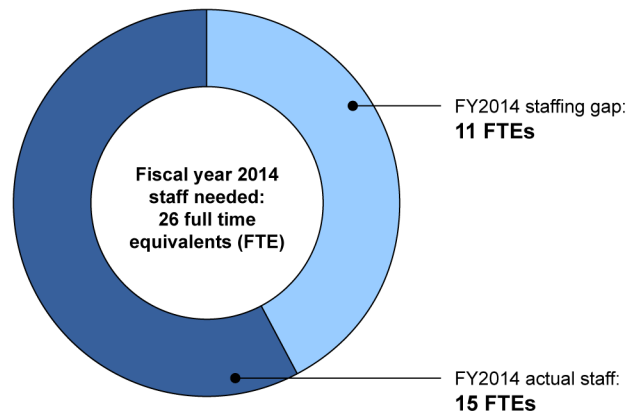
Program Description

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 for over 20 years by providing case management, intelligence reporting, and information sharing capabilities. However, TECS has become 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 users with additional functionality required for mission execution. Customs and Border Protection is executing a separate TECS Modernization program, which GAO is also assessing in this report. GAO previously reported on ICE's TECS Modernization program in [GAO-14-62](#).

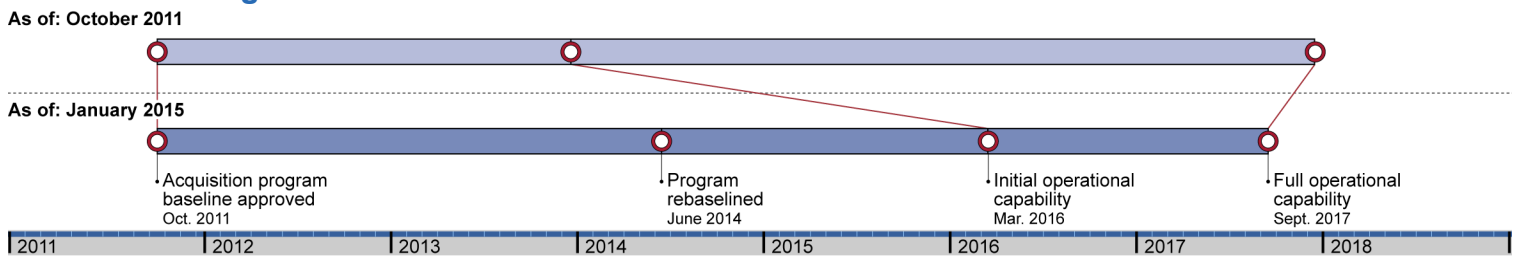
Projected Funding vs. Estimated Costs



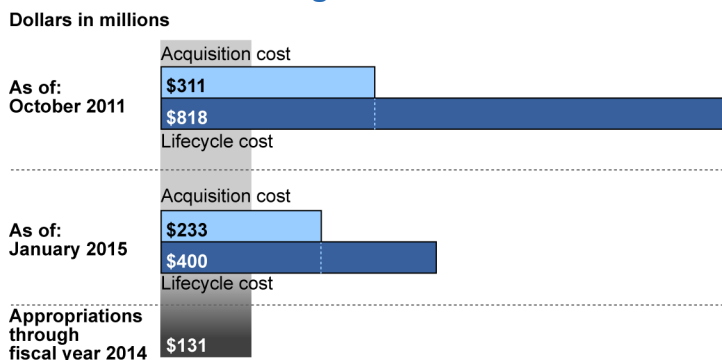
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

ICE told GAO the program has not yet demonstrated whether the modernized TECS system can meet any of its three key performance parameters (KPP). These KPPs establish the amount of time the system can take to respond to requests, the number of concurrent users it can accommodate, and the percentage of time it functions properly. ICE also told GAO that the program eliminated three other KPPs between 2011 and 2014, after it determined the initial approach was unfeasible.

Acquisition Strategy

According to the program manager, the TECS Modernization program initially attempted to use an agile development approach, but after difficulties, revised this approach and incorporated some traditional program management practices to increase oversight and rigor. The program is leveraging commercial-off-the-shelf products, and the program manager stated that the program currently plans to acquire capability through four concurrent “work streams,” which will deliver discreet portions of the system’s total planned functionality. According to the program manager, different contractors are responsible for different work streams, and the program office is planning and managing their efforts, and integrating their software. Program officials told GAO this approach will improve management visibility into each of the contractor’s efforts, and in September 2014, ICE awarded a new development contract for building case management functionality.

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 that program’s cost, schedule, and performance parameters. However, the program subsequently experienced technical difficulties and schedule delays, culminating in a June 2013 decision to cease development efforts. At that time, ICE determined that the existing TECS Modernization technical 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 acquisition approach. The program’s initial operational capability date slipped from December 2013 to March 2016, but the full operational capability (FOC) date moved up from December 2017 to September 2017. Additionally, the acquisition and life-cycle cost estimates decreased significantly. The program manager primarily attributed the earlier FOC date and cost estimate decreases to the program’s revised acquisition approach. He specifically explained that the out-year costs for operations and maintenance support for a custom-developed solution, as envisioned under ICE’s initial approach, were more than twice as expensive as the currently planned off-the-shelf solution over 10 years of support.

Test Activities

DHS’s Director of Operational Test and Evaluation approved the ICE TECS Modernization program’s revised Test and Evaluation Master Plan in April 2014. According to the program manager, the program office has hired a Test and Evaluation Lead, and has in place an agent from ICE’s Homeland Security Investigations directorate to act as the Operational Test Agent (OTA). According to the program manager, the Navy’s Space and Naval Warfare Systems Command will support the OTA, but only through June 2015, and ICE plans to award another contract for test support prior to 2015 in an effort to improve continuity throughout the development process.

Other Issues

ICE reported that the program office had a 42 percent staffing gap in fiscal year 2014. The program manager told GAO that this gap included four critical positions: a Configuration Manager, Performance Engineer, Lead Systems Integrator, and Senior Requirements Engineer. According to the program manager, ICE is planning to hire government personnel to fill those positions, and until hiring is complete, those functions will be performed by contractor personnel.

In fiscal year 2014, the program’s cost estimate exceeded its funding plan by \$10.6 million, but the program’s funding plan is projected to make up for this shortfall by fiscal year 2018.

Program Office Comments

In the Projected Funding vs. Estimated Costs figure, the Projected Funding does not include prior year Carry Over funds, and the Estimated Costs are Then-Year dollars that are not Risk Adjusted.

GAO Response

Across the 22 program assessments, GAO presented the program-specific funding plans DHS reported to Congress and the yearly cost estimates contained in DHS’s database for its major acquisition programs.

National Cybersecurity Protection System (NCPS)

National Protection and Programs Directorate (NPPD)

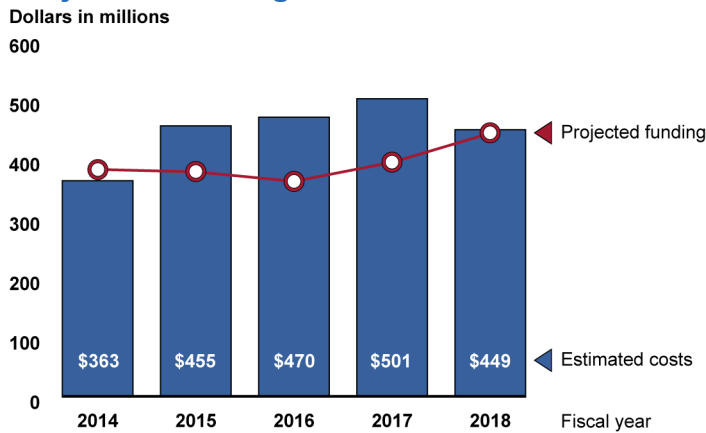


Program Description

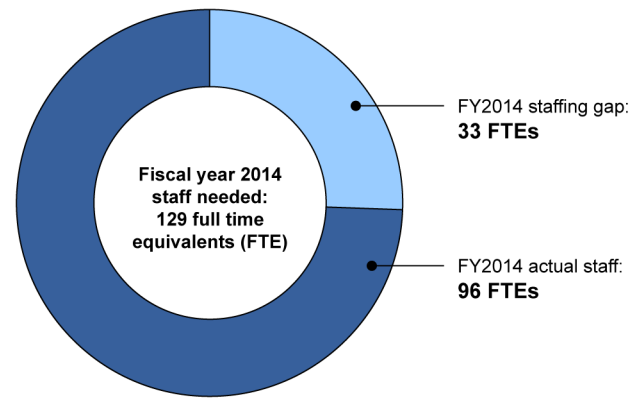
NCPS is intended to defend the federal civilian government's information technology infrastructure from cyber threats. The program was established to acquire hardware, software, and services, and delivers capabilities through a series of interdependent upgrades designated as "blocks." Blocks 1.0, 2.0, and 2.1 are fully deployed and collectively provide intrusion detection and analytic capabilities across government agencies. NCPS is currently deploying 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. In addition to this assessment, GAO is currently conducting a more detailed evaluation of the program and plans to report its final results by September 2015.

Source: NPPD.

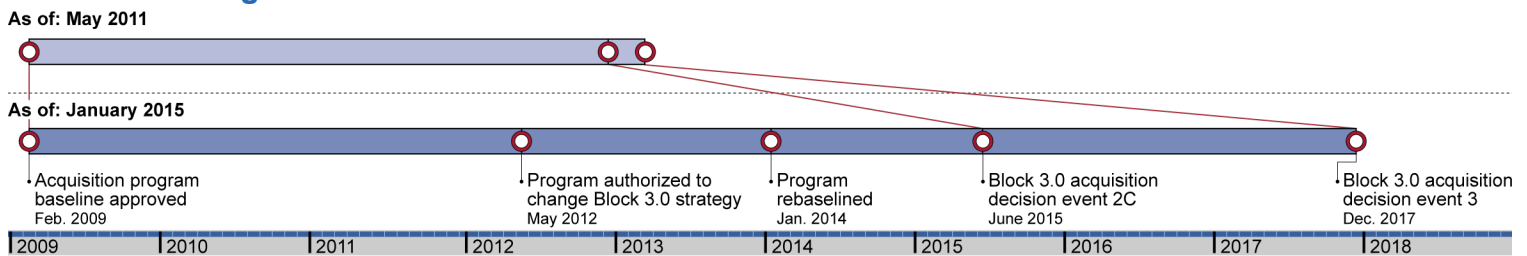
Projected Funding vs. Estimated Costs



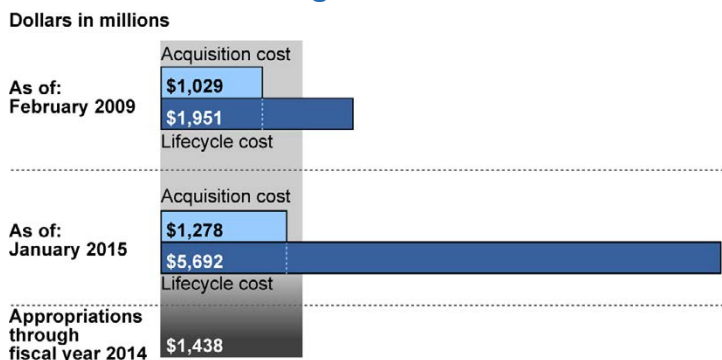
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

NCPS told GAO it has not demonstrated whether Block 3.0 can meet two of its three key performance parameters (KPP) involving threat signatures, because it has not yet collected the relevant information from internet service providers (ISP). NCPS officials said Block 3.0 has met its coverage KPP, but the department's Director of Operational Test and Evaluation (DOT&E) has not validated that claim, and a DOT&E representative has questioned whether NCPS KPPs are defined properly.

Acquisition Strategy

NCPS officials told GAO they have awarded a number of service contracts for intrusion prevention, operations and maintenance, systems engineering, and integration support to achieve the flexibility necessary to rapidly acquire cybersecurity services.

Originally, the program planned to use government-off-the-shelf technology to deliver the Block 3.0 intrusion-prevention capabilities, but in May 2012, it significantly changed its acquisition strategy, and decided to work directly with commercial ISPs to prevent intrusions. In January 2014, the program rebaselined, and the Block 3.0 intrusion-prevention capabilities are now primarily provided through sole source contracts with the nation's largest ISPs to maximize coverage. These ISPs will provide a range of unclassified and classified countermeasures to prevent intrusions and also filter and analyze internet traffic for the government.

Program Execution

In February 2009, NCPS's life-cycle cost estimate (LCCE) was less than \$2.0 billion, but in December 2014, it exceeded \$5.6 billion. Program officials said the 2009 LCCE only accounted for costs over a 5-year period, whereas the 2014 LCCE accounts for costs over the program's entire life cycle. Additionally, program officials said the 2014 LCCE was updated to account for Block 2.2 and changes to Block 3.0.

NCPS's decision to work directly with the ISPs had a significant effect on the program's schedule. Under the prior acquisition strategy, DHS leadership would have convened an Acquisition Decision Event (ADE) 2C in December 2012 to authorize NCPS to initiate Block 3.0 operational testing. In March 2013, DHS leadership would have convened an ADE 3, and Block 3.0 would have achieved initial operational capability (IOC). However, under the new Block 3.0 approach, IOC has preceded ADE 2C. NPPD told GAO the program conducted an abbreviated operational assessment of Block 3.0 in late 2013, which allowed NCPS to declare Block 3.0 had achieved IOC in March 2014. Going forward, the program expects DHS leadership will convene an ADE 2C in June 2015 to evaluate the results from the first full operational assessment of Block 3.0, and NCPS plans to conduct additional operational assessments as additional ISPs begin to provide intrusion prevention services. After two ISPs begin to provide services, the program plans to conduct initial operational test and evaluation (IOT&E). IOT&E is currently scheduled for September 2016 and intended to inform the Block 3.0 ADE 3, which is currently scheduled for December 2017. Program officials told GAO that ADE 3 will primarily be a venue for demonstrating the capabilities of Block 3.0, and that no major decisions will be made at that time.

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.

NCPS reported a staffing shortfall of approximately 25 percent in fiscal year 2014, and program officials told GAO that staffing shortfalls could delay capability deliveries to end users.

Additionally, program officials said they may not be able to acquire all of the planned services from the ISPs if NCPS's projected funding gap endures.

Program Office Comments

There are data points to be clarified. The graph comparing projected funding vs. estimated costs is misleading. There are no large discrepancies between projected funding and estimated costs between 2014 and 2018. The vacancy rate of 25 percent does not reflect the 13 selections that have been made. The program schedule was formally rebaselined in early 2014, yet the schedule we are being compared to is from May 2011. Since 2009, the life-cycle cost estimate was updated to include additional blocks and the full life cycle of the program plus 5 years operations and maintenance. The Program Office is continuously assessing the program. An early Operational Assessment was conducted on Block 3.0 in fall 2013 to observe progress. The Program met the capacity Key Performance Parameters and provisioned customers beyond the system threshold. A full Operational Assessment is scheduled for early 2015 and will have the data points in place to evaluate all Key Performance Parameters.

GAO Response

Between 2014 and 2018, the total estimated costs exceed the projected funding by 12 percent. As for the vacancy rate, the Program Office Staffing Profile in this assessment is based on information DHS headquarters provided GAO in October 2014, two months after the 13 selections were made. As for the schedule analysis, in this report, GAO is assessing all 22 programs against the first baseline approved after DHS's current acquisition policy went into effect in 2008.

Next Generation Network - Priority Service (NGN-PS)

National Protection and Programs Directorate (NPPD)



Government Emergency Telecommunications Service
Office of Emergency Communications

Name: John Doe **Organization:** DHS

Dial GETS Access Number **1-710-627-4387**

After Tone, Enter Your PIN 0000 0000 0000

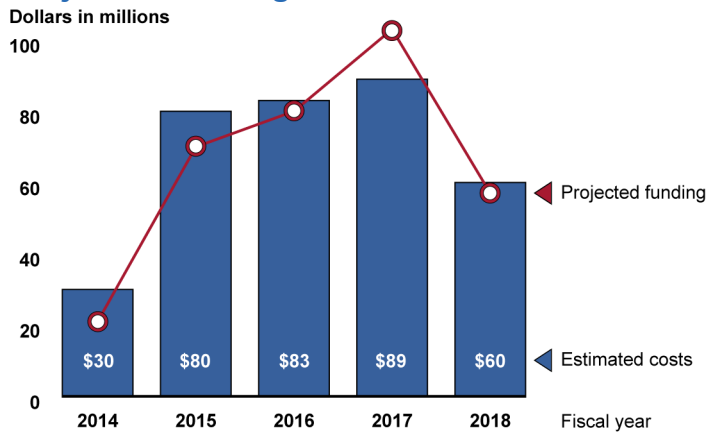
When Prompted, Dial Destination Number **Area Code + Number**

Program Description

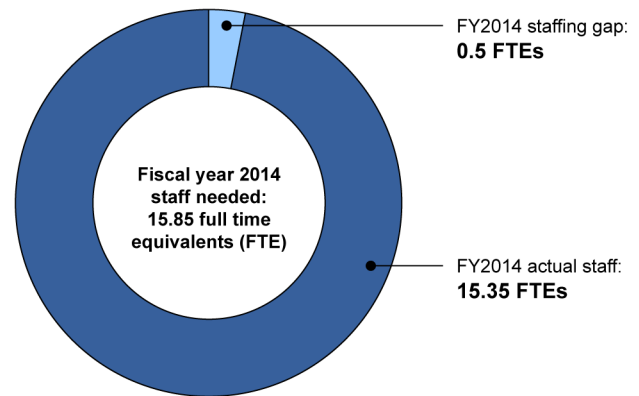
NGN-PS is intended to address an emerging capability gap in the government's emergency telecommunications service, which prioritizes select officials' phone calls when telecommunications networks are overwhelmed. NPPD executes the NGN-PS program through telecommunication service providers (TSP), which address the government's requirements as they modernize their own networks. NPPD plans to execute NGN-PS through three phases: voice, video, and data. The program is currently focused on the voice phase.

Source: NPPD.

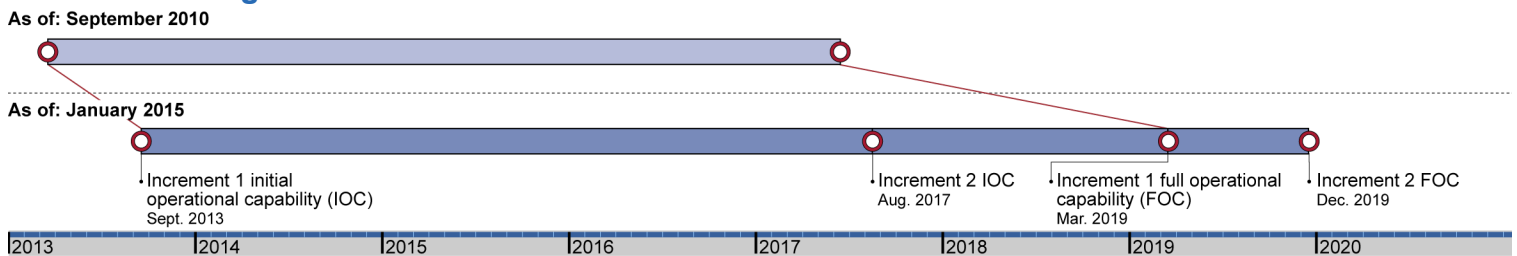
Projected Funding vs. Estimated Costs



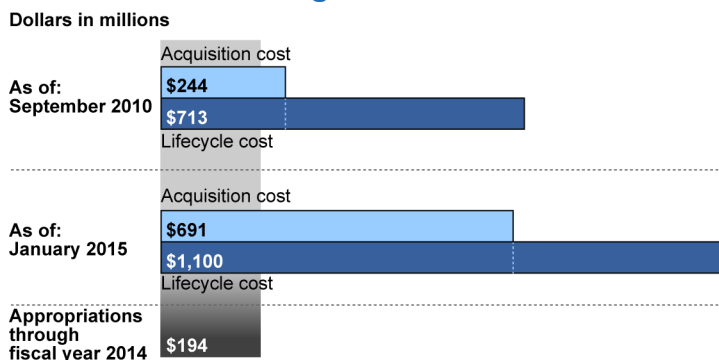
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

NPPD told GAO that NGN-PS has met all six of its key performance parameters, but the Department of Homeland Security's (DHS) 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. Nonetheless, program officials told GAO that NGN-PS has performed well when it has been tested and deployed.

Acquisition Strategy

The NGN-PS program 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. NPPD works with TSPs as they enhance their carrier networks so they can provide select government officials a survivable telecommunications capability nationwide.

The NGN-PS voice phase is divided into three increments. With increment 1, NPPD is paying TSPs to ensure their major core networks can continue to prioritize government phone calls as needed. With increment 2, NPPD is delivering wireless capabilities. With increment 3, NPPD plans to address landline capabilities. Program officials said they had initiated the first two increments, and invested more than \$190 million in the major TSPs' network infrastructure to meet government requirements. NPPD awarded three base contracts in 2014, each of which includes 9 option years.

Program Execution

From September 2010 to September 2014, NGN-PS's acquisition cost estimate increased from \$244 million to \$691 million, and its life-cycle cost estimate increased from \$713 million to \$1.1 billion. Program officials told GAO the initial cost estimate did not account for the voice phase's second increment, which was the primary reason the cost estimates increased.

From September 2010 to September 2014, NGN-PS also experienced schedule slips. Most significantly, increment 1's full operational capability date slipped from June 2017 to March 2019. Program officials attributed the majority of schedule slips to funding shortfalls, and told GAO that the program continues to be underfunded going forward. Officials said that funding shortfalls cause schedule slips which increase the risk that the government could lose existing prioritization capabilities because the TSPs are continuing to modernize their networks, and the government may not be able to keep pace with their technology upgrades. Officials noted that this risk is significant for increment 2 because NGN wireless capabilities are being developed and deployed well after TSPs have modernized their own networks.

Test Activities

DHS's DOT&E approved the NGN-PS Test and Evaluation Master Plan in October 2013, and DOT&E plans to assess the operational test results in advance of the program's next major acquisition decision event. This decision event is scheduled for March 2019 when the first increment achieves full operational capability. However, this is more than 5 years after the program achieved initial operational capability for increment 1. Program officials told GAO they continuously review actual NGN-PS performance in the interim.

The TSPs have a central role in NGN-PS test activities. They conduct NGN-PS developmental testing, which is overseen by program officials, and during operational testing, the

government's operational test agent must leverage the TSPs' developmental test data as well as their actual operational data.

Program Office Comments

The program stated that testing on a live operational infrastructure is not possible and their operational test agent (OTA) has participated in all lab and acceptance testing. The program stated, per their rules, the OTA was only able to provide a letter of observation and could not endorse the operational suitability or operational effectiveness of the service with a letter of assessment due to these limitations on the testing.

Electronic Baggage Screening Program (EBSP)

Transportation Security Administration (TSA)

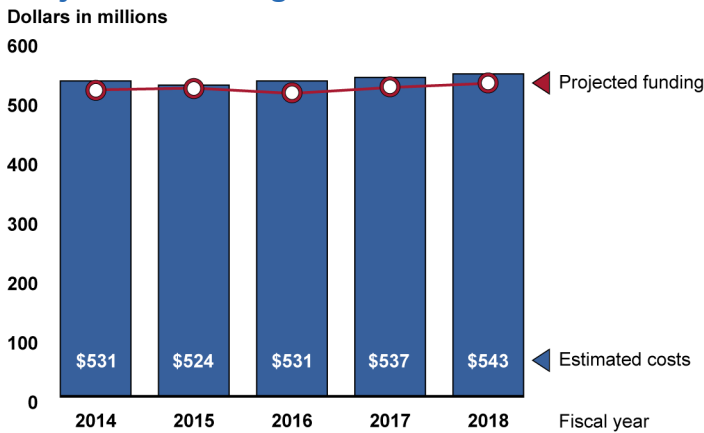


Source: TSA.

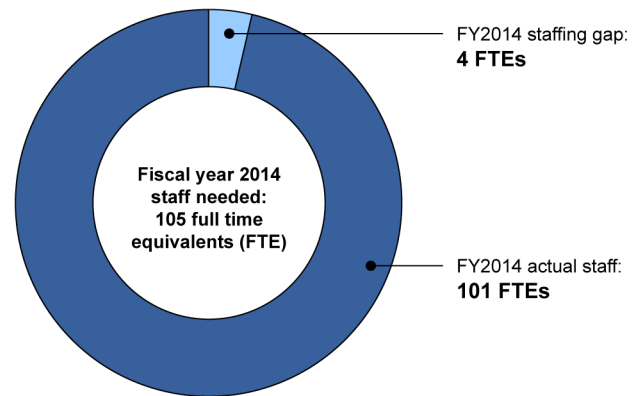
Program Description

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 450 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 variants of baggage screening systems from 2002 to 2014.

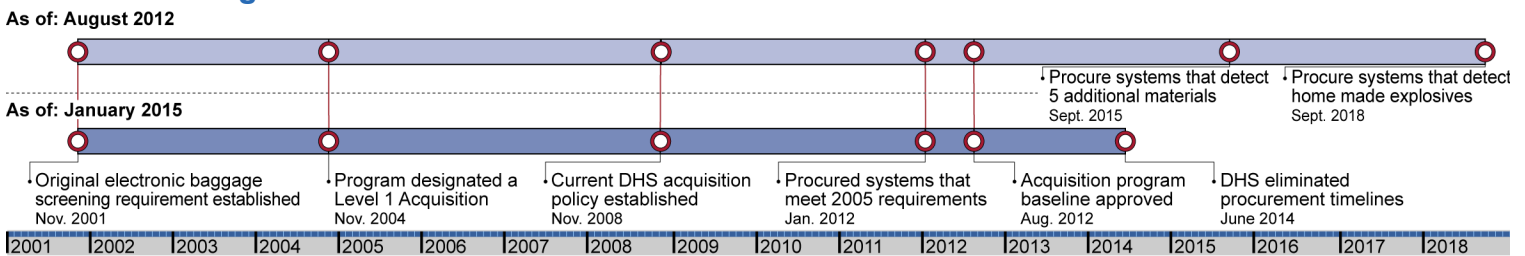
Projected Funding vs. Estimated Costs



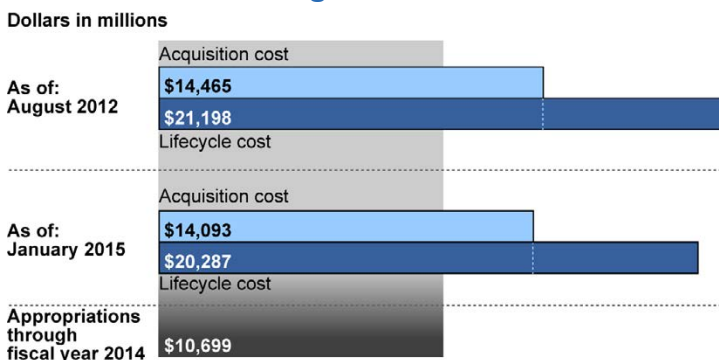
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

TSA officials told GAO that EBSP has demonstrated that all deployed systems can meet all of the program's key performance parameters (KPP). Additionally, from September 2011 to June 2014, the Department of Homeland Security's (DHS) Director of Operational Test and Evaluation (DOT&E) independently assessed the performance of nine of the EBSP variants. However, several variants were unable to meet KPPs during operational testing.

Acquisition Strategy

The program acquires explosive trace detectors and high-speed, medium-speed, and reduced-size explosive detection systems through various contractors. In 2002 and 2003, TSA deployed baggage screening systems to all airports controlled by the federal government. Since then, the program has worked to deliver new systems with enhanced screening capabilities. According to program officials, the core technology in EBSP systems has changed little since the 1980s, and development efforts are primarily focused on software upgrades.

Program Execution

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

In August 2012, when DHS's Under Secretary for Management (USM) approved the program's APB, the program planned to award contracts to procure screening systems that could detect five new threat materials by September 2015, and additional systems that could detect certain home-made explosives by September 2018. However, in December 2014, TSA officials told GAO they could not provide an update identifying when they expected to award these procurement contracts. Program officials said certain contractors' systems have had difficulty achieving new detection requirements, and in June 2014, DHS's Deputy Chief Procurement Officer approved a revised acquisition plan that eliminated the program's specific procurement timelines. The EBSP program manager told GAO that, going forward, the program wants to focus on demonstrating that systems can deliver enhanced detection capabilities rather than deploying specific quantities in certain time frames. Program officials expect the program's next APB will replace the award dates for procurement contracts with initial operational capability dates for detection capabilities. They said this approach will provide TSA flexibility to make risk-based decisions about the scale of capability deployments, and they expect DHS leadership will approve this APB by the end of June 2015.

From August 2012 to August 2014, EBSP's acquisition cost estimate through fiscal year 2030 decreased from \$14.5 billion to \$14.1 billion, and its life-cycle cost estimate through fiscal year 2030 decreased from \$21.2 billion to \$20.3 billion. TSA officials said they decreased EBSP's cost estimates between 2012 and 2014 in response to funding constraints, among other things. They 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. It appears EBSP's projected funding levels now cover nearly all of the program's estimated costs.

Test Activities

DHS's DOT&E approved EBSP's Test and Evaluation Master Plan in 2010, but DHS officials stated it is currently being updated to reflect changes in acquisition strategy, as well as

testing lessons learned. Program officials and DOT&E recognize the need for a new plan and are collaborating to develop one that will be flexible enough to evolve with the program, which officials said must adapt to frequently changing threats and technologies.

TSA has established a multi-stage test process for EBSP systems, beginning with developmental tests at the DHS Science and Technology Directorate's Transportation Security Laboratory (TSL). Systems that pass the TSL tests are subsequently tested at the TSA Systems Integration Facility, and systems that pass this testing are subsequently subjected to operational testing at U.S. airports. DOT&E assesses these systems' operational test results to determine whether they are effective and suitable, and DOT&E's assessment helps the USM decide whether to authorize full-rate production and deployment.

However, several variants were unable to meet KPPs during operational testing. Additionally, DHS officials said operational testing is challenging. In the summer of 2014, after a system successfully passed both TSL and TSIF testing, TSA identified issues with the system when the program was integrating it at an airport in preparation for operational testing. TSA identified that the system would have disrupted airport operations, and subsequently suspended the operational test until the contractor modifies the system to address its suitability issues.

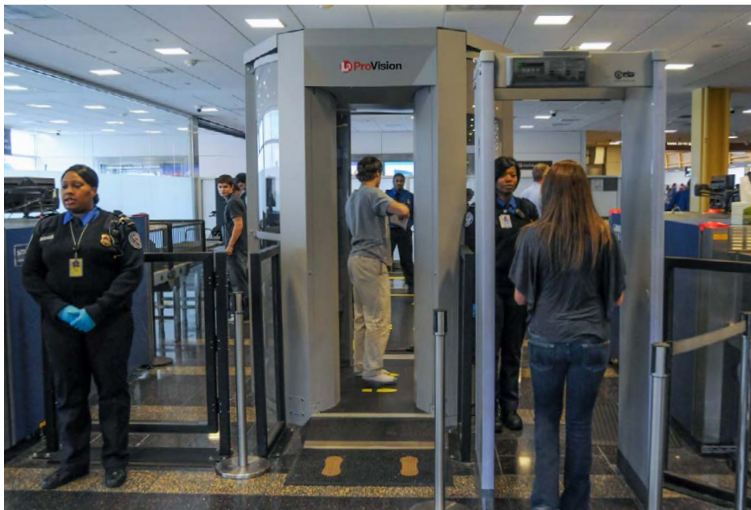
DHS officials also explained each airport's unique configuration can affect system performance, which limits DHS's ability to extrapolate test results, but extensive operational testing is cost prohibitive and time consuming. As a result, systems can only be tested at a limited number of locations, but in September 2014, DHS's Office of Inspector General (OIG) reported that TSA lacked the ability to independently assess whether EBSP systems are operating at required detection standards after deployment. TSA acknowledged that testing gaps exist and is working to implement the DHS OIG's recommendations. To further address testing gaps and the resulting risks, DHS officials stated that DOT&E intends to participate more in developmental tests in the future.

Program Office Comments

TSA continues to test and deploy transportation security equipment (TSE) and capabilities in order to recapitalize older equipment and 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. Currently, EBSP bases APB schedule milestones on full operational capability deployment of new detection capabilities. While individual TSE may have had difficulty initially achieving new detection requirements, EBSP continues to meet its schedule milestones. In future APBs, EBSP may establish initial operational capability schedule milestones to signify TSA's ability to deploy a new detection capability, while allowing TSA the flexibility to make risk-based decisions about the scale of capability deployment. TSA concurred with the 2014 OIG findings and is implementing recommendations to remove testing gaps for deployed systems.

Passenger Screening Program (PSP)

Transportation Security Administration (TSA)

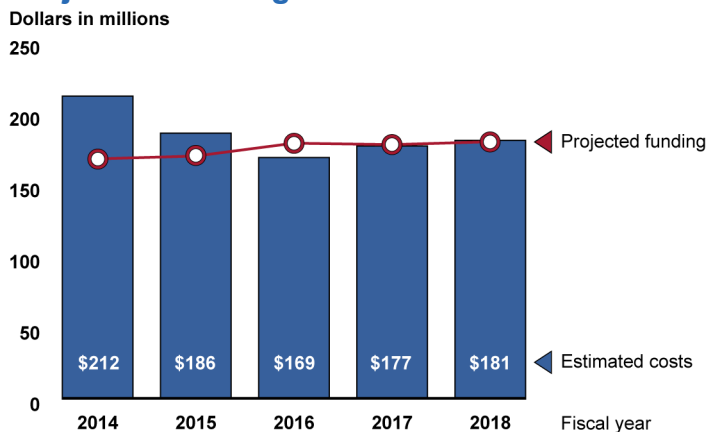


Source: TSA.

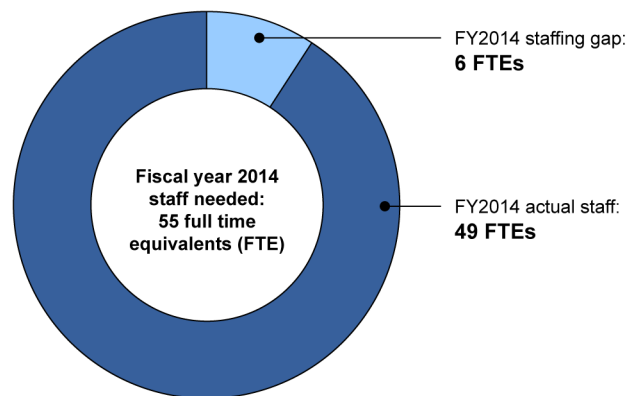
Program Description

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 450 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 6 that TSA stated they were in the process of acquiring in 2014. GAO reported on one of these variants in [GAO-14-357](#).

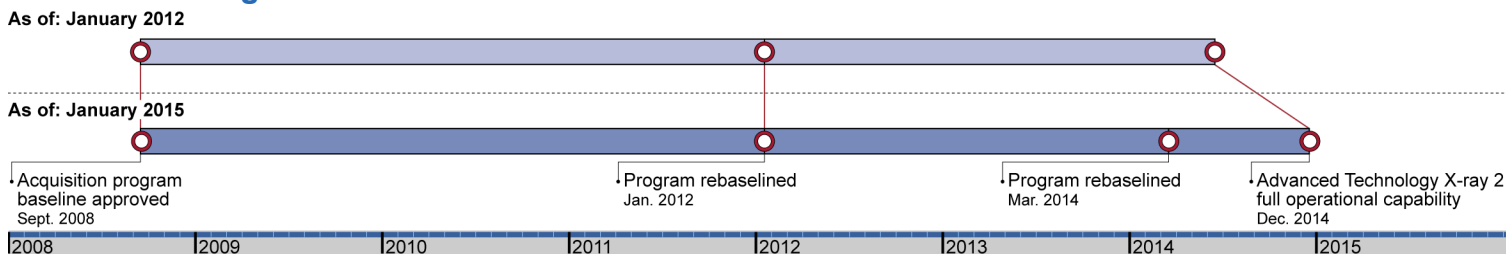
Projected Funding vs. Estimated Costs



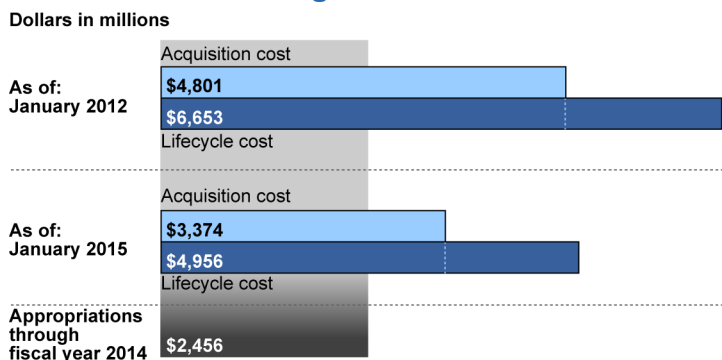
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

TSA officials said all deployed systems can meet their key performance parameters. However, DHS headquarters has only independently validated 1 of the 6 systems PSP is currently acquiring can meet their requirements. PSP has faced challenges developing new technologies and is no longer pursuing one screening system after years of delays. It also deployed a system that scans carry-on baggage, even though at the time it could not do so as quickly as required, after TSA determined the requirement was not necessary.

Acquisition Strategy

According to PSP officials, the program is currently acquiring six variants of commercial-off-the-shelf passenger screening systems through multiple contractors. TSA has deployed some of these systems to airports, while others remain 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 when capability requirements are rigid and contractors' systems are mature. For example, PSP currently uses the QPL approach to acquire 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 follow-on development contracts to enhance systems' capabilities over time. PSP is currently using the LRIP approach to acquire Credential Authentication Technology, and previously used it to acquire second generation Advanced Imaging Technology (AIT-2). GAO previously reported on AIT in [GAO-14-357](#).

Program Execution

DHS's Under Secretary for Management (USM) has approved three versions of PSP's Acquisition Program Baseline (APB)—in 2008, 2012, and 2014. The program's cost, schedule, and performance parameters changed each time. PSP officials said they recently submitted a fourth APB to the USM for approval. According to program officials, PSP was unable to adhere to its previous schedules because they included unachievable milestones. In 2013, five PSP systems fell behind schedules established in the 2012 APB, and in response, DHS's USM approved an updated APB in March 2014. However, in September 2014, PSP officials told GAO the program needed to rebaseline again due to contractor delays, and that going forward, TSA will reassess PSP's baseline annually to account for future schedule slips and funding changes. The program's current funding plan includes a shortfall in fiscal year 2015, but program officials said they can mitigate it with previously allocated funding. The program's planned funding levels appear adequate in fiscal years 2016, 2017, and 2018.

Program officials told GAO they previously reduced PSP's scope in response to funding constraints, significantly decreasing PSP's acquisition and life-cycle cost estimates through fiscal year 2026. Program officials said they used TSA's new risk-based security approach to reduce the total number of systems needed, and extended the usable life of PSP systems from 7 to 10 years. In January 2012, PSP's acquisition cost estimate was \$4.8 billion and its life-cycle cost estimate was \$6.7 billion, but by November 2014, TSA had reduced those figures to \$3.4 billion and \$5.0 billion, respectively.

Test Activities

DHS's Director of Operational Test and Evaluation (DOT&E) approved PSP's Test and Evaluation Master Plan in 2010, and each PSP system has its own approved addendum. TSA

has established a multi-stage test process for PSP systems, beginning with Qualification Testing and Evaluation (QT&E), which is primarily conducted at the DHS Science and Technology Directorate's Transportation Security Laboratory and the TSA Systems Integration Facility. Systems that pass QT&E are subsequently subjected to operational testing at U.S. airports. PSP systems that meet their key performance parameters during operational testing are deemed ready for deployment across the country.

According to TSA, many contractors' systems cannot successfully pass the first round of QT&E, which is funded by TSA, and the poor outcomes have delayed PSP. Going forward, TSA officials stated they may try to improve the efficiency of the QT&E process by limiting the number of times a system can enter QT&E, incentivizing contractors to present mature systems. TSA may also allow contractors to submit third party test results to expedite QT&E.

Program Office Comments

TSA is continuing to strengthen core business practices, including schedule, cost, and risk management, to ensure continued successful capability development and program execution. Multiple initiatives within TSA are underway to decrease development and testing timelines for rapidly delivering capabilities to the field, validating post-deployment operational capabilities for fielded capabilities, and implementation of Technical Risk Assessments to ensure capabilities can be delivered to meet cost, schedule, and performance. TSA's Passenger Screening Program will continue to use industry best practices, both commercial and federal, to design, develop, test, and deploy systems to enhance checkpoint security, operational efficiency, and passenger experience.

C4ISR

U.S. Coast Guard (USCG)

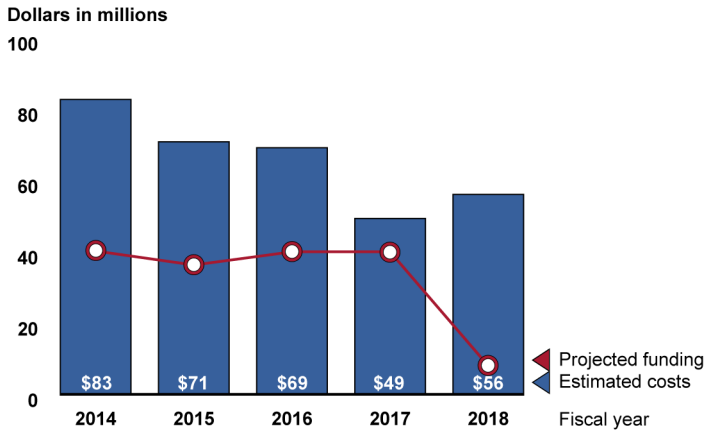


Source: USCG.

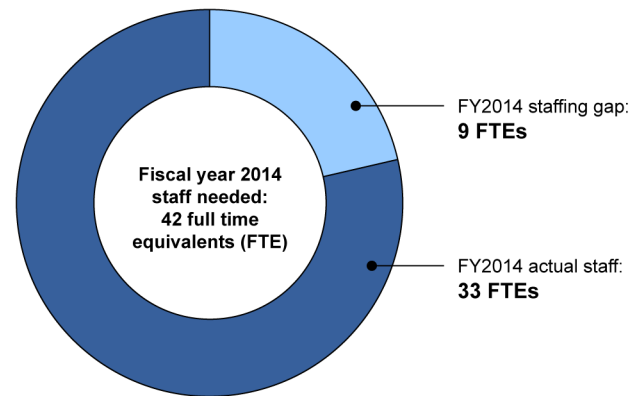
Program Description

Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems provide situational awareness, data 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), Offshore Patrol Cutter, Fast Response Cutter, HC-130J, and HC-144, as well as legacy vessels. The C4ISR program is expected to deliver a total of six variants of C4ISR systems. GAO previously reported on USCG's C4ISR program in [GAO-14-450](#).

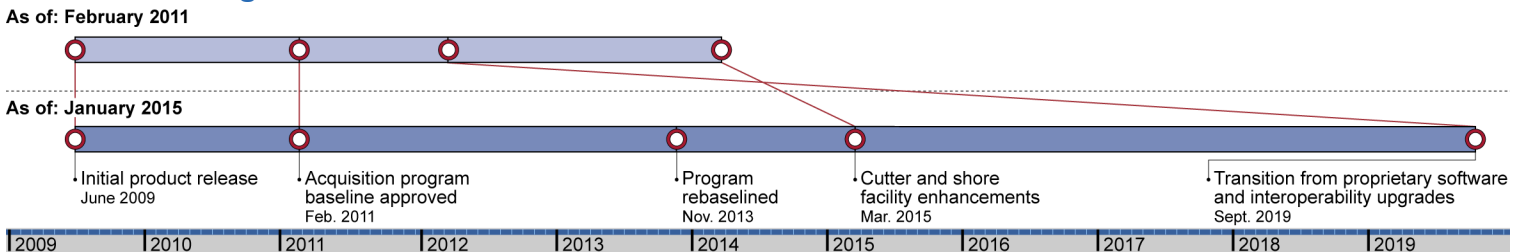
Projected Funding vs. Estimated Costs



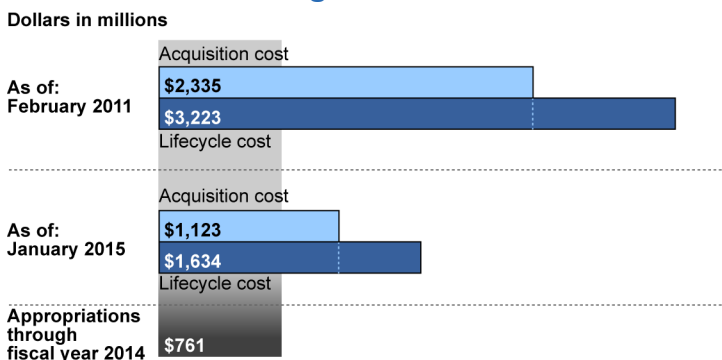
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

USCG has not yet conducted operational testing against the C4ISR systems' key performance parameters (KPP) even though it has spent over \$700 million on these systems. Further, USCG has struggled to develop the capability to exchange information through a common operational picture. USCG officials said operators have recently noted delays in transmitting data that limit the usefulness of surveillance. In addition, the C4ISR systems initially installed on the NSC, HC-144, and the HC-130J are now being replaced largely because components are obsolete.

Program Execution

Initially, the C4ISR program was designed to improve the detection and engagement of potential targets in the maritime domain, but the program is no longer pursuing many of its originally planned capabilities. The C4ISR performance baseline states that the C4ISR Common Operational Picture is the information technology that is modernizing and recapitalizing USCG shore sites, surface, and aviation assets. However, program officials state they are not responsible for USCG's many situational awareness tools, and that there is no project in the Coast Guard that focuses solely on these tools. Nonetheless, officials responsible for maintaining USCG information technology systems state there is currently an issue with the timeliness of data associated with the Coast Guard's operational pictures. For example, system experts told GAO that aircraft collecting information that populates an operational picture have likely completed their missions by the time ship crews extract that information from the operational picture, preventing the aircraft from responding in a timely manner to ship-based requests for additional information.

Additionally, program officials explained that the C4ISR program is no longer responsible for creating a common C4ISR system for all offshore assets. The program is now focused on replacing the current C4ISR system on the NSC and working with the Offshore Patrol Cutter's ship designers to tailor a system for that asset. The aviation C4ISR replacement and Fast Response Cutter development and maintenance efforts are now managed by other offices. The C4ISR program also no longer includes the Sensitive Compartmentalized Information System on the NSC, which will be its own project. Program officials said that these reductions in scope were the result of funding reductions, which in turn decreased the program's cost estimates. Projected funding shortfalls will likely cause further scope reductions and delays to activities planned for the C4ISR program.

Currently, the C4ISR system on the NSC is being replaced because it relies on contractor-proprietary software that is costly to maintain and is becoming obsolete. To address this, USCG is transitioning to a system with fewer proprietary components, but this transition has been delayed by more than 7 years largely due to funding and, according to program officials, schedule delays associated with retrofitting the NSC while in port. Future funding shortfalls would likely delay the transition further. For example, the Coast Guard recently delayed the completion of legacy cutter upgrades by 1 year to dedicate its limited resources to the delivery of the newest NSC.

Test Activities

Program officials told GAO that USCG does not plan to conduct operational testing against the C4ISR system's KPPs on a standalone basis since the acquisition is no longer seeking a C4ISR-specific full rate production decision from DHS. USCG initially planned to test the C4ISR system separately from the operational testing of its planes and vessels, such as the HC-144 and Fast Response Cutter,

but USCG 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 HC-144 and NSC tests because the necessary testing activities were not fully integrated into the assets' test plans. Nonetheless, testers found that the HC-144's ability to detect and share target data was cumbersome and time consuming. In [GAO-14-450](#), GAO recommended USCG fully integrate C4ISR assessments into other assets' test plans or test the C4ISR program independently. USCG concurred with GAO's recommendation and stated that it plans to test the C4ISR system's KPPs during follow-on testing for the NSC, which is scheduled for the end of fiscal year 2015.

Other Issues

The program reported an approximately 20 percent staffing gap, but program officials said they are not concerned about staffing, explaining that it is better now than any other time in the last 5 years.

Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$761 million. USCG is working with DHS to resolve this issue.

Program Office Comments

USCG has completed major C4ISR upgrades to legacy cutters, aircraft, and facilities; and delivered new C4ISR capabilities to NSCs and Fast Response Cutters. This brief synopsis does not capture recent testing or the key role these C4ISR systems played in operational successes, including drug interdictions, arctic deployments, and rescues performed by these assets. USCG will resolve obsolescence issues by developing a strategy and timeline to complete required system upgrades. USCG is also updating plans for managing C4ISR system baselines as assets transition to sustainment. Follow-on test and evaluation events are scheduled to ensure tests are conducted of asset KPPs. All legacy cutter related work has been completed, including the installation of commercial satellite communications capability and the development of a USCG developed C4ISR system for legacy cutters.

GAO Response

The program states that this assessment does not capture recent testing. Across the 22 program assessments, GAO primarily focused on major test events, particularly operational testing. However, as part of this program assessment, GAO did request recent test data; the program did not provide such data.

Fast Response Cutter (FRC)

U.S. Coast Guard (USCG)

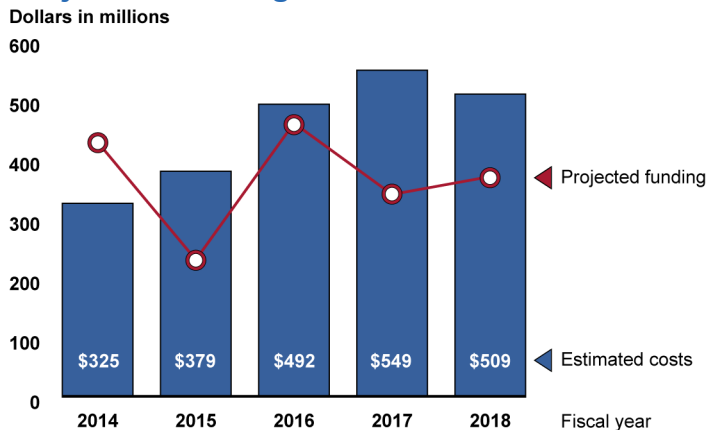


Source: USCG.

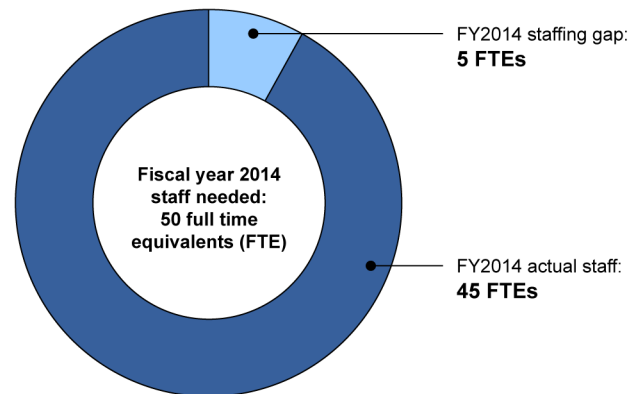
Program Description

USCG uses the FRC to conduct search and rescue, migrant and drug interdiction, and other law enforcement missions. The FRC replaces 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. USCG plans to acquire 58 FRCs, and as of September 2014, 10 had been delivered. In [GAO-14-450](#), GAO reported that USCG operators and commanding officers stated the FRC was performing well during missions.

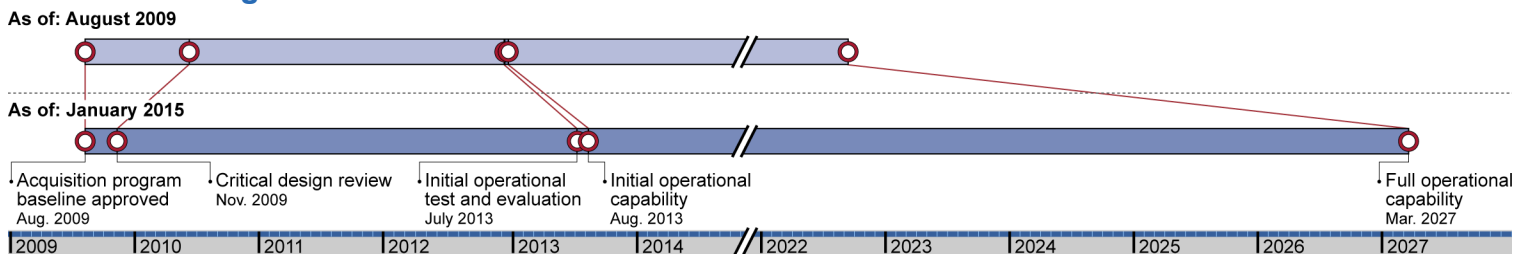
Projected Funding vs. Estimated Costs



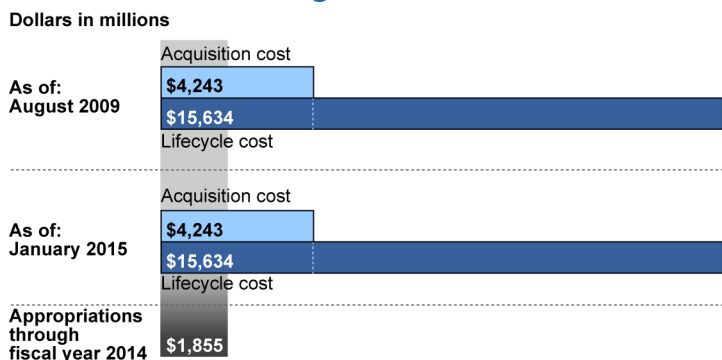
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

The FRC did not fully meet any of its six key performance parameters (KPP) during initial operational test and evaluation (IOT&E) in fiscal year 2013. In September 2014, USCG officials told GAO the FRC had since demonstrated it could meet five of these six KPPs. However, it had not yet demonstrated it could meet its KPP for operational availability. In January 2015, USCG officials said they plan to retest all six KPPs through operational testing in late 2015.

Acquisition Strategy

In January 2009, after GAO denied a bid protest, USCG officials awarded Bollinger Shipyards Lockport a contract with options to build up to 34 FRCs. In May 2014, USCG established that it would only procure 32 FRCs through this contract. In [GAO-14-450](#), GAO reported that USCG purchased the technical specifications and licenses from Bollinger that are necessary to build the FRC, and going forward, USCG plans to use this information to conduct a full and open competition for the remaining vessels. In fiscal year 2016, USCG plans to award a new shipbuilding contract for 26 additional FRCs.

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 the USCG may reduce the number of FRCs it procures each year, from six to four. USCG has established that the annual procurement quantity will be dictated by funding levels, and a significant gap appears to remain between the program's projected funding levels and estimated costs through fiscal year 2018. That said, the gap may not be as large as it appears. DHS officials said the FRC funding plan DHS presented to Congress does not identify all of the funding USCG plans to allocate to FRC operations. Program officials told GAO that funding shortfalls could cause further delays, but maintained that the program is still on track to meet its cost goals. Nonetheless, in [GAO-14-450](#), GAO reported that 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.

Test Activities

In 2009, DHS's Director of Operational Test and Evaluation (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 to assess 3 of the program's 6 KPPs. At that time, the FRC did not fully meet any of them, and the Navy officials who performed the testing identified deficiencies with diesel engine reliability and small boat stability in moderate sea conditions. Officials stated that they have already replaced the FRC's small boat and successfully tested it, and that all FRCs that have been delivered have been retrofitted with the new small boat. USCG officials stated that they are addressing the deficiencies with the diesel engine, and they plan to retest the engine during additional operational testing in 2015. At that time, program officials also plan to test the FRC's new anchor chain. The program is planning to replace the FRC's anchor line with this anchor chain after Navy officials identified a deficiency with the FRC's anchor line during the 2013 IOT&E. USCG officials stated they are currently updating the TEMP for a third time in preparation for this testing, and that they expect DOT&E will approve this updated TEMP by June 2015.

Other Issues

Despite reporting a 10 percent staffing gap, USCG officials did not identify any negative effects as a result of staffing gaps.

Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$1.9 billion. USCG is working with DHS to resolve this issue.

Program Office Comments

As of this report, 13 FRCs have been delivered and 12 are operational. Recent FRC operational accomplishments over the last year include but are not limited to, the rescue of 439 undocumented migrants; interdiction of a Go-Fast vessel leading to the conviction of four narco-traffickers and seizure of 2,028 lbs. of marijuana and 41 kg of cocaine valued at \$3.2 million; joint operations with Allied Navy and DHS Customs and Border Protection resulting in the seizure of 42 bales of cocaine valued in excess of \$16 million, and apprehension of five suspected smugglers; patrolling high-threat Counter-Drug and Alien Migrant Interdiction Operation regions as well as the Florida straits and the Bahamas successfully interdicting, caring for, and repatriating hundreds of Cuban and Haitian migrants; and participation in Tradewinds 2014—an initiative to train 16 Caribbean nations in navigation, law enforcement, and damage control to increase regional interoperability and tactical coordination.

HH-65 Conversion/Sustainment Projects (HH-65)

U.S. Coast Guard (USCG)

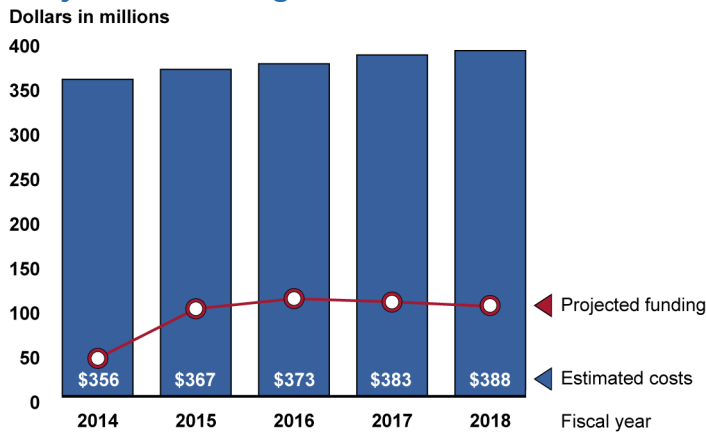


Source: USCG.

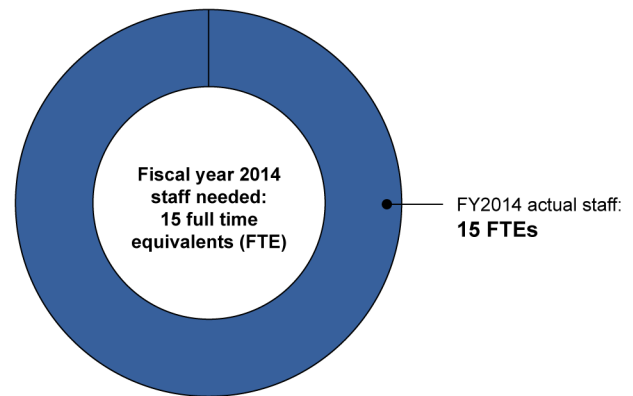
Program Description

The HH-65 aircraft is a short-range helicopter that 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 USCG's HH-65 fleet size from 95 to 102 helicopters and upgraded armaments, navigation systems, and nearly all of the helicopters' engines. It is continuing to upgrade 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 previously reported on USCG's HH-65 program in [GAO-14-450](#).

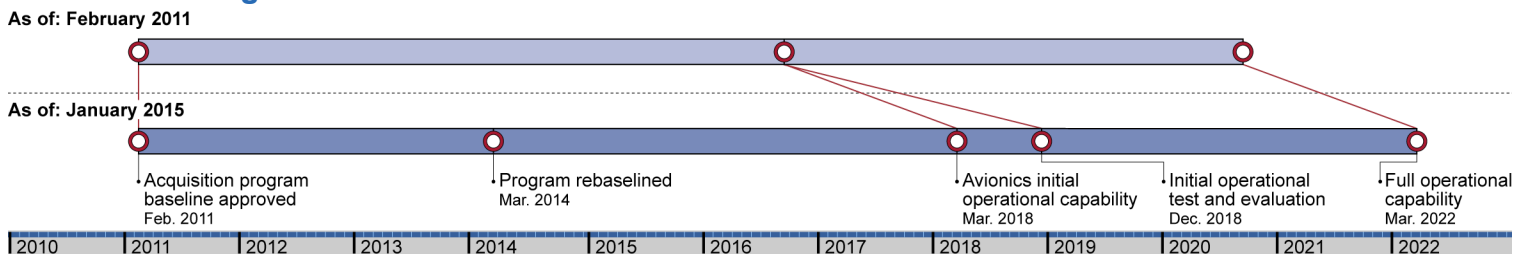
Projected Funding vs. Estimated Costs



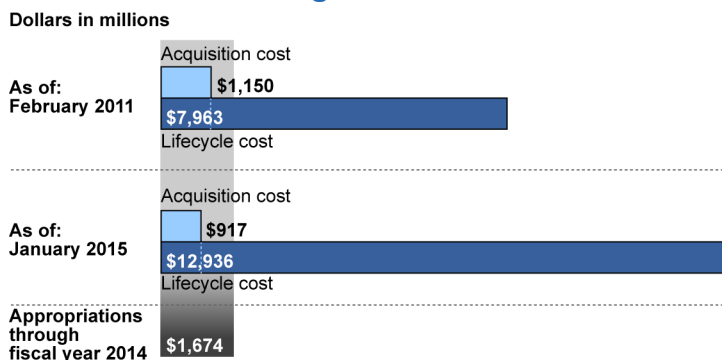
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

According to USCG officials, the HH-65 aircraft has met 16 of the program's 18 key performance parameters (KPP). However, USCG has not yet demonstrated the HH-65 can meet 2 of the program's key avionics KPPs. USCG officials said industry has faced challenges delivering a low-risk and cost-effective upgrade to the AFCS system, and as a result, the avionics initial operational capability date, and the overarching program's initial operational test and evaluation (IOT&E) and full operational capability dates have all slipped.

Acquisition Strategy

The USCG Aviation Logistics Center (ALC) is responsible for procuring, developing, and producing 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 4.5 years as part of normal maintenance. The ALC has completed the HH-65 engine and armament upgrades, and 78 aircraft have received the navigation system upgrade. The ALC is in the process of developing the systems needed for HH-65 aircraft's avionics and AFCS upgrades.

In 2011, USCG awarded a firm-fixed price contract to Rockwell Collins for the avionics upgrade. Officials stated that the program did not conduct a full and open competition for the contract because the avionics upgrade is dependent on proprietary information. In 2014, the ALC awarded another contract to Rockwell Collins to develop the radar sensor system under full and open competition.

Program Execution

From 2011 to 2014, the program's life-cycle cost estimate (LCCE) increased from approximately \$8 billion to approximately \$13 billion. USCG said the main reason the LCCE increased so much was USCG's decision to extend the aircraft's operational life by 9 years, from 2030 to 2039. USCG made this decision because it does not plan to buy new helicopters until the mid 2030s. However, it is unclear whether this extension is feasible. Currently, the program's cost estimate appears to exceed its projected funding plan by hundreds of millions of dollars per year. However, the funding gap may not be this large. The HH-65 funding plan DHS presented to Congress does not identify all of the funding USCG plans to allocate to HH-65 operations.

From 2011 to 2014, the program's acquisition cost estimate decreased by \$233 million. USCG officials attributed the majority of this decrease to the removal of a requirement for surface search radar and the cancellation of the system that was going to help operators move and secure the HH-65 on the National Security Cutter. The cancellation followed test failures. Among other things, testing officials determined that the system could cause injury to the aircrew because the landing operator could not communicate with the pilot in a timely manner. Additionally, USCG determined that the system was unaffordable.

Test Activities

In 2012, the department's Director of Operational Test and Evaluation approved the HH-65 program's Test and Evaluation Master Plan, which established that USCG shall conduct IOT&E for all of the upgrades at one time, after the new avionics and AFCS systems have been installed in the aircraft. Currently, the program-wide IOT&E is scheduled for the beginning of fiscal year 2019, and it will inform the full-rate production decision for the avionics upgrade, which USCG estimates will cost approximately \$300 million. DHS and USCG leadership have already approved production for all of the other HH-65 upgrades.

Other Issues

Despite reporting the program had all the staff it needed, USCG officials stated that the avionics upgrade is at risk of exceeding the ALC workforce's capacity, which could cause the production schedule to slip. Officials noted that a shortage of contracting personnel has been a significant issue for the program for the past 4 years, and that the program is looking to USCG headquarters to assume responsibility for select ALC contracting efforts.

Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$1.7 billion. USCG is working with DHS to resolve this issue.

Program Office Comments

As presented in the figures, the financial data is deceptive. The 'Projected Funding vs. Estimated Costs' information provides only acquisition funding, but the data actually includes both acquisition (AC&I) and operating (OE) costs. This discontinuity is repeated in the Program Execution section where comparisons from dissimilar source data are used to suggest a budget shortfall that does not exist. The 'Cost Estimate Changes over Time' figures should properly annotate 2014 lifecycle costs to discuss the change in accounting methodology and the addition of nine years of service life that accounts for the increase. As depicted, this information compares dissimilar data and presents them out of context. Also, the HH-65 Program has not been appropriated the \$1.674 billion depicted in the 'Cost Estimate Changes over Time' section.

GAO Response

To determine the adequacy of the projected funding level for the HH-65, and the 21 other acquisition programs GAO assessed, GAO compared the funding plans DHS presented to Congress in the fiscal year 2014 Future Years Homeland Security Program report to the programs' yearly cost estimates from 2014 to 2018. As noted in the Program Execution section, the HH-65 funding plan DHS presented to Congress does not identify all of the funding USCG plans to allocate to HH-65 operations. In the Recommendations section of this report, GAO recommends DHS correct this deficiency.

In the Program Execution section, GAO attributed the increase in the HH-65 life-cycle cost estimate to the USCG's decision to extend the service life of the aircraft an additional nine years.

Lastly, to identify appropriations through fiscal year 2014 for the HH-65, and the other 21 acquisition programs, GAO collected data from DHS's official system for acquisition reporting and provided all 22 programs opportunities to correct any errors. The HH-65 program did not provide GAO an alternative value that accounted for all of the funding appropriated for HH-65 operations through fiscal year 2014.

Long Range Surveillance Aircraft (HC-130H/J)

U.S. Coast Guard (USCG)

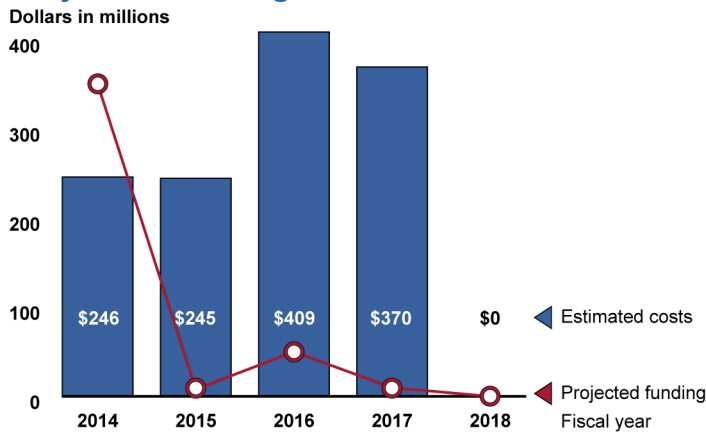


Source: USCG.

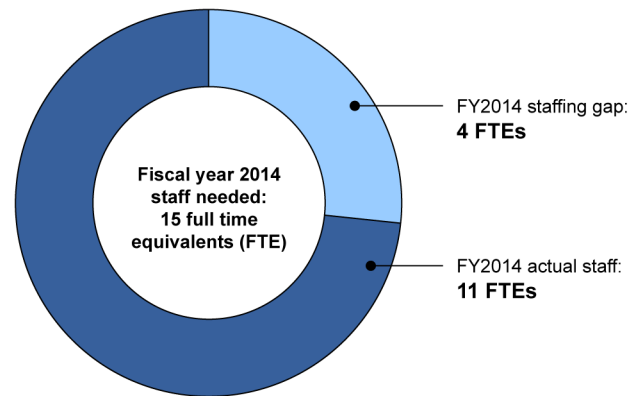
Program Description

USCG uses HC-130H/J 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 an 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. GAO previously reported on USCG's HC-130H/J program in [GAO-14-450](#).

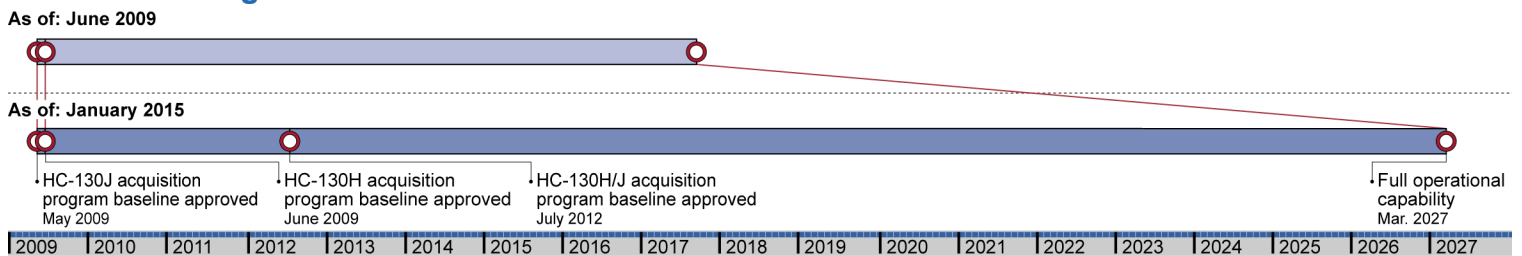
Projected Funding vs. Estimated Costs



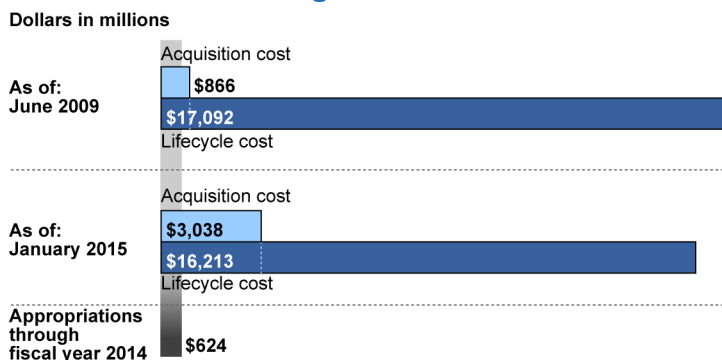
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

The HC-130H upgrade effort has six key performance parameters (KPP), and the HC-130J has seven. According to program officials, the aircraft have met all of these KPPs. However, program officials said USCG plans to install a new mission system processor in the HC-130J due to obsolescence issues. The new mission system processor is intended to enhance operator interface and sensor management, but USCG has not yet tested the system.

Acquisition Strategy

USCG officials told GAO that their fleet included 23 HC-130H aircraft, and 2 of those aircraft had received avionics upgrades. However, in October 2014, USCG officials told GAO they had decided to pursue an all HC-130J fleet, and no longer planned to upgrade any additional HC-130H aircraft. They also told GAO that USCG recently transferred one of the HC-130H aircraft with the avionics upgrade to NASA, and that it was working with the General Services Administration to possibly transfer the other upgraded aircraft to another agency. Additionally, USCG officials said 7 HC-130H aircraft will be transferred to the Forest Service. USCG has not yet determined what it will do with the 14 remaining HC-130H aircraft. USCG officials said the plan is dependent on USCG's aviation fleet mix analysis, which is scheduled for completion in fiscal year 2016.

USCG has acquired 6 HC-130J aircraft from Lockheed Martin through an existing U.S. Air Force contract and currently plans to acquire at least 16 additional aircraft from Lockheed Martin in the future. However, USCG officials stated that this quantity may decrease when USCG officials complete a fleet mix analysis in fiscal year 2016 that will assess how the planned acquisition of C-27J aircraft from the Air Force will affect USCG's need for the HC-130J aircraft.

Program Execution

From 2009 to 2014, the combined acquisition cost estimate for the HC-130H/J aircraft increased from \$866 million to \$3.0 billion. USCG officials primarily attributed this cost growth 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 2014, 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 in the future with the cancellation of the HC-130H upgrade effort, but the program has not yet completed a new life-cycle cost estimate reflecting this decision.

USCG officials said the decision to increase the HC-130J quantity from 6 to 22 was also the primary reason the full operational capability (FOC) date slipped from September 2017 to March 2027. Going forward, to achieve the 2027 date, USCG officials said they must acquire at least 1 or 2 aircraft per year. If the remaining 16 HC-130J aircraft are not delivered at this rate, USCG officials said the program's schedule will slip and its costs could increase. They said the delivery rate is dependent on the amount of funding the program receives, and that the program's FOC date will eventually slip again if the program's projected funding gap persists. That said, the gap may not be as large as it appears. The HC-130H/J funding plan DHS presented to Congress does not identify all of the funding USCG plans to allocate to HC-130H/J operations.

Test Activities

DHS's Director of Operational Test and Evaluation (DOT&E) approved a Test and Evaluation Master Plan (TEMP) for the HC-130H upgrade in 2010, but the program is not implementing the TEMP because USCG canceled the upgrade.

As for the HC-130J, the U.S. Air Force conducted operational testing on the aircraft in 2005, and in 2009, DOT&E and USCG determined it did not need a TEMP or additional operational testing. However, program officials said they do plan to conduct tests on the HC-130J's new mission system processor, which is intended to enhance operator interface and sensor management. USCG plans to install a prototype of the mission system processor on a HC-130J aircraft and test it from June 2015 to June 2016. If the mission system processor meets all of its requirements, USCG intends to begin installing the new mission system processor on the rest of HC-130J aircraft after that. USCG and the U.S. Navy are working together to test and install the mission system processor. The Navy and Customs and Border Protection use the mission system processor and tested it previously.

Other Issues

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

Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$624 million. USCG is working with DHS to resolve this issue.

Program Office Comments

As presented in the figures, the financial data is deceptive. The 'Projected Funding vs. Estimated Costs' information provides only acquisition funding, but the data actually includes both acquisition (AC&I) and operating (OE) costs. This discontinuity is repeated in the Program Execution section where comparisons from dissimilar source data are used to suggest a budget shortfall that does not exist. As depicted, this information compares dissimilar data and presents them out of context.

GAO Response

To determine the adequacy of the projected funding level for the HC-130H/J, and the 21 other acquisition programs GAO assessed, GAO compared the funding plans DHS presented to Congress in the fiscal year 2014 Future Years Homeland Security Program report to the programs' yearly cost estimates from 2014 to 2018. As noted in the Program Execution section, the HC-130H/J funding plan DHS presented to Congress does not identify all of the funding USCG plans to allocate to HC-130H/J operations. In the Recommendations section of this report, GAO recommends DHS correct this deficiency.

Medium Range Surveillance (MRS) Aircraft

U.S. Coast Guard (USCG)

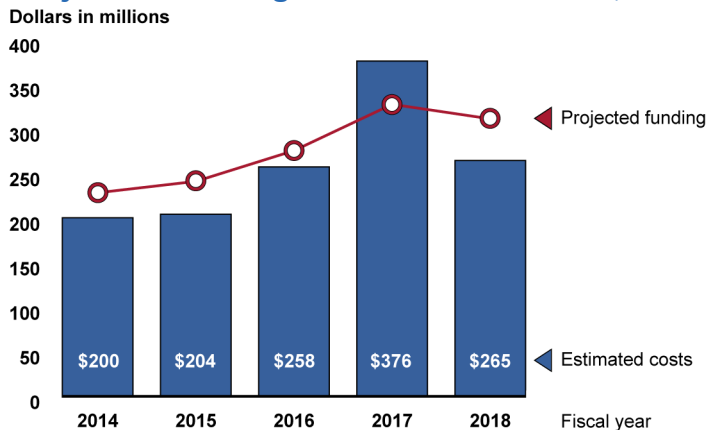


HC-144A, Source: USCG.

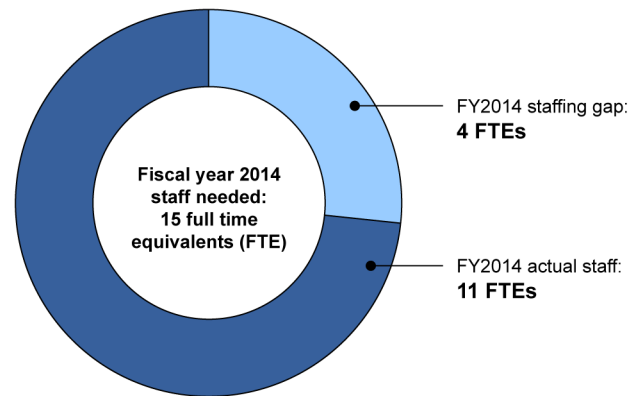
Program Description

In October 2014, Department of Homeland Security (DHS) leadership directed USCG to restructure its HC-144A acquisition program to accommodate 14 C-27J aircraft that are being transferred from the U.S. Air Force, and designated the combined acquisition the MRS Aircraft program. USCG plans to use both aircraft to conduct all of its missions, including search and rescue missions, enforce laws and treaties, and transport cargo and personnel. The department has not yet approved an MRS cost estimate or funding plan, and the cost and funding figures in this assessment reflect the legacy HC-144A program. In addition to this assessment, GAO previously addressed the HC-144A in [GAO-14-450](#), and is issuing a separate report focused on the C-27J.

Projected Funding vs. Estimated Costs (HC-144A)

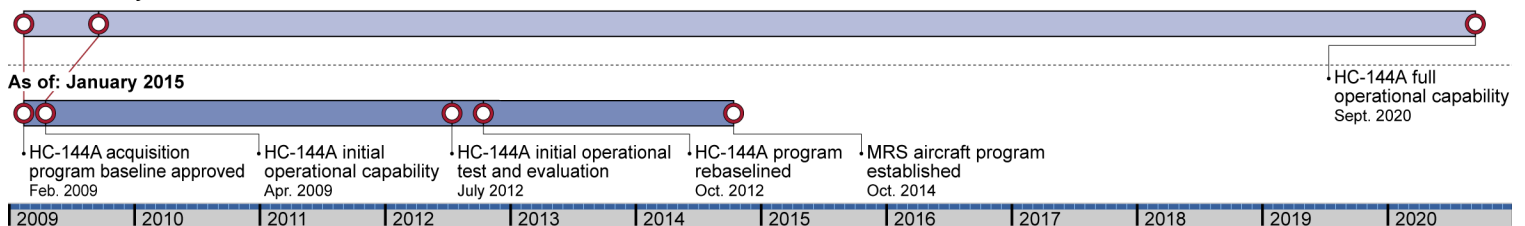


Program Office Staffing Profile (HC-144A)

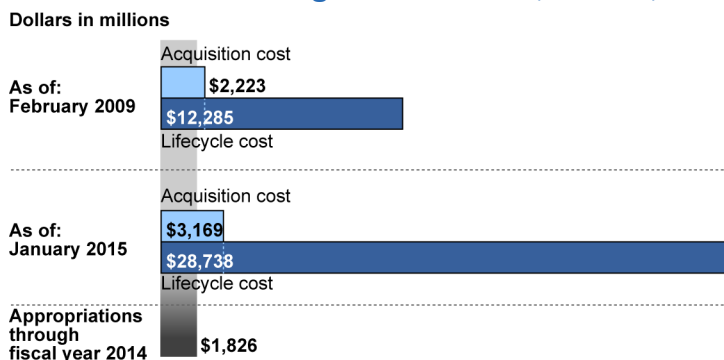


Schedule Changes over Time

As of: February 2009



Cost Estimate Changes over Time (HC-144A)



Performance

The HC-144A has not fully met four of its seven key performance parameters (KPP). USCG officials said 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's KPPs will apply to the C-27J aircraft, but the C-27J aircraft will not be able to meet them until USCG completes planned upgrades. USCG currently expects to start testing prototype upgrades in fiscal year 2017.

Acquisition Strategy

In 2003, USCG began acquiring the HC-144A aircraft and mission systems, which link electronic equipment to sensors that are intended to improve surveillance and maritime domain awareness. USCG initially purchased 11 aircraft and 12 mission systems as a part of the since-canceled Deepwater program, in which Lockheed Martin and Northrop Grumman served as the lead systems integrator for a wide range of USCG aircraft and ships. Subsequently, USCG decided it should serve as its own systems integrator, and procured the HC-144A aircraft directly from the manufacturer, while continuing to acquire the mission system from Lockheed Martin. However, in 2013, USCG indefinitely paused the HC-144A procurements after acquiring 18 aircraft and 17 mission systems. According to program officials, USCG may not acquire any additional HC-144A aircraft now that the U.S. Air Force is providing the USCG with 14 C-27J aircraft. USCG will decide whether it should acquire more HC-144A aircraft after it completes a mission needs analysis in fiscal year 2016.

In 2014, USCG began efforts to replace the HC-144A mission system with a system processor being used by the Navy and Customs and Border Protection. This mission system processor will be adapted to the sensors already on board the HC-144A aircraft. A prototype is scheduled to be completed in fiscal year 2016 and, if it works well, USCG officials said they plan to outfit all 18 HC-144As with this mission system processor by fiscal year 2019.

Going forward, once the U.S. Air Force delivers the C-27J aircraft, USCG plans to integrate radar, infrared sensors, and other systems so the aircraft can meet its KPPs.

Program Execution

The HC-144A's life-cycle cost estimate (LCCE) increased by \$16.5 billion from 2009 to 2012. Program officials told GAO that the 2009 estimate did not include costs related to facilities, training aides, or revised crew sizes, nor was it informed by the HC-144A's actual operational costs. USCG officials said the 2012 estimate accounted for these costs.

The HC-144A's acquisition cost estimate increased by \$947 million dollars from 2009 to 2012. USCG officials primarily attributed this increase to funding constraints. They explained that, in 2009, USCG planned to purchase several planes each year, but in 2012, USCG reduced the number to one plane per year, which increased the cost per plane by diminishing economies of scale. These funding constraints also affected the program's schedule, causing the planned full operational capability date to slip from 2020 to 2025. DHS's Under Secretary for Management (USM) directed USCG to produce a rough order of magnitude LCCE for the restructured MRS Aircraft program by November 2014, but it is not yet clear how this LCCE will compare to the 2012 estimate or the program's current funding plan. The pause in the acquisition of HC-144A aircraft and the addition of 14 C-27J aircraft may have a significant effect on the program's funding needs.

Test Activities

In October 2012, DHS leadership approved the HC-144A for full rate production, having previously noted that an operational test found the HC-144A to be both suitable and effective. However, the operational test also found limitations. The HC-144A did not meet 3 KPPs, including one for detecting targets at sea with its mission system. Despite this shortfall, operational testers from the Navy considered the HC-144A operationally effective because operators can supplement the mission system by looking out of the windows of the aircraft and using other sensors. However, this tactic inhibits the HC-144A's ability to contribute to USCG maritime domain awareness efforts. Program officials told GAO they are addressing the deficiencies discovered through the test by changing operational tactics until funding becomes available. As of October 2014, program officials said that the USCG had not yet conducted any follow-up testing.

DHS's USM established that the C-27J mission system must be operationally tested. According to program officials, operational tests are tentatively scheduled for fiscal year 2017. An exact test schedule will be finalized once DHS leadership approves the completed mission system design.

Other Issues

Despite reporting a HC-144A program office staffing gap, program officials told GAO they had enough personnel to manage the HC-144A program in October 2014.

Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$1.8 billion. USCG is working with DHS to resolve this issue.

Program Office Comments

USCG has taken steps to address the deficiencies identified in the Initial Operational Test and Evaluation. Both technical and non-technical solutions have improved the aircraft system performance. Additionally, there are planned upgrades to address noted deficiencies for the HC-144 to include an avionics refresh and mission system processor replacement. USCG is replacing the mission system processor, which will be integrated with the existing mission system equipment. The 2009 cost estimates cited in the Program Execution section of this assessment did not include facilities, training aides, actual cost/flight hour, and revised crew size. The 2012 cost estimates incorporated these adjustments, which resulted in the increase in the life cycle cost.

National Security Cutter (NSC)

U.S. Coast Guard (USCG)

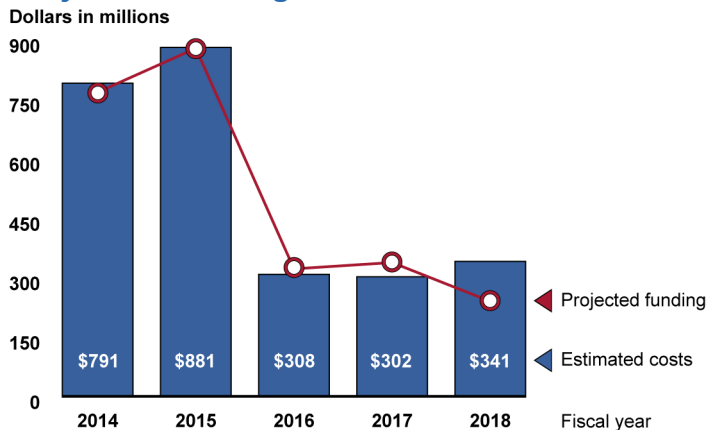


Source: USCG.

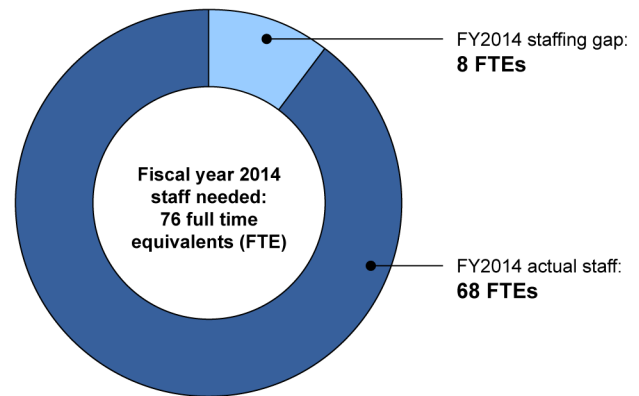
Program Description

USCG uses the 418-foot NSC to conduct search and rescue, migrant and drug interdiction, environmental protection, and other missions. The NSC replaces USCG's High Endurance Cutters. It carries helicopters and small boats, provides an extended on-scene presence at forward deployed locations, and operates worldwide. As of September 2014, four of eight planned NSCs had been delivered, and three were under construction. USCG officials told GAO they are scheduled to award the production contract for the last NSC in 2015, and that it is scheduled to be delivered in fiscal year 2020. Each NSC is designed to have a 30-year service life. GAO most recently reported on the NSC acquisition in [GAO-14-450](#).

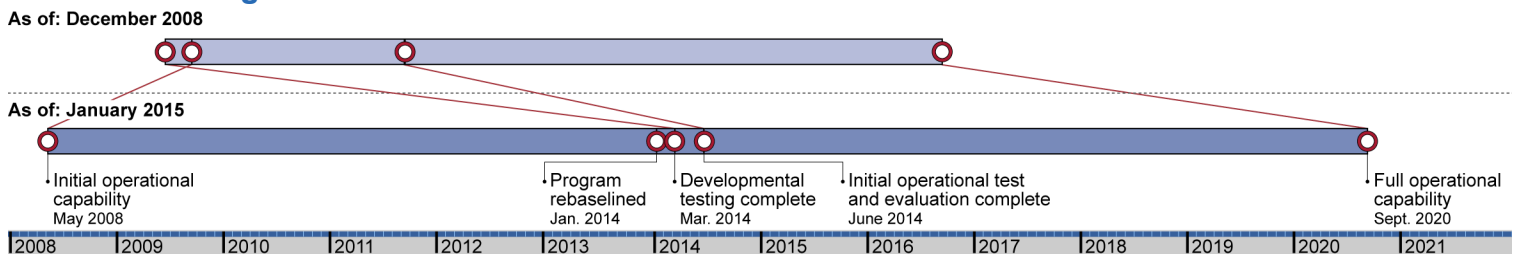
Projected Funding vs. Estimated Costs



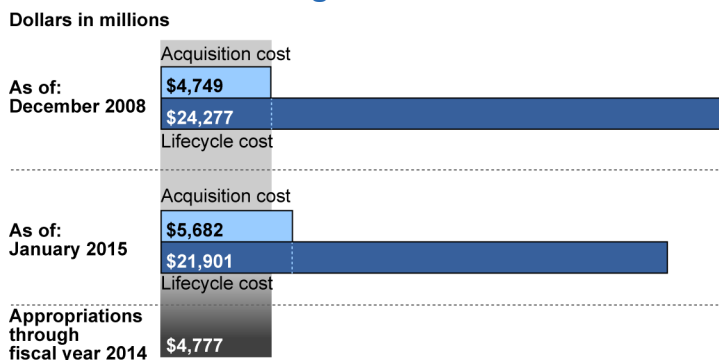
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

USCG is preparing to initiate production of the final NSC, but it has not yet demonstrated the NSC can meet all of the key performance parameters (KPP) for six of its seven performance categories, including KPPs for combat, operating range, small-boat deployment, and cybersecurity. Initial operational testing was conducted in 2014 and USCG officials told GAO the program will conduct follow-on testing between fiscal years 2015 and 2017.

Acquisition Strategy

In 2002, USCG awarded an indefinite delivery indefinite quantity contract to Integrated Coast Guard Systems (ICGS)—a joint venture between Northrop Grumman and Lockheed Martin—to execute an acquisition effort designated Deepwater. USCG expected Deepwater would modernize significant portions of its surface and aviation fleets by rebuilding or replacing ships and aircraft. The NSC acquisition was a central element of Deepwater, and USCG awarded ICGS delivery and task orders to produce the first three NSCs. However, in 2006, USCG revised its acquisition strategy for Deepwater, citing cost increases, and took over the role of lead systems integrator, acknowledging that it had relied too heavily on contractors.

In 2010, USCG awarded the production contract for the fourth NSC to Northrop Grumman, which had previously been a part of ICGS. In 2011, Northrop Grumman spun off its shipbuilding sector as an independent company named Huntington Ingalls Industries (HII). From 2011 to 2014, USCG exercised a contract option with HII for the production of the fifth NSC, and separately, awarded a contract to HII and exercised options for the sixth and seventh NSCs. In September 2014, department leadership approved the NSC to initiate full rate production, but by that time, USCG had already initiated the production of seven of the eight planned NSCs.

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 [GAO-11-743](#), GAO identified a number of issues during developmental testing that USCG needed to address before initiating operational testing, including reliability, maintenance, performance, and safety issues. The program's full operational capability date has also slipped, from fiscal year 2016 to fiscal year 2020. USCG officials attributed these slips to delays in awarding the production contract for the fourth NSC and subsequent ships, as well as funding shortfalls. Going forward, however, it does not appear the NSC will face significant funding shortfalls. From fiscal year 2014 to 2018, the NSC's projected funding levels cover 97 percent of its projected costs.

From 2008 to 2014, the program's acquisition cost estimate increased from \$4.7 billion to \$5.7 billion. USCG said the 2008 estimate was largely based on its experience with the first three NSCs, and that it did not accurately account for the lingering impacts of Hurricane Katrina, which struck the region where the NSCs are being built in 2005. USCG stated that Hurricane Katrina created labor shortages, which increased rates and decreased productivity.

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.

Test Activities

The department's Director of Operational Test and Evaluation (DOT&E) approved the NSC's current Test and

Evaluation Master Plan in 2013. The NSC completed its initial operational testing in 2014, and DOT&E found the NSC to be operationally effective and suitable. However, DOT&E identified several major deficiencies. For example, the NSC's small boat could not operate as intended in rough waters. USCG officials told GAO they plan to test a new small boat by March 2015. Additionally, DOT&E noted issues with the reliability of the NSC's weapons systems, and department leadership has encouraged USCG to work closely with the U.S. Navy to address these issues.

USCG has not demonstrated the NSC's cybersecurity capabilities or its ability to handle certain classified information, and it will not do so until follow-on operational tests, which USCG officials told GAO will be conducted between fiscal years 2015 and 2017. DOT&E will subsequently produce an independent assessment of the test results. GAO plans to conduct a more detailed assessment of the test report in early 2015.

Other Issues

USCG reported that the program office has a staffing gap of approximately 10 percent, which has made it difficult to obligate funds in a timely manner.

Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$4.8 billion. USCG is working with DHS to resolve this issue.

Program Office Comments

As of September 2014, four NSCs have been delivered. The three NSCs in operation have effectively demonstrated capabilities to perform all assigned missions while deployed and during operational training scenarios. Initial Operational Test and Evaluation was completed in April 2014. DHS's Office of Test and Evaluation and the Navy's Commander Operational Test and Evaluation Force determined the NSC to be Operationally Effective and Suitable. There are 19 Key Performance Parameters and 19 Critical Operational Issues, which reflect a total of 38 capability areas that were evaluated during IOT&E to assess the NSC's performance. Of these 38 areas, eight have not yet been fully validated or were simply not performed. Additional testing will be conducted during Follow-on Test and Evaluation from 2015-2017. The program's current assessment of Total Acquisition Cost for eight NSCs is approximately \$5.4 billion. Funding requests through the completion of the program align with this estimate.

GAO Response

USCG has not demonstrated through operational testing that the NSC can meet all of its KPPs for six of its seven performance categories. Additionally, across all 22 program assessments, GAO has reported threshold cost estimates, rather than objective cost estimates, because this is the maximum cost authorized by DHS leadership. For this reason, we reported the NSC's acquisition cost estimate is \$5.7 billion, rather than \$5.4 billion.

Offshore Patrol Cutter (OPC)

U.S. Coast Guard (USCG)



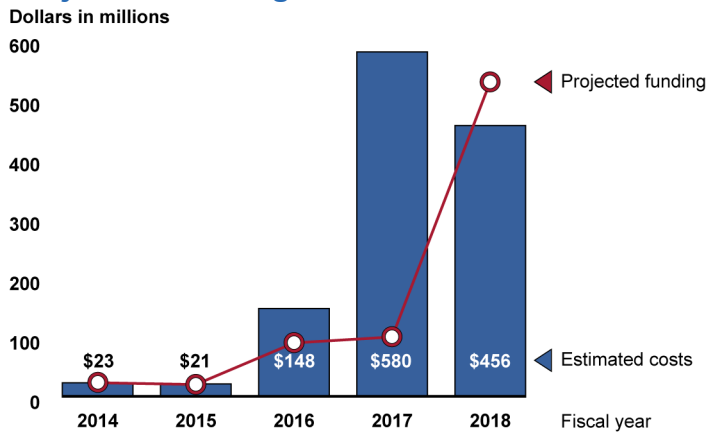
Source: USCG.

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.

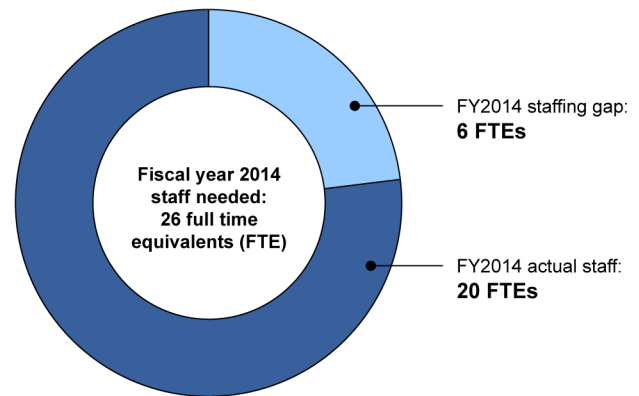
Program Description

USCG plans to use the OPC to conduct patrols for homeland security, law enforcement, and search-and-rescue operations. It will be designed for long-distance transit, extended on-scene presence, and operations with deployable aircraft and small boats. The OPC is intended to replace USCG's aging Medium Endurance Cutters. USCG plans to procure 25 OPCs, and it expects to receive the first OPC in 2021. However, in 2012, the Department of Homeland Security (DHS) Chief Financial Officer (CFO) expressed concerns about the program's costs. In [GAO-14-450](#), GAO reported that the OPC will absorb about two-thirds of USCG's acquisition funding in the future, and noted that USCG's acquisition portfolio was unaffordable.

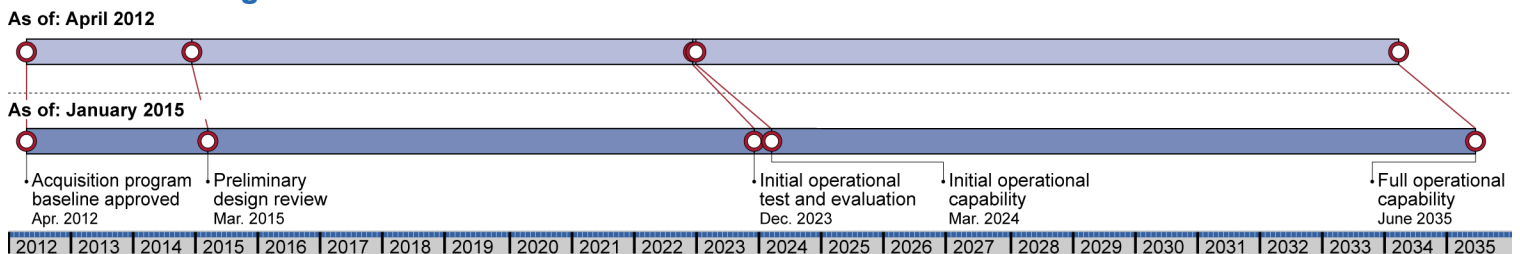
Projected Funding vs. Estimated Costs



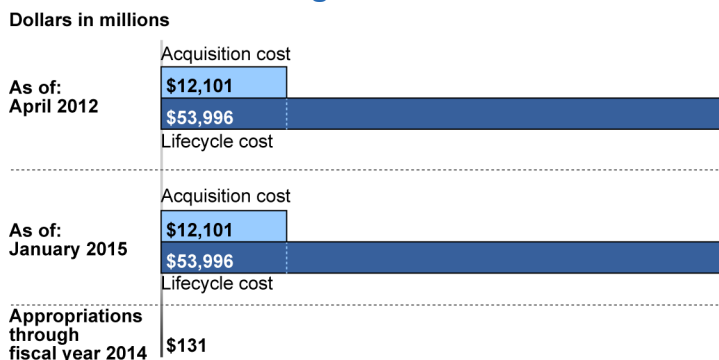
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

DHS 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 USCG has not yet demonstrated whether it can meet these KPPs. USCG plans to use engineering reviews and developmental and operational tests throughout the acquisition to measure the OPC's performance.

Acquisition Strategy

USCG is using a two-phase strategy to select a contractor to deliver the OPC. First, USCG conducted a full and open competition to select three contractors to perform preliminary and contract design work, and in February 2014, USCG awarded firm-fixed-price contracts to Eastern Shipbuilding, Bollinger Shipyard, and Bath Iron Works. Second, in fiscal year 2016, 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 2014, the program's preliminary design review and initial operational test and evaluation (IOT&E) dates slipped 9 and 12 months, respectively, and the program's initial and full operational capability dates both slipped 15 months. USCG officials attributed these slips to delays in awarding the three preliminary-design contracts and a subsequent bid protest that was filed with GAO. The protest was denied in June 2014.

In [GAO-14-450](#), GAO identified that the OPC's full operational capability date slipped 14 years between 2007 and 2014. Going forward, USCG officials have stated that additional OPC delays will decrease 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 2014. However, in [GAO-14-450](#), GAO reported that the OPC program's acquisition cost estimate 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 in October 2011, and USCG plans to conduct IOT&E on the first OPC in fiscal year 2024. 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 \$465 million funding shortfall from fiscal years 2015 to 2018, but program officials told GAO some of the projected costs will not be incurred until a later date due to program delays, and that no funding shortfalls are projected from fiscal years 2015 to 2018. Nonetheless, in 2012, DHS's CFO 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 April 2012, DHS's Under Secretary for Management announced that department leadership would reassess the program before USCG selects a contractor to construct

the OPC. In [GAO-14-450](#), GAO reported that the OPC will absorb about two-thirds of USCG's acquisition funding from 2018 to 2032, and recommended that USCG develop a 20-year fleet modernization plan that identifies all acquisitions needed to maintain the current level of service, along with trade-offs if the funding needed to execute the plan is not consistent with annual budgets. 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 trade-offs they would make to address affordability issues.

USCG reported to DHS headquarters that the program office needed 26 FTEs and actually had 20 FTEs. However, program officials told GAO the program only requires 19 FTEs and currently has 17. Program officials also said that past shortfalls did not significantly impact the program.

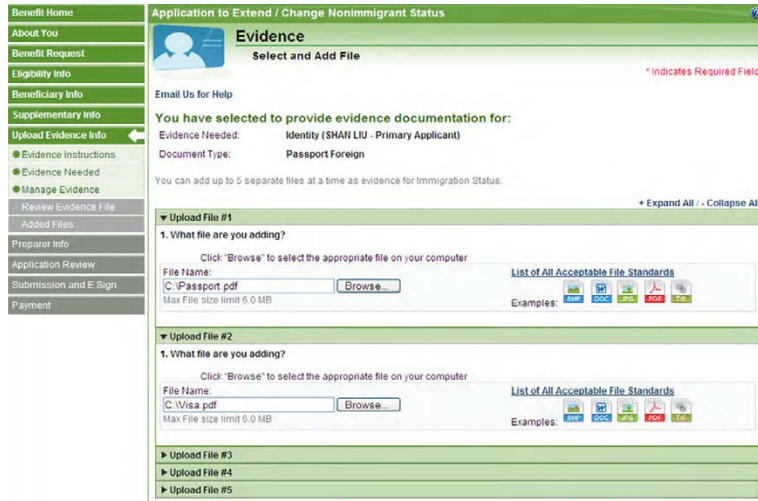
Additionally, DHS officials told GAO that they do not account for all of the operations and maintenance funding USCG allocates to its major acquisition programs when the department reports this information to Congress. As a result, the actual amount appropriated through fiscal year 2014 may be greater than \$131 million. USCG is working with DHS to resolve this issue.

Program Office Comments

USCG provided technical comments, which GAO incorporated as appropriate.

Transformation

U.S. Citizenship and Immigration Services (USCIS)

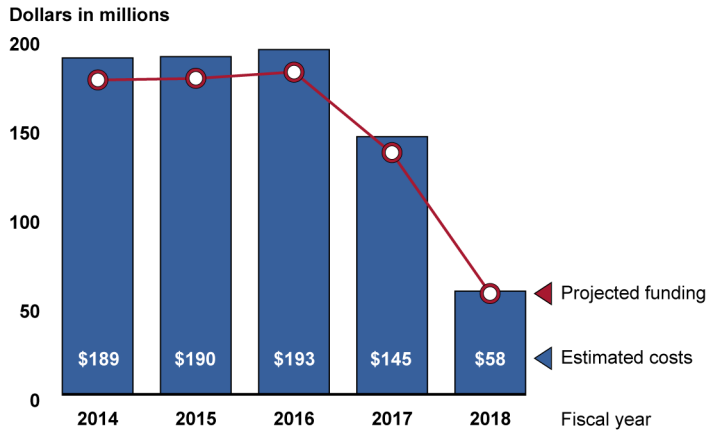


Source: USCIS.

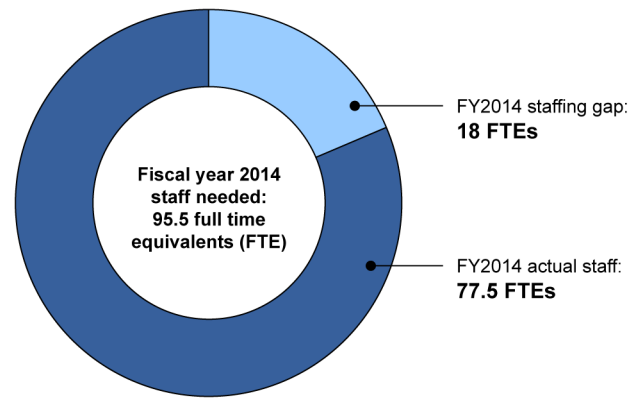
Program Description

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 strategy. According to USCIS, the program is now pursuing a simpler solution based on a new system architecture. In addition to this assessment, GAO is currently conducting a more detailed evaluation of the program.

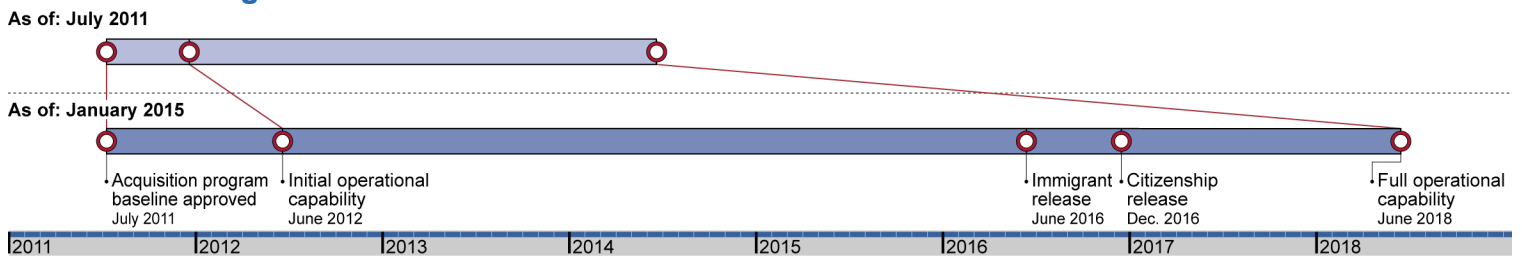
Projected Funding vs. Estimated Costs



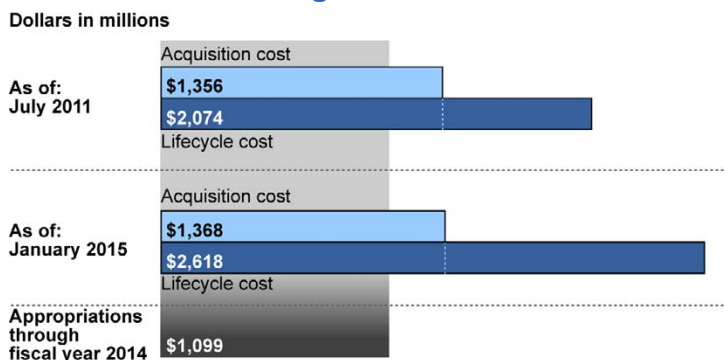
Program Office Staffing Profile



Schedule Changes over Time



Cost Estimate Changes over Time



Performance

The department's Under Secretary for Management (USM) approved the program's key performance parameters (KPP) in 2011, but in 2013, the USM directed USCIS to revise them due to risks with the program's approach. Since then, the program has produced a draft requirements document, but the USM has not yet approved it, and the program has not yet demonstrated the extent to which it can meet any of the draft document's six KPPs using its new system architecture.

Acquisition Strategy

In 2008, the Department of Homeland Security (DHS) awarded IBM a task order for solution-architect services to deliver the Electronic Immigration System's Integrated Operating Environment through five 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. USCIS has 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 2015, the program's full operational capability (FOC) date slipped from June 2014 to June 2018. 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.

From July 2011 to January 2015, the program's life-cycle cost estimate (LCCE) increased from approximately \$2.1 billion to approximately \$2.6 billion. Program officials primarily attributed this cost growth to an adjustment to a key assumption. In 2011, the cost estimate was based on the assumption that the solution would only be in service for 8 years beyond the 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. USCIS said this change increased the LCCE by \$650 million. Additionally, when USCIS decided to adopt a new system architecture, it also decided that it would retire its old system architecture. As a result, USCIS will have to recreate a significant amount of software on the new system architecture. The program is currently working to update its cost estimate to fully reflect the new strategy.

Test Activities

DHS's Director of Operational Test and Evaluation (DOT&E) had not approved the program's Test and Evaluation Master Plan since the USM directed USCIS to update it in February 2014. Nonetheless, in January 2015, the program conducted its first operational assessment since it adopted its new

system architecture, and DOT&E personnel observed this assessment. The assessment was intended to evaluate the performance of a new software release intended to help USCIS employees process an immigration form. During this time, adjudicators worked to process approximately 2,000 applications. The results of this assessment will be used to plan for an additional assessment in the future. Going forward, the program plans to conduct similar operational assessments several more times from June 2016 to June 2018, when the program plans to achieve FOC.

Other Issues

The program reported an approximately 20 percent staffing gap, but program officials said there have been no negative effects as a result.

Additionally, USCIS said the program is projected to receive full funding in the future despite apparent shortfalls from fiscal years 2015 through 2017. USCIS explained that the funding plan DHS presented to Congress does not account for resources that are used to fund certain support personnel.

Program Office Comments

USCIS provided technical comments, which GAO incorporated as appropriate.

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 DHS's major acquisition programs (1) are on track to meet their schedules and cost estimates, (2) have successfully completed operational testing, and (3) are facing common issues department-wide. To answer these questions, we assessed all 14 of DHS's Level 1 acquisition programs—those with life-cycle cost estimates of \$1 billion or more—that had at least one project/increment/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 assessed 8 other major acquisition programs—those with life-cycle cost estimates 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 this 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 22 selected programs were sponsored by 8 different components, and they are identified in table 6, along with our rationale for selecting them.

Appendix II: Objectives, Scope, and Methodology

Table 6: Rationale for Selecting Programs for Assessment

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
Analysis and Operations (A&O)	Homeland Security Information Network (HSIN) ^a		X
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)	National Cybersecurity Protection System (NCPS)	X	
	Next Generation Network – Priority Service (NGN-PS)	X	
Transportation Security Administration (TSA)	Electronic Baggage Screening Program (EBSP)	X	
	Passenger Screening Program (PSP)	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 (MRS) Aircraft	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-15-171SP

^aLevel 2 program.

^bC4ISR 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 schedules and cost estimates, for each of the 22 programs, we collected all acquisition documentation, including all program baselines, approved at the department level since DHS's current acquisition policy went into effect in November 2008. A 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. Sixteen of the 22 programs had one or more department-approved baselines since November 2008, and we used these baselines to establish the initial cost estimates and schedules for these 16 programs. In July 2014, we collected updated cost and schedule information from DHS's Next Generation Periodic Reporting System, which is the department's system for information on its major acquisition programs. We also developed a data collection instrument, pre-tested it with officials from select program offices, and subsequently used it to help validate the information from the baselines and the DHS system. 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 the DHS system, identifying cost growth and schedule slips, if any. For the six programs that lacked department-approved baselines, we were unable to identify whether there was any cost growth or schedule slips because we did not have an initial data point to compare to the cost and schedule information from the DHS system. 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. We subsequently met with these officials to identify causes and effects associated with any cost growth and schedule slips. We also met with the individuals from PARM with lead responsibility for overseeing each of the 22 programs, and interviewed them to gain additional insights about the specific programs' cost growth and schedule slips. Subsequently, we drafted preliminary assessments for each of the 22 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). Through this process, we determined that our data elements were sufficiently reliable for the purpose of this engagement.

To determine the extent to which DHS's major acquisition programs have successfully completed operational testing, we collected all Test and Evaluation Master Plans (TEMP), approved by DHS's Director of

Operational Test and Evaluation (DOT&E), for each program. A program's TEMP describes the developmental and operational testing needed to determine technical performance, operational effectiveness and suitability, and limitations. For each program, we also collected all of the letters of assessment issued by DOT&E. A letter of assessment communicates DOT&E's appraisal of the adequacy of an operational test, a concurrence or non-concurrence with the operational test report's conclusions, and any further independent analysis DOT&E conducted. We used the programs' baselines, data collection instruments, and other documents to identify whether the programs had a project, increment, or segment in the Produce/deploy/support phase, which is the stage in the acquisition life cycle that DHS delivers new capabilities to operators, and the point by which the programs are generally required to conduct operational testing per DHS acquisition policy. We then assessed the programs' letters of assessment to determine what system(s) were tested and when the testing was conducted. We also identified whether DOT&E deemed the system(s) operationally effective and suitable, and if not, whether the shortfall was with the test or the system(s). Finally, we assessed the letters of assessment to determine whether DOT&E explicitly measured the system(s) against key performance parameters, and if so, whether the system(s) met all of the relevant key performance parameters.¹ We also applied criteria from DHS policy when assessing the letters of assessment. Additionally, we met with representatives from each of the 22 programs to confirm or clarify our preliminary findings, and to identify causes and effects associated with any testing shortfalls. We also met with DOT&E representatives with lead responsibility for overseeing each of the 22 programs' test activities to gain additional insights about these activities. Subsequently, we drafted preliminary assessments for each of the 22 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).

To determine the extent to which DHS's major acquisition programs are facing common issues department-wide, we interviewed PARM officials and DOT&E representatives, and representatives of each of the 22 programs in our scope. We specifically asked the officials to identify

¹ Key performance parameters are the capability/system attributes or characteristics that are considered critical or essential, and are required to successfully meet the DHS mission.

challenges that contributed to any cost growth, schedule slips, or poor test results. We also asked them to identify whether funding, workforce, and requirements issues we previously identified were enduring. Additionally, we collected each of the 22 programs' five-year funding plans as reported to Congress in the fiscal year 2014 Future Years Homeland Security Program report and compared them to yearly estimated funding needs, as identified in DHS's Next Generation Periodic Reporting System, to identify funding gaps. We also applied criteria from federal standards for internal control.² We collected and assessed staffing data provided by PARM to identify staffing shortfalls. We reviewed all department-approved iterations of each program's baseline and used our data collection instruments to identify capability requirement changes. Subsequently, we drafted preliminary assessments for each of the 22 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. Finally, we analyzed the challenges from a component-specific perspective to determine if any challenges were particularly prevalent at particular components.

We conducted this performance audit from June 2014 to April 2015 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.

² [GAO/AIMD-00-21.3.1](#).

Appendix III: Comments from the Department of Homeland Security

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



**Homeland
Security**

April 10, 2015

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

Re: Draft Report GAO-15-171, "HOMELAND SECURITY ACQUISITIONS:
Major Program Assessments Reveal Actions Needed to Improve
Accountability"

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 Government Accountability Office's (GAO's) work in planning and conducting its review and issuing this report.

The Department is pleased with GAO's recognition that DHS is continuing to take steps to address challenges related to keeping DHS programs within cost and schedule parameters. As GAO acknowledges, DHS has already taken significant steps to improve acquisition management. These ongoing efforts highlight the Department's commitment to better acquisition and resource management.

The draft report contained three recommendations with which the Department concurs. Specifically, GAO recommended:

Recommendation 1: Ensure DOT&E [DHS's Director of Operational Test and Evaluation] explicitly address all of the relevant key performance parameters in each letter of assessment appraising operational test results.

Response: Concur. The DOT&E, as part of ongoing internal process reviews, has initiated a revision of the internal office procedure for the Letter of Assessment. Upon completion, a copy of the updated procedure will be provided to GAO. Estimated Completion Date (ECD): June 30, 2015.

Recommendation 2: Ensure future baselines for all of TSA's [Transportation Security Administration's] major acquisition programs capture the overall historical record of change.

Response: Concur. The TSA will begin incorporating an addendum to future Acquisition Program Baselines (APB) to capture and consolidate historical objective and threshold values for all program/project key performance parameters beginning with the initial program baseline and showing traceability of all interim approved versions to the current APB. This will provide a single source to show the changes to cost, schedule, and performance metrics. Projects that have been discontinued, completed, and/or started since the initial program baseline will be noted in the addendum for historical context. APBs will not be revised solely to include the addendum; however, if the APB requires a revision to re-baseline the program, then the addendum will be included as part of the submission. Effective May 1, 2015, the addendum will be incorporated into all new APBs submitted to DHS for approval. ECD: April 30, 2016.

Recommendation 3: Ensure the funding plans presented to Congress in fiscal year 2015 are comprehensive and clearly account for all operations and maintenance funding DHS plans to allocate to each of the USCG's [United States Coast Guard's] major acquisition programs.

Response: Concur. The USCG routinely tracks and accounts for operations and maintenance of new assets and will work to strengthen how this is incorporated in funding plans presented to Congress. Specifically, USCG and the DHS Chief Financial Officer will develop a plan to address this recommendation by September 30, 2015, then work together to fully implement the plan. ECD: March 31, 2016.

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

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

Michele Mackin, (202) 512-4841 or mackinm@gao.gov

Staff Acknowledgments

In addition to the contact named above, Katherine Trimble (Assistant Director), Nathan Tranquilli (Analyst-in-Charge), Peter Anderson, Mathew Bader, Robert Bullock, Lisa Canini, Virginia Chanley, Bruce Crise, Burns Eckert, Laurier R. Fish, Daniel Gordon, Yvette Gutierrez, Claire Li, Erin O'Brien, Alexis Olson, Megan Porter, Ashley Rawson, Sylvia Schatz, Lindsay Taylor, Ozzy Trevino, and Melissa Wohlgemuth made key contributions to this report.

Related GAO Products

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

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.

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

Department of Homeland Security: Assessments of Selected Complex Acquisitions. [GAO-10-588SP](#). Washington, D.C.: June 30, 2010.

Department of Homeland Security: Billions Invested in Major Programs Lack Appropriate Oversight. [GAO-09-29](#). Washington, D.C.: Nov. 18, 2008.

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E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

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

Public Affairs

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

