



May 2018

# HOMELAND SECURITY ACQUISITIONS

## Leveraging Programs' Results Could Further DHS's Progress to Improve Portfolio Management

Accessible Version

# GAO Highlights

Highlights of [GAO-18-339SP](#), a report to congressional committees

## Why GAO Did This Study

Each year, the DHS invests billions of dollars in a diverse portfolio of major acquisition programs to help execute its many critical missions. DHS's acquisition activities are on GAO's High Risk List, in part, because of management and funding issues.

The Explanatory Statement accompanying the DHS Appropriations Act, 2015 included a provision for GAO to review DHS's major acquisitions. This report, GAO's fourth annual review, assesses the extent to which: (1) DHS's major acquisition programs are on track to meet their schedule and cost goals, and (2) DHS has taken actions to enhance its policies and processes to better reflect key practices for effectively managing a portfolio of investments.

GAO reviewed 28 acquisition programs, including DHS's largest programs that were in the process of obtaining new capabilities as of April 2017, and programs GAO or DHS identified as at risk of poor outcomes. GAO assessed cost and schedule progress against baselines, assessed DHS's policies and processes against GAO's key portfolio management practices, and met with relevant DHS officials.

## What GAO Recommends

GAO recommends DHS update its acquisition policy to require certification of fund memorandums when programs re-baseline as a result of a breach and assess programs' post-implementation reviews to improve performance across the acquisition portfolio. DHS concurred with GAO's recommendations.

View [GAO-18-339SP](#). For more information, contact Marie A. Mak at (202) 512-4841 or [makm@gao.gov](mailto:makm@gao.gov).

May 2018

## HOMELAND SECURITY ACQUISITIONS

### Leveraging Programs' Results Could Further DHS's Progress to Improve Portfolio Management

## What GAO Found

During 2017, 10 of the Department of Homeland Security (DHS) programs GAO assessed that had approved schedule and cost goals were on track to meet those goals. GAO reviewed 28 programs in total, 4 of which were new programs that GAO did not assess because they did not establish cost and schedule goals before the end of calendar year 2017 as planned. The table shows the status of the 24 programs GAO assessed. Reasons for schedule delays or cost increases included technical challenges, changes in requirements, and external factors.

#### GAO's Assessment of 24 DHS Major Acquisition Programs during 2017

Programs on track to meet schedule and cost goals	Programs with schedule delays	Programs with cost increases	Programs with schedule delays and cost increases
10	6	2	6

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP.

Recent enhancements to DHS's acquisition management, resource allocation, and requirements policies largely reflect key portfolio management practices (see table). However, DHS is in the early stages of implementing these policies.

#### GAO's Assessment of DHS Policies for Acquisition Management, Resource Allocation, and Requirements against Key Portfolio Management Practices

Key portfolio management practice	GAO's assessment
Clearly define and empower leadership	Met
Establish standard assessment criteria and demonstrate comprehensive portfolio knowledge	Met
Prioritize investments by integrating the requirements, acquisition, and budget processes	Met
Continually make go/no-go decisions to rebalance the portfolio	Partially met

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP.

GAO identified two areas where DHS could strengthen its portfolio management policies and implementation efforts:

- DHS's policies do not reflect the key practice to reassess a program that breaches—or exceeds—its cost, schedule, or performance goals in the context of the portfolio to ensure it is still relevant or affordable. Acquisition management officials said that, in practice, they do so based on a certification of funds memorandum—a tool GAO has found to be effective for DHS leadership to assess program affordability—submitted by the component when one of its programs re-baselines in response to a breach. Documenting this practice in policy would help ensure DHS makes strategic investment decisions within its limited budget.
- DHS is not leveraging information gathered from reviews once programs complete implementation to manage its portfolio of active acquisition programs. DHS's acquisition policy requires programs to conduct post-implementation reviews after initial capabilities are deployed, which is in line with GAO's key practices. Acquisition management officials said they do not consider the results of these reviews in managing DHS's portfolio because the reviews are typically conducted after oversight for a program shifts to the components. Leveraging these results across DHS could enable DHS to address potential issues that may contribute to poor outcomes, such as schedule slips and cost growth, for other programs in its acquisition portfolio.

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## Abbreviations

APB	acquisition program baseline
DHS	Department of Homeland Security
FYHSP	Future Years Homeland Security Program
JRC	Joint Requirements Council
LCCE	life-cycle cost estimate
O&M	operations and maintenance
PA&E	Office of Program Analysis and Evaluation
PARM	Office of Program Accountability and Risk Management

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May 17, 2018

## Congressional Committees

Each year, the Department of Homeland Security (DHS) invests billions of dollars in a diverse portfolio of major acquisition programs to help execute its many critical missions. In fiscal year 2017 alone, DHS planned to spend approximately \$6.5 billion on these acquisition programs, and ultimately the department will likely invest more than \$207.2 billion in them. DHS and its underlying components are acquiring systems to help secure the border, increase marine safety, screen travelers, enhance cybersecurity, improve disaster response, and execute a wide variety of other operations. Each of DHS's major acquisition programs generally costs \$300 million or more and spans multiple years.<sup>1</sup>

To help manage these programs, DHS has established an acquisition management policy that we have found to be generally sound in that it reflects key program management practices we've identified in prior work.<sup>2</sup> However, we have found shortfalls in executing the policy and have highlighted DHS acquisition management issues in our high-risk updates since 2005.<sup>3</sup> Over the past decade, we have found that department leadership has dedicated additional resources and implemented new policies designed to improve acquisition oversight. But our work has also identified shortcomings in the department's ability to manage its portfolio of major acquisitions.<sup>4</sup> For example, in April 2017, we found that 14 of the 26 programs we reviewed deployed capabilities before meeting all key performance parameters—the requirements a

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<sup>1</sup>DHS defines major acquisition programs as those with life-cycle cost estimates of at least \$300 million or more. In some cases, DHS may define a program with a life-cycle cost estimate less than \$300 million a major acquisition if it has significant strategic or policy implications for homeland security.

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

<sup>3</sup>GAO, *High-Risk Series: An Update*, [GAO-05-207](#) (Washington, D.C.: January 2005). For our most recent report, see *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, [GAO-17-317](#) (Washington, D.C.: Feb. 15, 2017).

<sup>4</sup>For examples of past GAO work, see a list of related GAO products at the end of this report.

system must meet to fulfill its fundamental purpose—which increases the risk that end users, such as border patrol agents or first responders in a disaster, received technologies that might not work as intended.<sup>5</sup> We also found that DHS’s acquisition management policy requires programs to establish cost, schedule, and performance baselines prior to gaining full knowledge about the program’s technical requirements, which serve as the engineering basis for development. The order of these events is contrary to acquisition best practices and may lead to poor outcomes, such as schedule slips, cost increases, or inconsistent performance.

We have made many recommendations over the past decade to help address these challenges. For example, we previously recommended that DHS leadership ensure all major programs fully comply with the acquisition management policy by obtaining department-level approval for acquisition documents before the programs are allowed to proceed and specifically assess whether adequate funding is available during all program reviews.<sup>6</sup> In response, DHS has taken several steps to improve acquisition management, such as strengthening implementation of its acquisition management policy and requiring components to certify that programs are affordable before they are approved to move through the acquisition life cycle. Nonetheless, DHS has not fully addressed some of our other recommendations. For example, we previously recommended that DHS leadership prioritize major acquisition programs department-wide and ensure that the department’s acquisition portfolio is consistent with DHS’s anticipated resource constraints, as well as present any anticipated annual funding gaps for acquisition programs in the annual funding plan submitted to Congress.<sup>7</sup> DHS concurred with these recommendations and has taken some steps to address them, such as updating its policies and revising the format of its funding plan submission to Congress to present anticipated acquisition funding gaps.

The Explanatory Statement accompanying a bill to the DHS Appropriations Act, 2015 contained a provision for GAO to develop a plan

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<sup>5</sup>GAO, *Homeland Security Acquisitions: Earlier Requirements Definition and Clear Documentation of Key Decisions Could Facilitate Ongoing Progress*, [GAO-17-346SP](#) (Washington, D.C.: Apr. 6, 2017).

<sup>6</sup>[GAO-12-833](#); 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.: Apr. 17, 2014).

<sup>7</sup>[GAO-12-833](#), [GAO-14-332](#).

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for ongoing reviews of major DHS acquisition programs, as directed in the Senate report.<sup>8</sup> This is our fourth annual review of major DHS acquisition programs. This report addresses the extent to which (1) DHS's major acquisition programs are on track to meet their schedule and cost goals and (2) DHS has taken actions to enhance its policies and processes to better reflect key portfolio management practices.

To answer these questions, we reviewed 28 of DHS's 79 major acquisition programs. This included all 16 of DHS's Level 1 acquisition programs—those with life-cycle cost estimates (LCCE) of \$1 billion or more—that were in the process of obtaining new capabilities at the initiation of our audit. We also included 12 other major acquisition programs that we or DHS management identified were at risk of not meeting their schedules, cost estimates, or capability requirements. Eight of these 12 programs were Level 1 acquisitions that either had not yet begun obtaining capabilities or had entered the deployment phase of the acquisition life cycle, while the other four programs were Level 2 acquisitions with LCCes between \$300 million and less than \$1 billion. Appendix I presents individual assessments of each of the 28 programs we reviewed. These assessments include key information, such as the status of programs' schedules, costs, projected funding levels, testing, and staffing. Our objective for the 2-page assessments is to provide decision makers a means to quickly gauge the programs' progress and their potential cost, schedule, performance, or funding risks.

To determine the extent to which the programs we reviewed are on track to meet their schedule and cost goals, we analyzed available acquisition documentation, such as acquisition program baselines (APB), which contain information on programs' schedules and cost estimates. Since the November 2008 update to DHS's overarching acquisition management directive, these documents have required DHS-level approval; therefore, we used November 2008 as the starting point for our analysis. We used these documents to construct a data collection instrument for each program, identifying any schedule slips and cost growth. We subsequently shared this information with each of the program offices and met with program officials to identify causes and effects associated with any schedule slips and cost growth since (1) their initial baselines and (2) January 2017—the data cut-off date of the report we issued in April

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<sup>8</sup>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).

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2017.<sup>9</sup> As of December 31, 2017—the data cut-off date of this report—24 of the 28 programs we reviewed had one or more department-approved APBs; therefore, we excluded the remaining 4 programs from our assessment of whether programs are on track to meet their schedule and cost goals. We also reviewed the Future Years Homeland Security Program (FYHSP) report to Congress for fiscal years 2018–2022—which presents 5-year funding plans for each of DHS’s major acquisition programs—to assess the affordability of DHS’s acquisition portfolio.

To determine the extent to which DHS has taken actions to enhance its policies and processes to better reflect key portfolio management practices, we compared the current policies for the department’s requirements, acquisition management, and resource allocation processes that were issued in 2016 to key portfolio management practices we established in September 2012 and identified any significant gaps.<sup>10</sup> We also reviewed documentation that resulted from these processes since January 2016 to get a sense of how the department has implemented its current policies. Lastly, we interviewed relevant headquarters officials responsible for implementing these policies and processes to obtain their perspectives on our analysis of DHS’s current policies and processes and to identify any current and planned initiatives to improve management of the department’s portfolio of major acquisition programs. Appendix III provides detailed information on our scope and methodology.

We conducted this performance audit from March 2017 to May 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>9</sup>[GAO-17-346SP](#).

<sup>10</sup>We established GAO’s key portfolio management practices, which are listed in appendix II, in [GAO-12-833](#). The DHS policies we assessed apply to all major acquisition programs, including information technology programs. DHS has also established and implemented a separate portfolio management process specifically for information technology programs, which we have assessed through our high-risk updates. For the most recent report, see [GAO-17-317](#).



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## Background

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

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### Acquisition Management Policy

DHS policies and processes for managing its major acquisition programs are primarily set forth in its Acquisition Management Directive 102-01 and Acquisition Management Instruction 102-01-001. 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.<sup>11</sup> DHS's Under Secretary for Management 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 Under Secretary for Management serves as the acquisition decision authority for the department's largest acquisition programs, those with LCCEs of \$1 billion or greater. Component Acquisition Executives—the most senior acquisition management officials within each of DHS's components—may be delegated acquisition decision authority for programs with cost estimates between \$300 million and less than \$1 billion. Table 1 identifies how DHS has categorized the 28 major acquisition programs we review in this report, and table 7 in appendix III specifically identifies the programs within each level.

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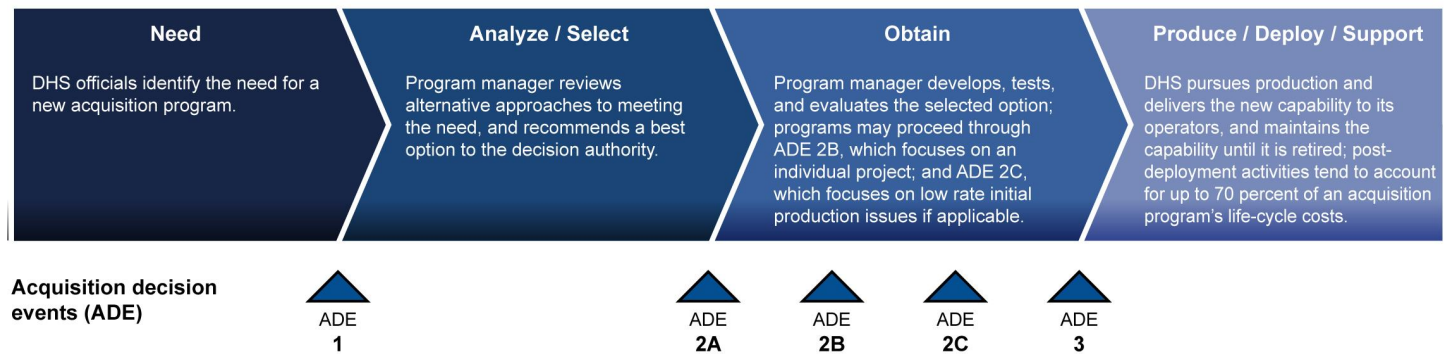
<sup>11</sup>DHS has issued multiple updates to its acquisition management directive and instruction. DHS issued the current version of the directive on July 28, 2015, and the current version of the instruction on March 9, 2016. DHS also issued a separate Systems Engineering Life Cycle Guidebook (DHS Guidebook 102-01-103-01) on April 18, 2016 that outlines the technical framework underlying DHS's acquisition management system.

**Table 1: DHS Acquisition Levels for Major Acquisition Programs**

Level	Life-cycle cost estimates	Acquisition decision authority	Number of programs reviewed in this report
1	Greater than or equal to \$1 billion	Under Secretary for Management/Chief Acquisition Officer	24
2	\$300 million or more, but less than \$1 billion	Under Secretary for Management/Chief Acquisition Officer, or the Component Acquisition Executive	4

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

DHS acquisition management policy establishes that a major acquisition program's decision authority shall review the program at a series of predetermined acquisition decision events to assess whether the major program is ready to proceed through the acquisition life-cycle phases. Depending on the program, these events can occur within months of each other, or be spread over several years. Figure 1 depicts the acquisition life cycle established in DHS acquisition management policy.

**Figure 1: DHS Acquisition Life Cycle for Major Acquisition Programs****Acquisition phases**

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

Note: Programs may develop capabilities through individual projects, segments, or increments, which are approved at ADE 2B. Programs without individual projects, segments, or increments may conduct a combined ADE 2A/2B since ADE 2B is the first milestone at which programs are required to submit certain acquisition documents.

An important aspect of an acquisition decision event is the decision authority's review and approval of key acquisition documents. See table 2 for a description of the type of key acquisition documents requiring department-level approval before a program moves to the next acquisition phase.

**Table 2: Key Documents Requiring Department-level Approval**

Document	Description
Capability Development Plan	Serves as the agreement between the component head, program manager, and the acquisition decision authority on the activities, cost, and schedule for the analysis and selection of potential solutions to fill a mission need.
Acquisition Plan	Provides a top-level plan for the overall acquisition approach. Describes why the solution is in the government's best interest and why it is the most likely to succeed in delivering capabilities to operators.
Integrated Logistics Support Plan	Defines the strategy for ensuring the supportability and sustainment of a future capability. Provides critical insight into the approach, schedule, and funding requirements for integrating supportability requirements into the systems engineering process.
Life-Cycle Cost Estimate	Provides an exhaustive and structured accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular program.
Acquisition Program Baseline	Establishes a program's critical baseline cost, schedule, and performance parameters. Expresses the parameters in measurable, quantitative terms, which must be met in order to accomplish the program's goals.
Test and Evaluation Master Plan	Documents the overarching test and evaluation approach for the acquisition program. Describes the developmental and operational test and evaluation needed to determine a system's technical performance, operational effectiveness/suitability, and limitations.

Source: Department of Homeland Security (DHS). | GAO-18-339SP

DHS acquisition management policy establishes that the APB is the agreement between program, component, and department-level officials establishing how systems will perform, when they will be delivered, and what they will cost. Specifically, the APB establishes a program's schedule, costs, and key performance parameters. DHS defines key performance parameters as a program's most important and non-negotiable requirements that a system must meet to fulfill its fundamental purpose. For example, a key performance parameter for an aircraft may be airspeed and a key performance parameter for a surveillance system may be detection range.

The APB schedule, costs, and key performance parameters are defined in terms of an objective and minimum threshold value. According to DHS policy, if a program fails to meet any schedule, cost, or performance threshold approved in the APB, it is considered to be in breach. Programs in breach are required to notify their acquisition decision authority and develop a remediation plan that outlines a time frame for the program to return to its APB parameters, re-baseline—that is, establish new schedule, cost, or performance goals—or have a DHS-led program review that results in recommendations for a revised baseline.

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

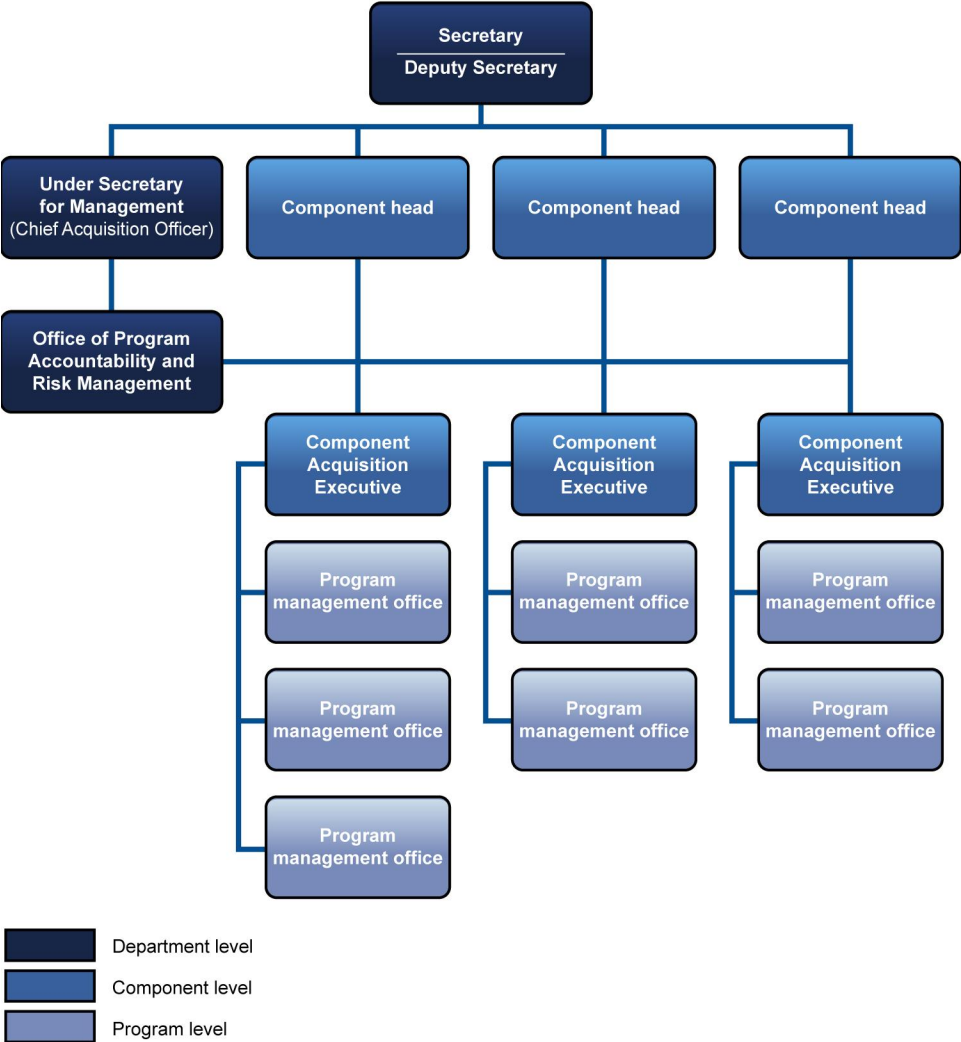
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- **The Acquisition Review Board** reviews major acquisition programs for proper management, oversight, accountability, and alignment with the department's strategic functions at acquisition decision events and other meetings as needed. The board is chaired by the acquisition decision authority or a designee 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 Acquisition Review Board, and reports directly to the Under Secretary for Management. 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.
  - **Components**, such as U.S. Customs and Border Protection, the Transportation Security Administration, and the U.S. Coast Guard sponsor specific acquisition programs.<sup>12</sup> The head of each component is responsible for oversight of major acquisition programs once the programs complete delivery of all planned capabilities to end users.
    - **Component Acquisition Executives** within the components are responsible for overseeing the execution of their respective portfolios.
    - **Program management offices**, also within the components, are responsible for planning and executing DHS's individual programs. They are expected to do so within the cost, schedule, and performance parameters established in their APBs. If they cannot do so, programs are considered to be in breach and must take specific steps, as noted above.

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

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<sup>12</sup>DHS's components consist of operational components—those that have responsibility for directly achieving one or more of the department's missions or activities—and support components—those that generally provide assistance or guidance to other DHS components or external organizations.

Figure 2: DHS's Acquisition Management Structure



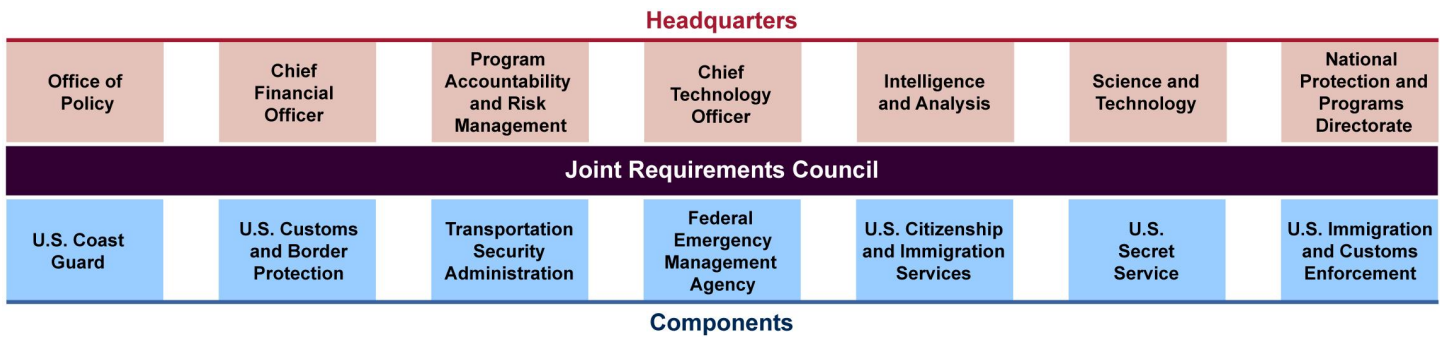
Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

## Requirements Development Process

DHS established a Joint Requirements Council (JRC) to develop and lead a component-driven joint requirements process for the department.<sup>13</sup> The JRC has issued policies outlining a process for analyzing and validating capability gaps, needs, and requirements.<sup>14</sup>

The JRC consists of a chair and 14 members who are senior executives or officers that represent key DHS headquarters offices and seven of the department's operational components. The JRC chair rotates annually among the seven operational components. JRC members represent the views of their components or office leadership, endorse and prioritize validated capability needs and operational requirements (user-defined performance parameters outlining what a system must do), and make recommendations that are supported by analytical rigor. Figure 3 depicts the current headquarters and component members of the JRC.

Figure 3: Members of DHS's Joint Requirements Council



Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

<sup>13</sup>DHS re-established the JRC in June 2014. For more information, see GAO, *Homeland Security Acquisitions: Joint Requirements Council's Initial Approach Is Generally Sound and It Is Developing a Process to Inform Investment Priorities*, [GAO-17-171](#) (Washington, D.C.: Oct. 24, 2016).

<sup>14</sup>Department of Homeland Security, Directive 71-02, The Joint Requirements Council, February 1, 2016; Directive 107-01, Joint Requirements Integration and Management System, March 8, 2016; and Instruction Manual 107-01-001-01, DHS Manual for the Operation of the Joint Requirements Integration and Management System, April 21, 2016.

The JRC provides input to two senior-level entities:

- **The Acquisition Review Board**—as a member, the JRC chair advises the board on capability gaps, needs, and requirements at key milestones in the acquisition life cycle.
- **The Deputy’s Management Action Group**, which the Secretary established in April 2014, is a decision-making body that is chaired by the Deputy Secretary. Its membership consists of the DHS Chief of Staff, DHS Under Secretaries, senior operational component deputies and select support component deputies, and the Chief Financial Officer. The group provides recommendations to the Deputy Secretary for consideration in the annual resource allocation process that reflects DHS’s investment priorities. The group reviews JRC-validated capability needs and recommendations, provides direction and guidance to the JRC, and endorses or directs related follow-on JRC activities.

The JRC is responsible for validating proposed capability needs and requirements for all major acquisitions, as well as for programs that are joint or of interest to the Deputy’s Management Action Group, regardless of level. See table 3 for a description of the key requirements documents requiring JRC validation.

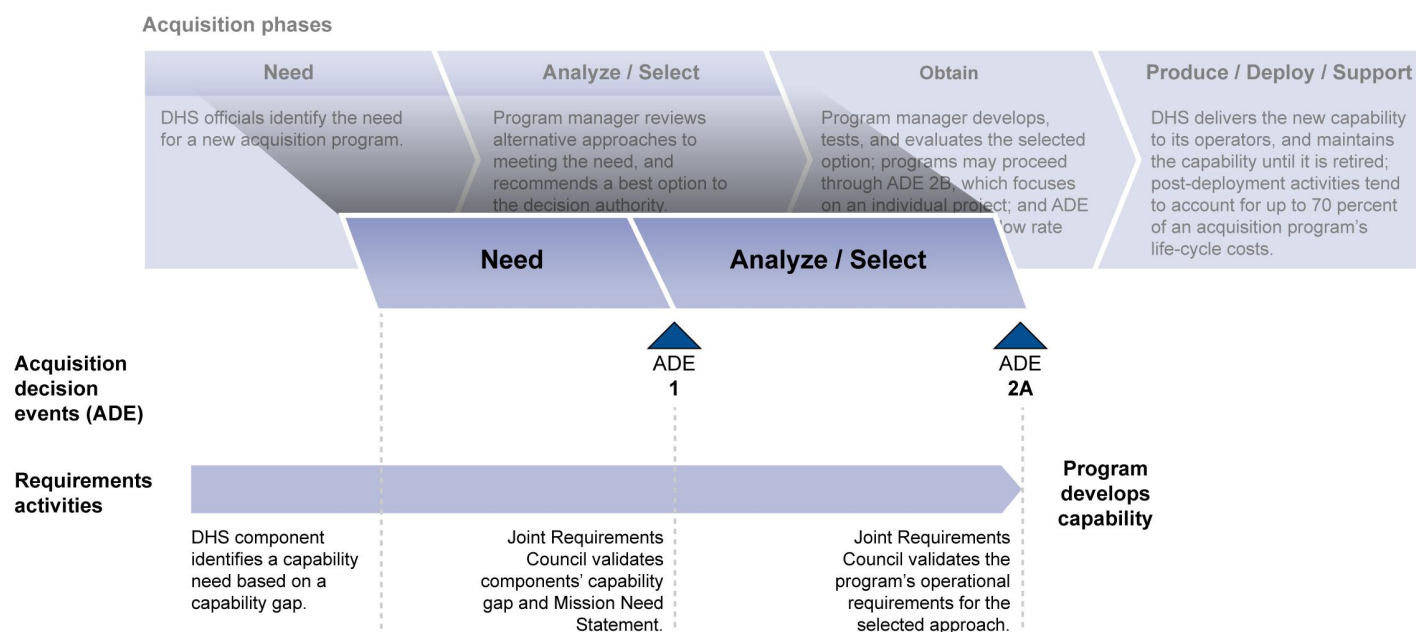
**Table 3: Key Documents Requiring Joint Requirements Council Validation**

Document	Description
Capability Analysis Report	Provides an assessment of the department's ability to fulfill a mission, objective, or function. Identifies capability gaps, redundancies, fragmentation, and overlaps; and provides recommendations for either a materiel or non-materiel approach to mitigate those gaps or overlaps.
Mission Need Statement	Provides a high-level description of the mission need, whether from a current or impending gap. Outlines only the concept of the solution to fill the gap and does not provide information on specific types of acquisitions that could provide that capability.
Concept of Operations	Provides a description of how an asset, system, or capability will be employed and supported. Identifies the capabilities needed to perform the missions and fill the gaps expressed in the Mission Need Statement.
Operational Requirements Document	Provides a number of performance parameters that must be met by a program to provide useful capabilities to the operator by closing capability gaps identified in the Mission Need Statement.

Source: Department of Homeland Security (DHS). | GAO-18-339SP

In general, the DHS requirements development process moves from broad mission needs and capability gaps to operational requirements. See figure 4.

**Figure 4: Requirements Activities Established by DHS Policy**



Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

## Test and Evaluation Policy

In May 2009, DHS established policies that describe processes for testing the capabilities delivered by the department's major acquisition programs.<sup>15</sup> 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 risks. We provide an overview of each of the 28 programs' test activities in the individual program assessments presented in appendix I.

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

- **Program managers** have overall responsibility for planning and executing their programs' testing strategies, including scheduling and funding test activities and delivering systems for testing. They are also

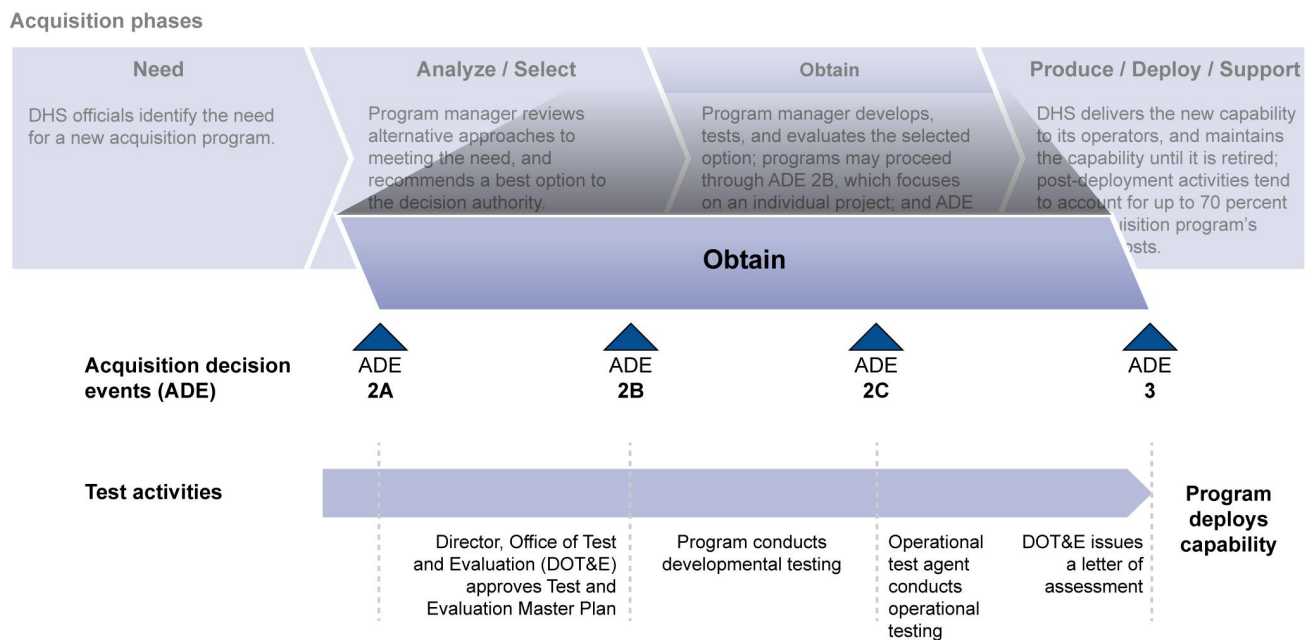
<sup>15</sup>DHS issued a revised version of its Test and Evaluation Directive 026-06 on May 5, 2017, and a revised instruction for implementing this directive on July 5, 2017.



responsible for controlling developmental testing, which is used to assist in the development and maturation of products, manufacturing, or support processes. Developmental testing includes engineering-type tests used to verify that design risks are minimized, substantiate achievement of contract technical performance, and certify readiness for operational testing.

- **Operational test agents** are responsible for planning, conducting, and reporting on operational test and evaluation, which is intended to identify whether a system can meet its key performance parameters and provide an evaluation of the operational effectiveness, suitability, and cybersecurity of a system in a realistic environment. Operational effectiveness refers to the overall ability of a system to provide a desired capability when used by representative personnel. Operational suitability refers to the degree to which a system can be placed into field use and sustained satisfactorily. The operational test agents may be organic to the component, another government agency, or a contractor, but must be independent of the developer in order to present credible, objective, and unbiased conclusions.
- **The Director, Office of Test and Evaluation** is responsible for approving major acquisition programs' operational test agent and test and evaluation master plans, among other things. A program's test and evaluation master plan must describe the developmental and operational testing needed to determine technical performance and operational effectiveness, suitability, and cybersecurity. As appropriate, the Director is also responsible for observing operational tests, reviewing operational test agents' reports, and assessing the reports. Prior to a program's acquisition decision event 3, the Director 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 5.

**Figure 5: Test Activities Established by DHS Policy**

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

## Resource Allocation Process

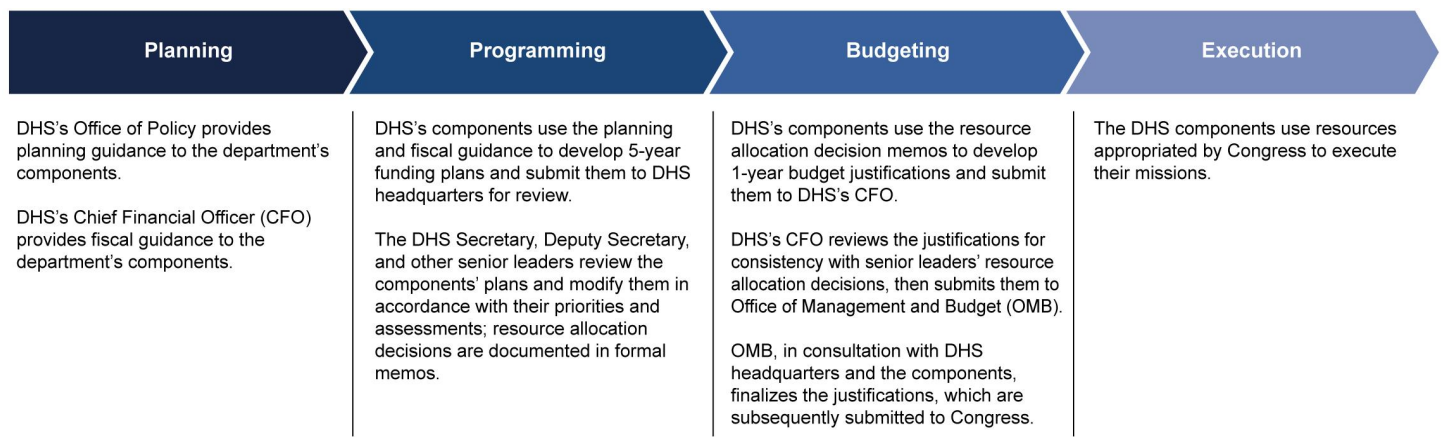
DHS has established a planning, programming, budgeting, and execution process to allocate resources to acquisition programs and other entities throughout the department.<sup>16</sup> DHS uses this process to produce the department's annual budget request and multi-year funding plans presented in the FYHSP, a database that contains, among other things, 5-year funding plans for DHS's major acquisition programs. According to DHS guidance, the 5-year plans 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.

At the outset of the annual resource allocation process, the department's Offices of Policy and Chief Financial Officer provide planning and fiscal

<sup>16</sup>Department of Homeland Security, Directive 101-01, Planning, Programming, Budgeting, and Execution, July 14, 2016; Planning, Programming, Budgeting, and Execution Instruction 101-01-001, July 15, 2016; Planning, Programming, Budgeting, and Execution System Operating Handbook, revised July 2016.

guidance, respectively, to the department's components. 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 they document their decisions in formal resource allocation decision memorandums. DHS submits the revised funding plans to the Office of Management and Budget, which uses them to inform the President's annual budget request—a document sent to Congress requesting new budget authority for federal programs, among other things. In some cases, the funding appropriated to certain accounts in a given fiscal year can be carried over to subsequent fiscal years. Figure 6 depicts DHS's annual resource allocation process.

Figure 6: DHS's Annual Planning, Programming, Budgeting, and Execution Process



Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

Federal law requires DHS to submit an annual FYHSP report to Congress at or about the same time as the President's budget request.<sup>17</sup> This report presents the 5-year funding plans in the FYHSP database at that time.

Two offices within DHS's Office of the Chief Financial Officer support the annual resource allocation process:

<sup>17</sup>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.

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- **The Office of Program Analysis and Evaluation (PA&E)** is responsible for establishing policies for the annual resource allocation process and overseeing the development of the FYHSP. In this role, PA&E develops the Chief Financial Officer's planning and fiscal guidance, 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.
  - **The Cost Analysis Division** is responsible for reviewing, analyzing, and evaluating acquisition programs' LCCEs to ensure the cost of DHS programs are presented accurately and completely, in support of resource requests. This division also supports affordability assessments of the department's budget, in coordination with PA&E, and develops independent cost estimates for major acquisition programs upon request by DHS's Under Secretary for Management or Chief Financial Officer.

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## During 2017, 10 of the 24 Programs with Approved Schedule and Cost Goals Were on Track

Of the 24 programs we assessed with approved schedule and cost goals, 10 were on track to meet those goals during 2017. The other 14 programs were not on track because they changed or breached their schedule goals, cost goals, or both. We found that most programs updated their cost estimates in response to requirements DHS established in January 2016 that are intended to provide decision makers with more timely information. These actions are in accordance with GAO's best practice to regularly update cost estimates and we plan to use these updated estimates to measure programs' cost changes going forward.<sup>18</sup> Based on our April 2014 recommendation, DHS revised the format of its fiscal year 2018–2022 FYHSP report to Congress to include acquisition affordability tables for select major acquisition programs.<sup>19</sup> However, the report shows—and our analysis of programs' current cost estimates confirms—that some programs face acquisition funding gaps in fiscal year 2018.

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<sup>18</sup>GAO, *GAO Cost Estimating and Assessment Guide*, [GAO-09-3SP](#) (Washington, D.C.: March 2009).

<sup>19</sup>[GAO-14-332](#).

We also reviewed 4 programs that were early in the acquisition process and planned to establish department-approved schedule and cost goals in calendar year 2017. However, these programs were delayed in getting department approval for their initial APBs for various reasons and, therefore, we excluded them from our assessment of whether programs were on track to meet their schedule and cost goals during 2017. DHS leadership subsequently approved initial APBs for 2 particularly complex and costly programs—a border wall system along the southwest U.S. border and the Coast Guard’s Heavy Polar Icebreaker—in January 2018. We plan to assess these programs in next year’s review, but provide more details on all 4 additional programs we reviewed in the individual assessments in appendix I.

Table 4 summarizes our findings and we present more detailed information after the table.

**Table 4: Major DHS Acquisition Programs’ Progress against Current Schedule and Cost Goals during 2017**

Component	Program	On track during 2017	Changes to schedule goals	Changes to cost goals	New programs GAO did not assess <sup>b</sup>
Customs and Border Protection	Automated Commercial Environment	no	yes	yes	no
	Biometric Entry-Exit Program	n/a	n/a	n/a	yes
	Border Wall System Program	n/a	n/a	n/a	yes
	Integrated Fixed Towers	no	yes	no	no
	Medium Lift Helicopter (UH-60)	no	yes	yes	no
	Multi-role Enforcement Aircraft <sup>a</sup>	yes	no	no	no
	Non-Intrusive Inspection Systems Program <sup>a</sup>	yes	no	no	no
	Remote Video Surveillance System	n/a	n/a	n/a	yes
	Tactical Communications Modernization	no	yes	yes	no
Federal Emergency Management Agency	TECS (not an acronym) Modernization	no	yes	no	no
	Logistics Supply Chain Management System	no	yes	no	no
Immigration and Customs Enforcement	TECS (not an acronym) Modernization	no	no	yes	no
National Protection and Programs Directorate	Continuous Diagnostics and Mitigation	no	yes	yes	no
	Homeland Advanced Recognition Technology	no	yes	no	no
	National Cybersecurity Protection System	yes	no	no	no
	Next Generation Networks Priority Services	yes	no	no	no

Component	Program	On track during 2017	Changes to schedule goals	Changes to cost goals	New programs GAO did not assess <sup>b</sup>
Science and Technology Directorate	National Bio and Agro-Defense Facility <sup>a</sup>	yes	no	no	no
Transportation Security Administration	Electronic Baggage Screening Program	no	no	yes	no
	Passenger Screening Program	no	yes	yes	no
	Technology Infrastructure Modernization	yes	no	no	no
U.S. Coast Guard	Fast Response Cutter	yes	no	no	no
	H-65 Conversion/Sustainment Program	no	yes	no	no
	Heavy Polar Icebreaker	n/a	n/a	n/a	yes
	Long Range Surveillance Aircraft (HC-130H/J)	yes	no	no	no
	Medium Range Surveillance Aircraft (HC-144A & C-27J)	yes	no	no	no
	National Security Cutter	no	yes	yes	no
	Offshore Patrol Cutter	yes	no	no	no
U.S. Citizenship and Immigration Services	Transformation	no	yes	no	no

Legend: X = yes; — = no; n/a = not applicable; shaded rows = program was in breach of its baseline goals as of December 31, 2017

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

<sup>a</sup>Program is on track against its initial cost and schedule goals (e.g. has not revised the acquisition program baseline DHS leadership initially approved after the department's acquisition management policy went into effect in November 2008).

<sup>b</sup>Not assessed because DHS leadership had not approved an acquisition program baseline establishing schedule and cost goals for these programs by December 31, 2017. DHS leadership subsequently approved initial baselines for the Border Wall System Program and Heavy Polar Icebreaker in January 2018.

## Ten Programs Were on Track during 2017

From January 2017 to January 2018, 10 of the 24 programs we assessed with department-approved APBs were on track to meet their schedule and cost goals. This is fewer than our last annual review in which we found that 17 of the 26 programs we assessed were on track during 2016.<sup>20</sup>

Three of the 10 programs on track during 2017 were on track against initial schedule and cost goals; that is, the schedule and cost estimates in

<sup>20</sup>GAO-17-346SP.

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the baseline DHS leadership initially approved after the department's acquisition management policy went into effect in November 2008. The other 7 programs had re-baselined prior to January 2017 and were on track against revised schedules and cost estimates that reflected past schedule slips, cost growth, or both.

However, some of the programs on track in 2017 identified risks that may lead to schedule slips or cost growth in the future. For example, officials from the Technology Infrastructure Modernization program told us that staffing challenges may impede their ability to execute the program in accordance with its current APB. We also identified 2 programs that are in the process of re-baselining or plan to re-baseline in the near future to account for significant program changes or to add capabilities. For example, the Next Generation Networks Priority Services program plans to update its APB to establish schedule, cost, and performance goals for the next increment, which is intended to address landline capabilities for providing government officials emergency telecommunication services.

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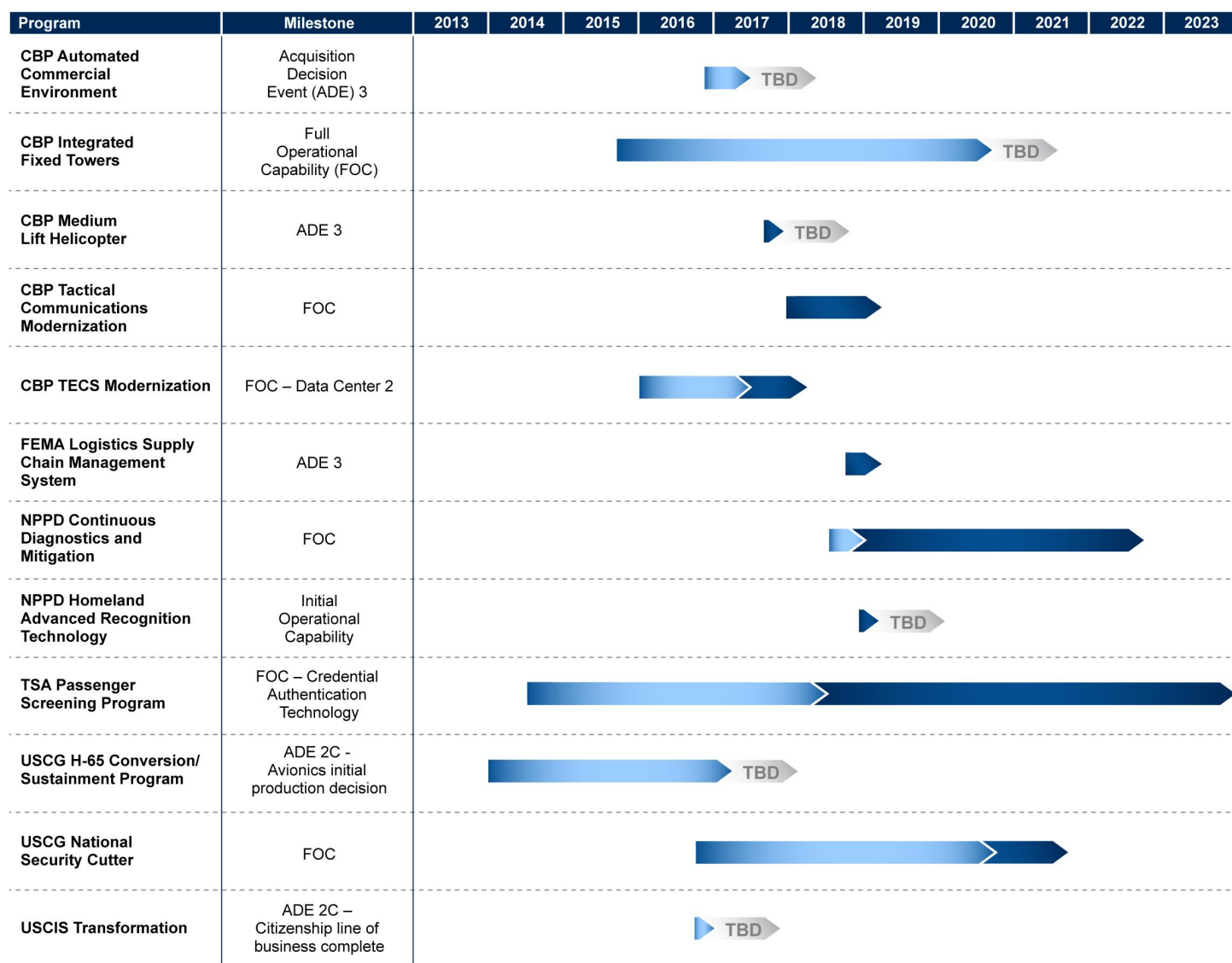
## **Fourteen Programs Were Not on Track during 2017**

During 2017, 14 of the 24 programs we assessed with department-approved APBs were not on track. Twelve of these programs had at least one major acquisition milestone that slipped, including 6 of these programs that also changed or breached their cost goals. Two additional programs changed or breached only their cost goals.

### **Programs with Schedule Slips during 2017**

As of January 2018, 6 of the 12 programs that experienced a schedule slip were in breach and had not yet revised their goals. Therefore, the magnitude of the schedule slips is unknown. For the remaining 6 programs, the change in schedule during 2017 ranged from a delay of 6 months to 66 months. Figure 7 identifies the programs that experienced schedule slips and the extent to which their major milestones slipped in 2017, as well as—for additional context—in prior years.

Figure 7: DHS Major Acquisition Programs' Schedule Slips during 2017



Schedule slip prior to January 2017



Schedule slip from January 2017 to January 2018

TBD To be determined

CBP

U.S. Customs and Border Protection

FEMA

Federal Emergency Management Agency

NPPD

National Protection and Programs Directorate

TSA

Transportation Security Administration

USCG

U.S. Coast Guard

USCIS

U.S. Citizenship and Immigration Services

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP



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While there are various reasons for schedule delays, the result is that end users may not get needed capabilities when they originally anticipated. Examples of the reasons why these key milestones slipped in 2017 include the following:

- **New requirements:** For example, the Passenger Screening Program re-baselined in May 2017 for the fifth time since its initial APB was approved in January 2012. This latest re-baseline was to remediate a 17-month breach caused by delays in incorporating new cybersecurity requirements in one of the program's transportation security equipment technologies, known as the Credential Authentication Technology. The program now plans to achieve full operational capability for this system by December 2023—more than 9 years later than it initially planned. In another example, the Tactical Communications Modernization program re-baselined in November 2017—4 months after the program notified DHS leadership that it would not achieve full operational capability as planned. The reason for this re-baseline was to resolve issues related to federal information security requirements. The program now plans to achieve this milestone by March 2019, which is more than a year later than its initial APB threshold.
- **Technical challenges:** For example, the Continuous Diagnostics and Mitigation program re-baselined in June 2017 to account for significant coverage gaps identified during the deployment of phase 1 sensors and to establish cost, schedule, and performance goals for phase 3 tools. The program's full operational capability date slipped almost 4 years after this milestone was redefined as the point in time at which phase 1–3 tools are available to all participating civilian agencies. Additionally, the Automated Commercial Environment program declared a schedule breach in April 2017—its second in less than a year—after encountering difficulties developing its remaining functionality. These difficulties have caused further delays to the program's final acquisition milestone decision.
- **External factors:** Officials from the Logistics Supply Chain Management System program notified DHS leadership in September 2017 that the program would not complete all required activities to achieve acquisition decision event 3 and subsequent events, including full operational capability. The primary reason for the delay was because program staff were deployed to support response and recovery efforts during the 2017 hurricane season. Additionally, the Medium Lift Helicopter program experienced delays in getting key acquisition documents approved in time to achieve its acquisition decision event 3. These delays were attributed, in part, to DHS

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leadership directing Customs and Border Protection to develop a comprehensive border plan that included the helicopter's capabilities.

We elaborate on the reasons for all 12 programs' schedule slips in the individual assessments in appendix I.

### Programs with Cost Goal Changes or Breaches during 2017

Of the 14 programs not on track during 2017, 8 revised or breached their established cost goals. Four of these 8 programs revised their cost goals when they re-baselined to address new requirements and technical challenges, among other things.

- When the Passenger Screening Program re-baselined in May 2017, the program's APB threshold for its life-cycle costs increased \$418 million (8 percent) over its previous APB. However, the revised threshold is \$1 billion below the threshold established in the program's initial APB, which was approved in January 2012. From 2012 to 2015, the program's scope was reduced in response to funding constraints. However, emerging threats drove the program to increase capability requirements, which has subsequently increased costs.
- When the Continuous Diagnostics and Mitigation program re-baselined in June 2017, the APB threshold for life-cycle costs decreased by \$15 million (1 percent). However, the program shifted some acquisition costs to operations and maintenance (O&M) to be consistent with DHS's new common appropriations structure.<sup>21</sup> This, in addition to other changes, increased the APB threshold for O&M by \$631 million (3,712 percent).
- When the National Security Cutter program re-baselined in November 2017 to account for a ninth ship—as directed by Congress—the APB cost thresholds for acquisition and O&M increased by \$453 million (8 percent) and \$123 million (1 percent), respectively.
- When the Immigration and Customs Enforcement's TECS Modernization program re-baselined in November 2017 in preparation for acquisition decision event 3, the APB cost thresholds increased

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<sup>21</sup>In April 2018, we found that the common appropriation structure streamlined DHS's appropriations, but obscured the reporting of O&M costs for individual programs. For more information, see GAO, *DHS Program Costs: Reporting Program-Level Operations and Support Costs to Congress Would Improve Oversight*, [GAO-18-344](#) (Washington, D.C.: Apr. 25, 2018). This report refers to O&M as operations and support, which is the title of the common appropriations structure account related to these activities.

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overall. Specifically, the acquisition cost threshold decreased by \$14 million (6 percent) when the program included actual costs through fiscal year 2016, among other things, and the O&M cost threshold increased by \$147 million (92 percent) when the program extended the estimate by 4 years and included support costs for an additional 11 years.

The other 4 programs breached their established cost goals during 2017.

- The Medium Lift Helicopter and Electronic Baggage Screening programs breached certain APB cost thresholds when they shifted costs between categories, such as O&M to acquisitions or vice versa, to be consistent with DHS's new common appropriations structure.
- The Tactical Communications Modernization program experienced a cost breach primarily because of increases in costs for contractor labor and support for facilities and infrastructure. The program's APB cost threshold for O&M increased by \$110 million (23 percent) when it re-baselined in November 2017.
- The Automated Commercial Environment program experienced a cost breach because it had to extend its contracts to address the development difficulties discussed above. The magnitude of the program's cost goal changes is not yet known because the program does not plan to revise its APB until August 2018.

We elaborate on the reasons for all 8 programs' cost goal changes or breaches in the individual program assessments in appendix I.

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## DHS Has Taken Steps to Enhance Cost Reporting While Some Programs Still Face Funding Gaps

In January 2016, based on several of our past recommendations, DHS required major acquisition programs to begin submitting to headquarters (1) detailed data on program affordability, such as updates to the program's LCCE and funding source information, to help inform the department's annual resource allocation process, and (2) an annual LCCE update.<sup>22</sup> These requirements are intended to provide more timely

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<sup>22</sup>These requirements are only applicable to level 1 and level 2 programs that have not reached full operational capability. For our past work, see GAO, *Homeland Security Acquisitions: DHS Has Strengthened Management, but Execution and Affordability Concerns Endure*, [GAO-16-338SP](#) (Washington, D.C.: Mar. 31, 2016), [GAO-14-332](#), and [GAO-12-833](#).

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information that may improve DHS's efforts to address acquisition program affordability issues, as well as internal and external oversight of programs' progress against its cost goals. These actions are in accordance with GAO's cost estimating best practices, which state that cost estimates should be updated with actual costs so that they are always relevant and current.<sup>23</sup> As a result, we have used these sources to provide the programs' current estimate in the individual assessments in appendix I, as appropriate, and plan to use these data sources to measure programs' cost changes going forward.

According to officials from the Cost Analysis Division, a program's annual LCCE update should inform the affordability submission to support the annual resource allocation process and can be completed at any point during the fiscal year leading up to this process. We examined documentation to ascertain whether the programs we reviewed complied with the two requirements. For the 24 programs we assessed with department-approved APBs, we found the following:

- All 24 programs submitted the detailed data on program affordability to headquarters by June 2017 to inform the fiscal year 2019 resource allocation cycle. Most programs' submissions accounted for changes since the program's last LCCE was approved by DHS's Chief Financial Officer, except three. For example, the Long Range Surveillance Aircraft program's submission reflected no updates from its November 2011 LCCE because the program was in the process of re-baselining to account for significant changes. The program began re-baselining nearly 3 years ago and has been delayed for various reasons, including challenges with the vendor hired to complete a revision of the program's LCCE.
- Eighteen of the 24 programs submitted annual LCCE updates. Three programs—Automated Commercial Environment, H-65, and Transformation—did not submit an annual LCCE update because they were in breach. The other 3 programs—all within the Coast Guard—did not submit an annual LCCE because, according to Coast Guard officials, they have limited internal cost estimating capability and rely on outside sources for this service, which led to delays in completing the annual LCCEs for these programs. Coast Guard officials said they are reviewing options to resolve these delays and improve the Coast Guard's cost estimating capability.

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<sup>23</sup>[GAO-09-3SP](#).

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Cost Analysis Division officials anticipate the Coast Guard will increase compliance with the annual LCCE requirement in fiscal year 2018. They also plan to update the annual LCCE template to include additional information, such as comparisons of the updated estimates to the program's APB cost goals and projected funding.

In addition, DHS revised the format of its FYHSP report to Congress, improving insight into major programs' acquisition funding, but decreasing insight into O&M funding. In April 2014, we found that DHS could better communicate its funding needs for acquisition programs to Congress and recommended that DHS enhance the content for future FYHSP reports by presenting programs' annual cost estimates and any anticipated funding gaps, among other things.<sup>24</sup> DHS concurred with the recommendation and, for the first time, included acquisition affordability tables that presented programs' annual acquisition cost estimates compared to projected acquisition funding for select major acquisition programs in its FYHSP report for fiscal years 2018–2022.

However, DHS no longer reported O&M funding for individual programs. DHS reported in the FYHSP that it focused on acquisition information because O&M funding estimates are generally stable year-to-year and components manage O&M in various ways, such as by individual program or across a portfolio of programs. By removing O&M funding information in the FYHSP for all programs, DHS presents an incomplete picture of programs' full funding needs and affordability. In April 2018, we assessed the extent to which DHS had accounted for O&M costs and funding in greater detail and recommended that DHS reverse the exclusion of O&M funding at the acquisition program level in its FYHSP report to Congress for all components.<sup>25</sup> DHS officials stated that they plan to re-introduce O&M funding for major acquisition programs in the FYHSP report for fiscal years 2019–2023 based on multiple internal discussions about the best way to present a more comprehensive view of programs' total costs and feedback from key stakeholders, such as the Office of Management and Budget.

Based on the information presented in the FYHSP report for fiscal years 2018–2022, DHS's acquisition portfolio is not affordable over the next 5

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<sup>24</sup>[GAO-14-332](#).

<sup>25</sup>[GAO-18-344](#). The April 2018 report refers to O&M as operations and support, which is the title of the common appropriations structure account related to these activities.

years. For example, the report contained acquisition affordability tables for 18 of the 24 programs we assessed that have approved APBs. Of these 18 programs, 9 were projected to have an acquisition affordability gap in fiscal year 2018.<sup>26</sup> However, some of these projections are outdated since the FYHSP report—which was issued in September 2017—relied on cost information as of April 2016. Therefore, we updated these tables using the programs' current acquisition cost estimate presented in the individual assessments in appendix I.

Based on our assessment of programs' current cost estimates, we also found that a total of 9 programs are projected to have an acquisition affordability gap in fiscal year 2018. However, 3 of these 9 programs were different programs than those identified based on the FYHSP report. Of the 9 programs we identified with a projected acquisition affordability gap in fiscal year 2018, we found the following:

- Five programs identified other funding, such as funding from previous fiscal years that remained available for obligation—known as carryover funding—which would address their projected acquisition funding gap. For example, in the FYHSP report, DHS projected allocating approximately \$16 million in funding for the Technology Infrastructure Modernization program in fiscal year 2018 to cover an estimated \$16 million in acquisition costs. However, in its November 2017 annual LCCE update, this program's acquisition cost increased to almost \$30 million, resulting in a projected acquisition affordability gap of almost 45 percent. The program plans to realign \$57 million in O&M carryover funding to cover this and any future acquisition shortfalls.
- Four programs did not identify other funding that would address their projected acquisition funding gap, which increases the likelihood that they will cost more and take longer to deliver capabilities to end users than expected. For example, in the FYHSP report, DHS projected allocating \$109 million in funding for the Non-Intrusive Inspection Systems program in fiscal year 2018 to cover an estimated \$103 million in acquisition costs. However, in its April 2017 annual LCCE update, this program's acquisition costs increased to nearly \$186

<sup>26</sup>DHS considers a program to be fully resourced if the latest DHS-approved funding is within 5 percent of its current DHS-funded estimated costs in a given year. Additionally, DHS reported acquisition funding for the Coast Guard's Medium Range Surveillance program in the FYHSP report, but did not present an acquisition affordability table for this program.

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million, resulting in a projected acquisition affordability gap of 41 percent. The program identified only \$2.5 million in fiscal year 2017 acquisition carryover funding.

Further, 5 of the 24 programs we assessed were not included in the fiscal years 2018–2022 FYHSP report because they were no longer expected to receive acquisition funding. Officials from 3 of these 5 programs projected funding gaps that could cause future program execution challenges, such as schedule slips or cost growth. For example, the National Bio and Agro-Defense Facility anticipates a projected funding shortfall of approximately \$90 million over the next 5 years, which officials said could delay a number of activities to make the facility operational. We elaborate on programs' affordability over the next 5 years in the individual program assessments in appendix I.

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## DHS's Policies Generally Reflect Key Portfolio Management Practices, but Opportunities Exist to Leverage Programs' Post-Implementation Results

We assessed DHS's policies outlining the department's processes for acquisition management, resource allocation, and requirements and found that, when considered collectively, they generally reflect key portfolio management practices. In March 2007, we examined the practices that private sector entities use to achieve a balanced mix of new projects and found that successful commercial companies use a disciplined and integrated approach to prioritize needs and allocate resources when making investments.<sup>27</sup> This approach, known as portfolio management, requires companies to view each of their investments as contributing to a collective whole, rather than as independent and unrelated. With this perspective, companies can effectively (1) identify and prioritize opportunities, and (2) allocate available resources to support the highest priority—or most promising—opportunities. Based on

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<sup>27</sup>GAO, *Best Practices: An Integrated Portfolio Management Approach to Weapon System Investments Could Improve DOD's Acquisition Outcomes*, [GAO-07-388](#) (Washington, D.C.: Mar. 30, 2007).

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this and other work, we identified four key practice areas for portfolio management in September 2012.<sup>28</sup>

We previously assessed DHS's acquisition management and resource allocation policies against our key portfolio management practices in September 2012 and April 2014, respectively.<sup>29</sup> We found that the policies in place at the time of our reviews did not fully reflect all of the key portfolio management practices and recommended that DHS revise its policies to do so. DHS concurred with our recommendations and subsequently took actions to mature and solidify the department's portfolio management processes and policies.

In April 2014, the Secretary of Homeland Security issued a memorandum titled *Strengthening Departmental Unity of Effort*, which aimed to strengthen DHS's structures and processes to improve departmental cohesiveness and operational effectiveness, among other things. The memorandum identified several initial focus areas intended to build organizational capacity, one of which centered on improving and integrating the department's processes for acquisition oversight, resource allocation, and joint requirements analysis. To improve these processes, the memorandum directed senior DHS leaders to update the existing acquisition management and resource allocation processes, as well as lead an expedited review to provide alternatives for developing and facilitating a component-driven joint requirements process, which ultimately led to the re-establishment of the JRC.<sup>30</sup>

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<sup>28</sup>[GAO-12-833](#). See *Defense Acquisitions: Assessments of Selected Weapon Programs*, [GAO-10-388SP](#) (Washington, D.C.: Mar. 30, 2010); *Department of Homeland Security: Billions Invested in Major Programs Lack Appropriate Oversight*, [GAO-09-29](#) (Washington, D.C.: Nov. 18, 2008); [GAO-07-388](#); *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, [GAO-04-394G](#) (Washington, D.C.: March 2004); and *Executive Guide: Leading Practices in Capital Decision Making*, [GAO/AIMD-99-32](#) (Washington, D.C.: December 1998). For more information on the key portfolio management practices, see appendix II.

<sup>29</sup>[GAO-12-833](#), [GAO-14-332](#).

<sup>30</sup>DHS initially established a JRC in 2003 to identify common requirements across DHS's components, but it was never fully implemented due to a lack of senior management officials' involvement. In November 2008, we found that the JRC played a key role in identifying several overlapping investments and recommended that DHS reinstate the JRC to review and approve acquisition requirements and assess potential duplication of efforts. See [GAO-09-29](#).



In response to our recommendations and the *Unity of Effort* memorandum, DHS issued new policies outlining the acquisition management, resource allocation, and requirements processes in 2016.<sup>31</sup> We assessed these policies and found that, when considered collectively, they generally reflect the key portfolio management practices, as shown in table 5.

**Table 5: Assessment of DHS's Policies on Acquisition Management, Resource Allocation, and Requirements against GAO's Key Portfolio Management Practices**

Key practice area	Summary of key practices	GAO assessment of DHS policies
Clearly define and empower leadership	Portfolio managers, with the support of cross-functional teams, should be empowered to make investment decisions and held accountable for outcomes.	Met
Establish standard assessment criteria and demonstrate comprehensive knowledge of the portfolio	Investments should be ranked and selected using a disciplined process to assess the cost, benefits, and risks of alternative products to ensure transparency and comparability across alternatives.	Met
Prioritize investments by integrating the requirements, acquisition, and budget processes	Organizations should use long-range planning and an integrated approach to prioritize needs and allocate resources in accordance with strategic goals, so they can avoid pursuing more products than they can afford and optimize return on investment.	Met
Continually make go/no-go decisions to rebalance the portfolio	Reviews should be scheduled (1) annually to consider proposed changes to program requirements, (2) as new opportunities are identified, (3) whenever a program breaches its established thresholds to reassess whether it remains relevant and affordable, and (4) after investment implementation is completed. Information gathered during these post-implementation reviews should be used to fine tune the investment process and the portfolio to achieve strategic outcomes.	Partially met

Source: GAO analysis of Department of Homeland Security (DHS) policies. | GAO-18-339SP

Note: Appendix II and III present a more detailed description of our key portfolio management practices and how we assessed DHS's policies.

Because DHS's new policies were issued in 2016, we did not specifically assess DHS's implementation of them. However, we did review documentation resulting from the acquisition management, resource allocation, and requirements processes since January 2016 to get a sense of how the department began implementation. Examples of how DHS's policies reflect the key portfolio management practices and their implementation status are outlined below.

<sup>31</sup>In October 2016, we assessed the JRC's structure and management approach and found that they were generally sound. For more information, see [GAO-17-171](#).

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- **Clearly define and empower leadership:** the policies identify the roles and responsibilities for decision makers in the acquisition management, resource allocation, and requirements processes, as well as establish cross-functional teams to support those decision makers. For example, to fulfill the role of acquisition decision authority, the Under Secretary for Management is supported by the Acquisition Review Board, which consists of key DHS senior leaders responsible for managing the department's finances, contracts, and testing, among other things.

We reviewed the memorandums issued since January 2016 that document Acquisition Review Board decisions and found that, through this group, DHS has taken steps to manage across programs through its acquisition management process. For example, after reviewing the status of several individual Customs and Border Protection programs in 2016, the Acquisition Review Board identified the need for a comprehensive border plan that depicts the component's current land, maritime, and air domain awareness capabilities. In October 2016, the Deputy Under Secretary for Management—who was serving as acquisition decision authority at the time—directed Customs and Border Protection to develop such a plan. The plan is to consist of separate analyses for each of the three domains—starting with land—that reflect end users' capability requirements for systems, such as Integrated Fixed Towers, Multi-Role Enforcement Aircraft, and Medium Lift Helicopter, that address relevant domain threats. As of February 2018, Customs and Border Protection had not yet completed the analysis for land domain awareness capabilities.

- **Establish standard assessment criteria and demonstrate comprehensive knowledge of the portfolio:** the policies establish standard criteria for assessing major acquisition programs through the acquisition management, resource allocation, and requirements processes. For example, the updated resource allocation handbook established that PA&E conduct annual assessments of all major investments using standard criteria in five main categories—contribution to DHS's mission, program health, risk, resources, and governance—to assess the portfolio of investments and present

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alternatives for leadership decision.<sup>32</sup> PA&E officials told us they used these criteria when assessing components' resource allocation requests during development of the President's fiscal year 2018 budget to develop funding options for the Deputy's Management Action Group, which is responsible for making resource allocation recommendations for the Secretary's approval. PA&E presented its funding options by DHS mission, which, according to officials associated with the Deputy's Management Action Group, allowed the group to make cross-component allocation decisions that directly aligned with the department's strategic goals. We could not verify these officials' assertions based on the documentation we were provided, but will continue to monitor PA&E's assessment of major acquisition programs against the standard criteria as the department's implementation of its resource allocation policies matures.

In addition, PARM formally established its Acquisition Program Health Assessments in October 2016 after more than a year of development and pilot efforts. These assessments are intended to monitor major acquisition programs quarterly (both on an individual program level and in aggregate) by rating programs against standard criteria in several categories—such as program management, financial management, and human capital—that DHS deemed important for successful program execution. We reviewed the quarterly reports issued from January 2016 to April 2017 and found that they primarily focused on individual programs. The portfolio-level information contained in these reports was limited to program results grouped in various categories, such as by component, by acquisition life-cycle phase, and by investment type (e.g., information technology). PARM officials said they plan to use the health assessments as a portfolio management tool in the future and are working to determine how to best to analyze and present portfolio-level data. We will continue to track PARM's implementation of the health assessment process moving forward through GAO's High Risk work to determine DHS's

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<sup>32</sup>The criteria for contribution to DHS's mission includes assessment of benefits to DHS, capability alignment to the JRC's functional portfolios, and shared services; program health includes assessment of cost, schedule, and performance; risk includes assessment in key areas, such as contracting and human capital; resources includes assessment of a program's cost estimate and affordability; and governance includes assessment of accountability and evaluation.

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progress in demonstrating that major acquisition programs are on track to achieve their established goals.<sup>33</sup>

- **Prioritize investments by integrating the requirements, acquisition, and budget processes:** the policies identify areas where DHS's requirements, acquisition management, and resource allocation processes are integrated and establish processes for prioritizing investments. For example, the updated resource allocation policies require reviews of DHS's major acquisition portfolio during this annual process. When the portfolio faces a funding gap, programs are to be returned to their respective components for scope or funding adjustments, or prioritized by department leadership to identify an affordable set of programs. For the fiscal year 2018 resource allocation cycle, PA&E officials provided an example where DHS leadership directed components to identify funding from alternative sources to fund specific purposes related to DHS's mission to prevent terrorism and enhance security. However, as previously discussed, the resulting FYHSP report for fiscal years 2018–2022 showed that DHS's portfolio of major acquisition programs is not affordable over the next 5 years.

In addition, the requirements policies established the Joint Assessment of Requirements, an annual process to prioritize emerging and existing requirements to inform the department's resource allocation decisions. As we found in October 2016, the JRC plans to implement the Joint Assessment of Requirements through a 3-year phased approach that is expected to be fully implemented in time to inform DHS's fiscal year 2021 budget request. In fiscal year 2016, the JRC completed the first phase, which included (1) developing initial criteria to evaluate emerging requirements, and (2) evaluating and prioritizing a sample of those requirements against the initial criteria. Based on these results, JRC officials told us in September 2017 that they are working to develop assessment metrics for the criteria as part of the next phase. We will continue to track the JRC's progress through GAO's High Risk work to determine DHS's progress to effectively operate the JRC.

- **Continually make go/no go decisions to rebalance the portfolio:** the requirements policies outlining the Joint Assessment of Requirements process also reflected the key practices to conduct

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<sup>33</sup>For our most recent report, see [GAO-17-317](#). The next report is expected to be issued in February 2019.

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reviews (1) annually to make requirement scoping adjustments as priorities change and (2) when new investments are identified. However, as previously discussed, the JRC is still in the process of implementing this process.

We consider this overall key practice area to be partially met because DHS's policies do not reflect the key practice (3) to reassess programs that breach established thresholds within the context of the portfolio to determine if the program remains relevant and affordable. PARM officials told us that—in practice—DHS reassesses programs in the context of their component's overall acquisition portfolio based on a certification of funds memorandum submitted to DHS's Chief Financial Officer when programs re-baseline as a result of a cost, schedule, or performance breach. The memorandum is intended to enable the Acquisition Review Board to discuss affordability by certifying a program's funding levels and identifying trade-offs necessary to address any projected funding gaps. We previously found that the certification of funds memorandum was an effective tool for DHS leadership to assess program affordability.<sup>34</sup> However, DHS's acquisition management policy requires components to submit this memorandum prior to most acquisition decision events, but not when a program re-baselines as a result of a cost, schedule, or performance breach.

During our review of programs' progress against schedule and cost goals in 2017, we found one instance where a component did not follow the practice to submit this memorandum when one of its programs re-baselined as a result of a breach. Specifically, Customs and Border Protection did not submit a certification of funds memorandum when the Tactical Communications Modernization program re-baselined in November 2017 as a result of a schedule and cost breach. Nevertheless, DHS leadership approved the program's revised APB and removed it from breach status, even though DHS's Chief Financial Officer identified that the program's revised LCCE was not affordable. PARM officials stated that this instance was an oversight because, at the time, the department was still determining when certification of funds memorandums should be submitted.

According to the federal standards for internal control, documentation of internal control practices is necessary so that they can be

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<sup>34</sup>[GAO-16-338SP](#).

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implemented effectively.<sup>35</sup> By amending its acquisition management policy to require a certification when a program re-baselines as a result of a cost, schedule, or performance breach, DHS can ensure that leadership receives the necessary information to reassess that program's affordability in the context of a larger portfolio. PARM officials stated that, moving forward, components will be required to submit a certification of funds memorandum for each program when a new APB is submitted for DHS leadership approval.

In contrast, the acquisition management policy does reflect the key practice (4) to use information gathered from post-implementation reviews to fine tune investment processes and the portfolio to achieve strategic outcomes. For example, DHS's acquisition management policy requires programs to conduct post-implementation reviews 6 to 18 months after initial operational capability to identify and document any deployment or implementation and coordination issues, how they were resolved, and how they could be prevented in the future. These reviews are intended to help identify capability gaps that may inform future acquisitions, among other things.

However, PARM officials said that they do not consider the results of the post-implementation reviews when managing the department's current acquisition portfolio because these reviews are typically conducted after program oversight shifts from PARM to the component. While post-implementation reviews are conducted later in the acquisition life cycle, the insights they provide could be leveraged by other programs in the acquisition portfolio, not just the program under review. For example, the Integrated Fixed Towers program completed a post-implementation review in June 2016 after its initial deployment of capabilities to the Arizona border. The review found that changes in illegal traffic patterns as a result of the program's deployment may be predicted, and other technologies may be able to compensate for changes in these patterns. This information could help other programs under development plan for similar outcomes or enable DHS to change deployment plans for existing programs to address changes in threats.

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<sup>35</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

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PARM has an opportunity to use the results from programs' post-implementation reviews since it is responsible for overseeing the department's acquisition portfolio by monitoring each investment's cost, schedule, and performance against established baselines. Federal standards for internal control state that management should obtain data on a timely basis so that they can be used for effective monitoring and that separate evaluations may provide feedback on the effectiveness of ongoing monitoring.<sup>36</sup> By leveraging the results from post-implementation reviews in its monitoring efforts, PARM may be better able to ensure that programs in the current acquisition portfolio achieve their baselines. PARM officials stated they have generally focused on leveraging information gathered from canceled acquisition programs, such as where and why plans went wrong. However, they agreed that they could better leverage post-implementation review information gathered from programs that complete planned capability deployments.

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## Conclusions

DHS's mission to safeguard the American people and homeland requires a broad portfolio of acquisitions. However, the performance of DHS's major acquisition portfolio during 2017 did not improve compared to our last review because we found that more programs will require more time and may require more money to complete than initially planned. DHS is collecting more timely cost estimate information on its acquisition programs to make more informed investment decisions. Yet DHS continues to face challenges in funding its acquisition portfolio, which highlights the need for disciplined policies that reflect best practices to ensure that the department does not pursue more programs than it can afford. DHS leadership has taken positive steps in recent years by strengthening its policies for acquisition management and resource allocation, and establishing policies related to requirements. Collectively, these policies reflect an integrated approach to managing investments. However, opportunities remain to further strengthen the acquisition management policy by documenting DHS's current practice to reassess programs that breach their established cost, schedule, or performance thresholds to ensure they are still worth pursuing within the context of the portfolio. Additionally, leveraging information learned once programs

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<sup>36</sup> [GAO-14-704G](#).

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complete deployment across the acquisition portfolio could help ensure that programs stay on track against their baselines in the first place. This is particularly relevant because DHS is initiating a number of complex and costly acquisition programs, such as development of a wall system along the southwest border and the Coast Guard's Heavy Polar Icebreaker, which could benefit from this type of information.

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## Recommendations for Executive Action

We are making the following two recommendations to DHS:

- The Under Secretary for Management should update DHS's acquisition management policy to require components to submit a certification of funds memorandum when a major acquisition program re-baselines in response to a breach. (Recommendation 1)
- The Under Secretary for Management should require PARM to assess the results of major acquisition programs' post-implementation reviews and identify opportunities to improve performance across the acquisition portfolio. (Recommendation 2)



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## Agency Comments and Our Evaluation

We provided a draft of this report to DHS for review and comment. In its comments, reproduced in appendix IV, DHS concurred with both of our recommendations and identified actions it planned to take to address them. DHS also provided technical comments, which we incorporated as appropriate.

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

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or [makm@gao.gov](mailto:makm@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 V.



Marie A. Mak  
Director, Contracting and National Security Acquisitions

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*List of Committees*

The Honorable Ron Johnson  
Chairman  
The Honorable Claire McCaskill  
Ranking Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Shelley Moore Capito  
Chairman  
The Honorable Jon Tester  
Ranking Member  
Subcommittee on Homeland Security  
Committee on Appropriations  
United States Senate

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

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

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# Appendix I: Program Assessments

This appendix presents individual assessments for each of the 28 programs we reviewed. Each assessment presents information current as of January 2018. They include standard elements, such as an image, a program description, and summaries of the program's progress in meeting cost and schedule goals, performance and testing activities, and program management-related issues, such as staffing. Each assessment also includes the following figures:

- **Fiscal Years 2018–2022 Affordability.** This figure compares the funding plan presented in the Future Years Homeland Security Program report to Congress for fiscal years 2018–2022 to the program's current cost estimate. We use this funding plan because the data are approved by the Department of Homeland Security (DHS) and Office of Management and Budget, and was submitted to Congress to inform the fiscal year 2018 budget process. The figure only presents acquisition funding because DHS did not report operations and maintenance (O&M) funding for individual programs in its funding plan to Congress. In addition, the data do not account for other potential funding sources, such as carryover.
- **Acquisition Program Baseline (APB) vs. Current Estimate.** This figure compares the program's cost thresholds from the initial APB approved after DHS's acquisition management policy went into effect in November 2008 and the program's current DHS-approved APB to the program's expected costs as of January 2018. The source for the current estimate is the most recent cost data we collected (i.e., a department-approved life-cycle cost estimate, updated life-cycle cost estimates submitted during the resource allocation process to inform the fiscal year 2019 budget request, or a fiscal year 2017 annual life-cycle cost estimate update).
- **Schedule Changes.** This figure consists of two timelines that identify key milestones for the program. The first timeline is based on the initial APB DHS leadership approved after the department's current acquisition management policy went into effect. The second timeline identifies when the program expected to reach its major milestones as of January 2018 and includes milestones introduced after the

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program's initial APB. Dates shown are based on the program's APB threshold dates or updates provided by the program office.

- **Test Status.** This table identifies key recent and upcoming test events. It also includes DHS's Director, Office of Test and Evaluation's assessment of programs' test results, if an assessment was conducted.
- **Staffing Profile.** This figure identifies the total number of staff a program needs (measured in full time equivalents) including how many are considered critical and how many staff the program actually has.

Lastly, each program assessment summarizes comments provided by the program office and identifies whether the program provided technical comments.

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## Appendix II: Key Portfolio Management Practices

To help determine the extent to which the Department of Homeland Security (DHS) has taken actions to enhance its policies and processes to better reflect key portfolio management practices, we assessed the department's requirements, acquisition management, and resource allocation policies using key practices we established in September 2012.<sup>1</sup> These key practices are based on our past work, in which we examined the practices that private sector entities use to achieve a balanced mix of new projects and found that successful commercial companies use a disciplined and integrated approach to prioritize needs and allocate resources.<sup>2</sup> As a result, these organizations can avoid pursuing more projects than their resources can support and better optimize the return on their investments. This approach, known as portfolio management, requires companies to view each of their investments as contributing to a collective whole, rather than as independent and unrelated.

The following portfolio management practices—organized into four key practice areas—can improve outcomes when managing a portfolio of acquisition programs.

### 1. Clearly define and empower leadership

- Those responsible for product investment decisions and oversight should be clearly identified and held accountable for outcomes
- Portfolio managers should be empowered to make decisions about the best way to invest resources
- Portfolio managers should be supported with cross-functional teams composed of representatives from key functional areas

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<sup>1</sup>GAO, *Homeland Security: DHS Requires More Disciplined Investment Management to Help Meet Mission Needs*, [GAO-12-833](#) (Washington, D.C.: Sept. 18, 2012).

<sup>2</sup>GAO, *Best Practices: An Integrated Portfolio Management Approach to Weapon System Investments Could Improve DOD's Acquisition Outcomes*, [GAO-07-388](#) (Washington, D.C.: Mar. 30, 2007).

**2. Establish standard assessment criteria, and demonstrate comprehensive knowledge of the portfolio**

- Specific criteria should be used to ensure transparency and comparability across alternatives
- Investments should be ranked and selected using a disciplined process to assess the costs, benefits, and risks of alternative products
- Knowledge should encompass the entire portfolio, including needs, gaps, and how to best meet the gaps

**3. Prioritize investments by integrating the requirements, acquisition, and budget processes**

- Requirements, acquisition, and budget processes should be connected to promote stability and accountability
- Organizations should use an integrated approach to prioritize needs and allocate resources, so they can avoid pursuing more products than they can afford, and optimize return on investment
- Resource allocation across the portfolio should align with strategic goals/objectives, and investment review policy should use long-range planning

**4. Continually make go/no-go decisions to rebalance the portfolio**

- Program requirements should be reviewed annually to make recommendations on proposed changes or options to reduce the scope
- As potential new products are identified, portfolios should be rebalanced based on those that add the most value
- If a program's estimates breach established thresholds, the program should be immediately reassessed within the context of the portfolio to determine whether that program is still relevant and affordable
- Agencies should use information gathered from post-implementation reviews of investments, as well as information learned from other organizations, to fine-tune the investment process and the portfolios to shape strategic outcomes

## Appendix III: Objectives, Scope, and Methodology

The objectives of this audit were designed to provide congressional committees insight into the Department of Homeland Security's (DHS) major acquisition programs. We assessed the extent to which (1) DHS's major acquisition programs are on track to meet their schedule and cost goals and (2) DHS has taken actions to enhance its policies and processes to better reflect key portfolio management practices. To answer these questions, we reviewed 28 of DHS's 79 major acquisition programs.<sup>1</sup> We reviewed all 16 of DHS's Level 1 acquisition programs—those with life-cycle cost estimates (LCCE) of \$1 billion or more—that had at least one project, increment, or segment in the Obtain phase—the stage in the acquisition life cycle when programs develop, test, and evaluate systems—at the initiation of our audit. Additionally, we reviewed 12 other major acquisition programs—including 8 Level 1 programs that either had not yet entered or were beyond the Obtain phase, and 4 Level 2 programs that have LCCes between \$300 million and less than \$1 billion—that we identified were at risk of not meeting their cost estimates, schedules, or capability requirements based on our past work and discussions with DHS officials. Specifically, we met with representatives from DHS's Office of Program Accountability and Risk Management (PARM)—DHS's main body for acquisition oversight—as a part of our scoping effort to determine which programs (if any) were facing difficulties in meeting their cost estimates, schedules, or capability requirements. The 28 selected programs were sponsored by eight different components, and they are identified in table 7, along with our rationale for selecting them.

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<sup>1</sup>Our review included 24 of the 26 programs we reviewed in GAO, *Homeland Security Acquisitions: Earlier Requirements Definition and Clear Documentation of Key Decisions Could Facilitate Ongoing Progress*, [GAO-17-346SP](#) (Washington, D.C.: Apr. 6, 2017). We did not include the Land Border Integration program in this review because it achieved full operational capability in September 2016. We also did not include the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance program—known as C4ISR—because, as we found in April 2017—it is focused primarily on improving the C4ISR system on the National Security Cutter and responsibility for C4ISR systems for other Coast Guard assets are being managed by the respective assets' program offices.



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**Appendix III: Objectives, Scope, and  
Methodology**

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**Table 6: Rationale for Selecting DHS Major Acquisition Programs for Review**

Component	Program	Level 1 program in the Obtain phase at the initiation of our audit	At risk of not meeting cost estimates, schedule, or capability requirements
Customs and Border Protection	Automated Commercial Environment	yes	no
	Biometric Entry-Exit Program	no	yes
	Border Wall System Program	no	yes
	Integrated Fixed Towers <sup>a</sup>	no	yes
	Medium Lift Helicopter (UH-60)	yes	no
	Multi-Role Enforcement Aircraft	yes	no
	Non-Intrusive Inspection Systems Program	no	yes
	Remote Video Surveillance System	yes	no
	Tactical Communications Modernization	no	yes
	TECS (not an acronym) Modernization <sup>a</sup>	no	yes
Federal Emergency Management Agency	Logistics Supply Chain Management System <sup>a</sup>	no	yes
Immigration and Customs Enforcement	TECS (not an acronym) Modernization <sup>a</sup>	no	yes
National Protection and Programs Directorate	Continuous Diagnostics and Mitigation	yes	no
	Homeland Advanced Recognition Technology	yes	no
	National Cybersecurity Protection System	yes	no
	Next Generation Networks Priority Services	yes	no
Science and Technology Directorate	National Bio and Agro-Defense Facility	yes	no
Transportation Security Administration	Electronic Baggage Screening Program	yes	no
	Passenger Screening Program	yes	no
	Technology Infrastructure Modernization	yes	no
U.S. Coast Guard	Fast Response Cutter	no	yes
	H-65 Conversion/Sustainment Program	yes	no
	Heavy Polar Icebreaker	no	yes
	Long Range Surveillance Aircraft (HC-130H/J)	no	yes
	Medium Range Surveillance Aircraft (HC-144A & C-27J)	yes	no
	National Security Cutter	no	yes
	Offshore Patrol Cutter	yes	no
U.S. Citizenship and Immigration Services	Transformation	yes	no

Legend: X = yes; — = no; shaded rows = new program reviewed in 2018.

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-18-339SP

<sup>a</sup>Level 2 program.

To determine the extent to which DHS's major acquisition programs are on track to meet their schedule and cost goals, we collected key acquisition documentation for each of the 28 programs, such as all LCCEs and acquisition program baselines (APB) approved at the department level since DHS's current acquisition management policy went into effect in November 2008. DHS policy establishes that all major acquisition programs should have a department-approved APB, which establishes a program's critical cost, schedule, and performance parameters, before they initiate efforts to obtain new capabilities. Twenty four of the 28 programs had one or more department-approved LCCEs and APBs between November 2008 and December 31, 2017.<sup>2</sup> We used these APBs to establish the initial and current cost and schedule goals for the programs. We then developed a data collection instrument to help validate the information from the APBs and collect similar information from programs without department-approved APBs. Specifically, for each program, we pre-populated a data collection instrument to the extent possible with the schedule and cost information we had collected from the APBs and our 2017 assessment (if applicable) to identify schedule and cost goal changes, if any, since (a) the program's initial baseline was approved and (b) January 2017—the data cut-off date of the report we issued in April 2017. We shared our data collection instruments with officials from the program offices to confirm or correct our initial analysis and to collect additional information to enhance the timeliness and comprehensiveness of our data sets. We then met with program officials to identify causes and effects associated with any identified schedule and cost goal changes. Subsequently, we drafted preliminary assessments for each of the 28 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).

Additionally, in July 2017, we collected copies of the detailed data on affordability that programs submitted to inform the fiscal year 2019 resource allocation process. We also collected copies of any annual LCCE updates programs submitted in fiscal year 2017. For each of the 24 programs with a department-approved APB, we compared (a) the most

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<sup>2</sup>The remaining 4 programs—Biometric Entry-Exit, Border Wall System Program, Remote Video Surveillance System, and the Heavy Polar Icebreaker—did not receive department approval of their initial APBs by December 31, 2017; therefore, we excluded them from our assessment of whether programs are on track to meet their schedule and cost goals during 2017.

recent cost data we collected (i.e., a department-approved LCCE, the detailed LCCE information submitted during the resource allocation process, a fiscal year 2017 annual LCCE update, or an update provided by the program office) to (b) DHS's funding plan presented in the Future Years Homeland Security Program (FYHSP) report to Congress for fiscal years 2018–2022, which presents 5-year funding plans for DHS's major acquisition programs, to assess the extent to which a program was projected to have an acquisition funding gap in fiscal year 2018.<sup>3</sup> These calculations also accounted for any funds that programs brought into fiscal year 2018 from sources, such as fiscal year 2017 carryover, re-programming, and fees. We shared our analysis with officials from the program offices to confirm or correct our calculations. We also identified actions DHS had taken or planned to take to address projected program funding gaps by reviewing key documentation, such as certification of funds memorandums, submitted in 2017. We also met with program officials to identify causes and effects associated with any projected funding gaps, and interviewed senior financial officials from DHS headquarters to discuss actions they had taken to implement our prior recommendations on addressing program affordability issues.<sup>4</sup> 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 has taken actions to enhance its policies and processes to better reflect key portfolio management practices, we compared the department's current policies for requirements, acquisition management, and resource allocation processes to key practices we established in a September 2012 report—

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<sup>3</sup>The FYHSP reports information by the department's new common appropriation structure, which created standard appropriation fund types including (1) procurement, construction, and improvements and (2) operations and support. We refer to these types of funding as (1) acquisition and (2) operations and maintenance throughout this report.

<sup>4</sup>For example, see GAO, *Homeland Security Acquisitions: DHS Has Strengthened Management, but Execution and Affordability Concerns Endure*, [GAO-16-338SP](#) (Washington, D.C.: Mar. 31, 2016), and *Homeland Security Acquisitions: DHS Could Better Manage Its Portfolio to Address Funding Gaps and Improve Communications with Congress*, [GAO-14-332](#) (Washington, D.C.: Apr. 17, 2014).

which are listed in appendix II—and identified any significant shortfalls.<sup>5</sup> Specifically, we assessed the joint requirements directives and instruction manual; DHS's Acquisition Management Directive 102-01, Acquisition Management Instruction 102-01-001, and other related guidance; and DHS's resource allocation directive, instruction, and handbook. First, we assessed each group of policies against the key practices using the following ratings:

- Met—the documents fully reflected the key practice.
- Partially met—the documents reflected some, but not all parts of the key practice.
- Not met—the documents did not reflect the key practice.

We shared our preliminary analysis for each group of policies with the DHS officials responsible for implementing them—specifically, the Joint Requirements Council (JRC), PARM, and the Office of Program Analysis and Evaluation (PA&E)—to discuss our findings, identify relevant sections of the documents we had not yet accounted for, and solicit their thoughts on those key practices that were not reflected in the policies. Second, we used the scores for each group of policies to develop a department-wide rating for each key practice. When applicable, we weighted the department-wide rating based on the intent of the key practice. For example, the department-wide rating for the key practice related to resource allocation across the portfolio was based more heavily on the rating for the resource allocation policies, rather than the ratings for the requirements or acquisition management policies. Third, we rolled-up the ratings for all the key practices in a particular area—as identified in appendix II—to establish a department-wide overall rating for each key practice area. We concluded that a key practice area was met if all ratings for the individual key practices in that area were met; partially met if the ratings for the individual key practices in that area were all partially met or

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<sup>5</sup>We established GAO's key portfolio management practices in GAO, *Homeland Security: DHS Requires More Disciplined Investment Management to Help Meet Mission Needs*, [GAO-12-833](#) (Washington, D.C.: Sept. 18, 2012). We initially included the Chief Information Officer's policies for portfolio management of information technology programs in our assessment. We ultimately decided to exclude these policies because DHS officials told us they are in the process of revising them and DHS's requirements, acquisition management, and resource allocation policies are applicable to information technology programs. In addition, we assess DHS's portfolio management of information technology programs through our high-risk updates. For the most recent report, see *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, [GAO-17-317](#) (Washington, D.C.: Feb. 15, 2017).

a mix of met and not met; or not met if the ratings for the individual key practices in that area were all not met.

In addition, we reviewed documentation that resulted from DHS's requirements, acquisition management, and resource allocation processes since January 2016 to get a sense of how the department has implemented its current policies. For example, we reviewed JRC-validated requirements documents; acquisition decision memorandums; Acquisition Program Health Assessment reports; and documentation related to the development of DHS's fiscal year 2018 budget request and the fiscal year 2018–2022 FYHSP report, including resource allocation guidance, presentations to DHS leadership, and preliminary decisions. We also interviewed officials from the JRC, PARM, PA&E, and the Deputy's Management Action Group to identify any current and planned initiatives to improve management of the department's portfolio of major acquisition programs. We then compared our assessment of DHS's current policies, practices, and planned initiatives to our previous findings and the *Standards for Internal Control in the Federal Government*.<sup>6</sup>

We conducted this performance audit from March 2017 through May 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>6</sup>GAO-12-833, GAO-14-332, and GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014).

## Appendix IV: Comments from the Department of Homeland Security



April 27, 2018

Marie A. Mak  
Director, Contracting and National Security Acquisitions  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Re: Management Response to Draft Report GAO-18-339SP, "HOMELAND SECURITY  
ACQUISITIONS: Leveraging Programs' Results Could Further Improve DHS's  
Progress to Improve Portfolio Management"

Dear Ms. Mak:

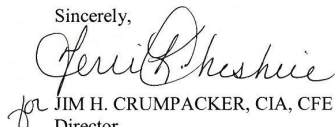
Thank you for the opportunity to review and comment on this draft report. The U.S. Department of Homeland Security (DHS) appreciates the U.S. Government Accountability Office's (GAO) work in planning and conducting its review and issuing this report.

The Department is pleased to note GAO's acknowledgement that DHS is collecting more timely cost estimate information on its acquisition programs in order to make more informed investment decisions. DHS is also appreciative of GAO's recognition that DHS leadership has strengthened its policies for acquisition management and resource allocation, and established policies related to requirements. The Department is committed to continuing efforts to mitigate the risk of poor acquisition outcomes and strengthen DHS's investment decisions.

The draft report contained two recommendations with which the Department concurs. Attached find our detailed response to each recommendation. Technical comments were previously provided under separate cover.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Sincerely,

  
for JIM H. CRUMPACKER, CIA, CFE  
Director  
Departmental GAO-OIG Liaison Office

Attachment

**Attachment: DHS Management Response to Recommendations  
Contained in GAO-18-339SP**

GAO recommended that the Under Secretary for Management:

**Recommendation 1:** Update DHS's acquisition management policy to require components to submit a certification of funds memorandum when a major acquisition program re-baselines in response to a breach.

**Response:** Concur. DHS has a demonstrated practice of reassessing programs based on a certification of funds memorandum when a program re-baselines; however, current DHS policy only required programs to submit this memorandum prior to most acquisition decision events. DHS agrees that it is important to re-validate program affordability during a re-baseline and will continue to require a certification of funds memorandum to support each Acquisition Program Baseline submitted for Chief Acquisition Officer approval. Additionally, DHS will incorporate this requirement into an update to the certification of funds policy memorandum. Estimated Completion Date (ECD): August 31, 2018.

**Recommendation 2:** Require [the DHS Office of Program Accountability and Risk Management] PARM to assess the results of major acquisition programs' post-implementation reviews and identify opportunities to improve performance across the acquisition portfolio.

**Response:** Concur. DHS agrees that it is important to use the results from programs' post implementation reviews to ensure that programs in the current acquisition portfolio achieve their baselines. PARM is reviewing the current DHS Post Implementation Review policy and will update it to include more formal reporting requirements and execution criteria. Additionally, PARM will initiate a study focused on institutionalizing lessons learned across the Components with the goal to improve performance across the acquisition portfolio. ECD: December 31, 2018.



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# Appendix V: GAO Contact and Staff Acknowledgments

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## GAO Contact

Marie A. Mak, (202) 512-4841 or [makm@gao.gov](mailto:makm@gao.gov)

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## Staff Acknowledgments

In addition to the contact listed above, Rick Cederholm (Assistant Director), Aryn Ehlow (Analyst-in-Charge), Pete Anderson, Lorraine Ettaro, Helena Johnson, TyAnn Lee, Alexis Olson, Sylvia Schatz, Roxanna Sun, and Lindsay Taylor made key contributions to this report. Other contributors included Mathew Bader, Carissa Bryant, Andrew Burton, Erin Butkowski, Lisa Canini, Jenny Chow, John Crawford, Lindsey Cross, Laurier R. Fish, Betsy Gregory-Hosler, Claire Li, Sarah Martin, Marycella Mierez, Erin O'Brien, Katherine Pfeiffer, John Rastler, Ashley Rawson, Andrew Redd, Jill Schofield, Charlie Shivers III, and Jeanne Sung.

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# Appendix VI: Accessible Data

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## Agency Comment Letter

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### Appendix IV Comments from the Department of Homeland Security

#### Page 1

April 27, 2018

Marie A. Mak

Director, Contracting and National Security Acquisitions

U.S. Government Accountability Office

441 G Street, NW

Washington, DC 20548

Re: Management Response to Draft Report GAO-18-339SP,  
"HOMELAND SECURITY ACQUISITIONS: Leveraging Programs' Results  
Could Further Improve DHS's Progress to Improve Portfolio  
Management"

Dear Ms. Mak:

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

The Department is pleased to note GAO's acknowledgement that DHS is collecting more timely cost estimate information on its acquisition programs in order to make more informed investment decisions. DHS is also appreciative of GAO's recognition that DHS leadership has strengthened its policies for acquisition management and resource allocation, and established policies related to requirements. The

Department is committed to continuing efforts to mitigate the risk of poor acquisition outcomes and strengthen DHS's investment decisions.

The draft report contained two recommendations with which the Department concurs. Attached find our detailed response to each recommendation. Technical comments were previously provided under separate cover.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Sincerely,

JIM H. CRUMPACKER, CIA, CFE

Director

Departmental GAO-OIG Liaison Office

Attachment

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Attachment: DHS Management Response to Recommendations  
Contained in GAO-18-339SP

GAO recommended that the Under Secretary for Management:

Recommendation 1: Update DHS's acquisition management policy to require components to submit a certification of funds memorandum when a major acquisition program re-baselines in response to a breach.

Response: Concur. OHS has a demonstrated practice of reassessing programs based on a certification of funds memorandum when a program re-baselines; however, current OHS policy only required programs to submit this memorandum prior to most acquisition decision events. OHS agrees that it is important to re-validate program affordability during a re-baseline and will continue to require a certification of funds memorandum to support each Acquisition Program Baseline submitted for Chief Acquisition Officer approval. Additionally, OHS will incorporate this requirement into an update to the certification of funds policy memorandum. Estimated Completion Date (ECO): August 31, 2018.

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Recommendation 2: Require [the DHS Office of Program Accountability and Risk Management] PARM to assess the results of major acquisition programs' post-implementation reviews and identify opportunities to improve performance across the acquisition portfolio.

Response: Concur. OHS agrees that it is important to use the results from programs' post implementation reviews to ensure that programs in the current acquisition portfolio achieve their baselines. PARM is reviewing the current OHS Post Implementation Review policy and will update it to include more formal reporting requirements and execution criteria. Additionally, PARM will initiate a study focused on institutionalizing lessons learned across the Components with the goal to improve performance across the acquisition portfolio. ECO: December 31, 2018.

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## Related GAO Products

*DHS Program Costs: Reporting Program-Level Operations and Support Costs to Congress Would Improve Oversight.* [GAO-18-344](#). Washington, D.C.: April 25, 2018.

*Homeland Security Acquisitions: Identifying All Non-Major Acquisitions Would Advance Ongoing Efforts to Improve Management.* [GAO-17-396](#). Washington, D.C.: April 13, 2017.

*Homeland Security Acquisitions: Earlier Requirements Definition and Clear Documentation of Key Decisions Could Facilitate Ongoing Progress.* [GAO-17-346SP](#). Washington, D.C.: April 6, 2017.

*Coast Guard Cutters: Depot Maintenance Is Affecting Operational Availability and Cost Estimates Should Reflect Actual Expenditures.* [GAO-17-218](#). Washington, D.C.: March 2, 2017.

*Homeland Security Acquisitions: Joint Requirements Council's Initial Approach Is Generally Sound and It Is Developing a Process to Inform Investment Priorities.* [GAO-17-171](#). Washington, D.C.: October 24, 2016.

*Homeland Security Acquisitions: DHS Has Strengthened Management, but Execution and Affordability Concerns Endure.* [GAO-16-338SP](#). Washington, D.C.: March 31, 2016.

*National Security Cutter: Enhanced Oversight Needed to Ensure Problems Discovered during Testing and Operations Are Addressed.* [GAO-16-148](#). Washington, D.C.: January 12, 2016.

*TSA Acquisitions: Further Actions Needed to Improve Efficiency of Screening Technology Test and Evaluation.* [GAO-16-117](#). Washington, D.C.: December 17, 2015.

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

*Coast Guard Aircraft: Transfer of Fixed-Wing C-27J Aircraft Is Complex and Further Fleet Purchases Should Coincide with Study Results.* [GAO-15-325](#). Washington, D.C.: March 26, 2015.

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

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

*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.: September 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.: November 18, 2008.

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