



September 2018

DEFENSE LOGISTICS

DOD Needs to Improve Budget Estimates and Accuracy of Forecasts for Airlift Services

GAO Highlights

Highlights of [GAO-18-557](#), a report to congressional committees

Why GAO Did This Study

TRANSCOM reported spending about \$81 billion flying personnel and cargo worldwide in fiscal years 2007-2017. TRANSCOM manages the Transportation Working Capital Fund (TWCF) to provide air, land, and sea transportation for the Department of Defense (DOD). TRANSCOM sets some rates it charges below costs to be competitive with commercial air service providers. The Air Force generally pays for expenses not covered by TWCF rates through the ARA.

A House Report accompanying the National Defense Authorization Act for Fiscal Year 2018 included a provision for GAO to review the ARA and the TWCF. GAO's report discusses the extent to which (1) ARA funds were requested, allotted, and expended for airlift activities; (2) the Air Force provided ARA information in its budget requests and informed its requests with information from TRANSCOM; and (3) TRANSCOM has implemented a rate-setting process for airlift services and uses workload forecasts to estimate the annual ARA funding request. GAO analyzed ARA funds and costs and revenues for airlift services for fiscal years 2007-2017; interviewed officials about the ARA budget preparation process; and analyzed TRANSCOM rate-setting and forecasting guidance and results.

What GAO Recommends

GAO is making five recommendations to DOD, including improving the clarity and completeness of budget estimates, and taking steps to improve the accuracy of airlift workload forecasts. DOD concurs with GAO's recommendations.

View [GAO-18-557](#). For more information, contact Diana Maurer at (202) 512-9627, maurerd@gao.gov, or Asif A. Khan at (202) 512-9869, khana@gao.gov.

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What GAO Found

For fiscal years 2007 through 2017, the Air Force requested \$2.8 billion from Congress for Airlift Readiness Account (ARA) requirements, as part of its annual Operations and Maintenance appropriation. The Air Force allotted \$2.8 billion (i.e., directed the use of the appropriated funds) and expended \$2.4 billion of these funds for the ARA. U.S. Transportation Command (TRANSCOM) uses ARA funds to support airlift operations. Specifically, the Air Force requests ARA funds in its annual Operations and Maintenance budget request and subsequently provides these funds to TRANSCOM to assist in paying for airlift services (see figure). Amounts requested, allotted, and expended varied from year-to-year, in some cases by hundreds of millions of dollars, in part due to changes in the amount of airlift services provided by TRANSCOM.

The Airlift Readiness Account (ARA) Relationship to the Transportation Working Capital Fund



Source: GAO analysis of Department of Defense data. | GAO-18-557

The Air Force has not been including specific ARA information in its budget requests since fiscal year 2010. For fiscal years 2007 through 2009, Air Force budget requests explicitly stated ARA amounts. Air Force officials stated their budget presentation was changed to reduce the overall number of budget line items. In addition, TRANSCOM has not been providing cost estimates in time to support Air Force budget preparations. Specifically, TRANSCOM has been providing this information 2 months later than the Air Force needs it to support budget deliberations. The Air Force and TRANSCOM have taken some initial steps to address this issue, but these efforts lack substantive details regarding formalizing the necessary processes to ensure timely information. Until the Air Force and TRANSCOM resolve this issue, Congress will not have sufficient and complete information to inform its decisions on appropriating funds for ARA.

TRANSCOM has a rate-setting process, but faces challenges producing accurate workload forecasts. To provide information to its customers during the annual budget development process, TRANSCOM sets airlift rates in advance of the fiscal year of expenditure. Workload forecasts influence the rate-setting process. Inaccurate forecasts can lead to unreliable budget requests and hinder effective and efficient operational planning. GAO found that forecast inaccuracy (i.e., the variance between the forecast and the actual workload) averaged 25 percent and was becoming increasingly inaccurate since fiscal year 2007. GAO found that TRANSCOM has several workload forecasting challenges. Specifically, TRANSCOM lacks an effective process to gather workload projections from customers. It also no longer uses forecasting accuracy metrics and has not established forecast accuracy goals to monitor its performance. Furthermore, TRANSCOM does not have an action plan to improve its increasingly inaccurate workload forecasts. Taking steps to address these issues would enable TRANSCOM to improve the accuracy of workload forecasts.

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Abbreviations

ARA	Airlift Readiness Account
DOD	Department of Defense
S&OP	Sales and Operations Planning
TRANSCOM	United States Transportation Command
TWCF	Transportation Working Capital Fund

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September 4, 2018

Congressional Committees

For fiscal years 2007 through 2017, the United States Transportation Command (TRANSCOM) reported spending about \$81 billion on airlift services to fly military and non-military personnel and cargo around the world.¹ TRANSCOM manages the Transportation Working Capital Fund (TWCF) to provide airlift, sealift, and ground transportation in times of peace and war in support of overseas operations, global security events, and natural disasters.² The TWCF conducts businesslike activities to generate revenue from the sale of goods or services to customers, such as the military services or combatant commands, to cover costs expended in support of those services.³ The military services' Operations and Maintenance appropriations support their transportation needs, such as airlift services provided by TRANSCOM. In fiscal year 2017, the TWCF incurred costs of about \$5 billion for airlift services, with the Air Force as its largest customer.

TRANSCOM generally sets the rates it charges for airlift services at a level lower than the costs it incurs. It does this to be competitive with commercial air service providers and assure that the military services and combatant commands use government-owned and contracted aircraft and facilities to the greatest extent possible.⁴ According to TRANSCOM officials, the use of government owned aircraft allows TRANSCOM to be sure that mobilization capacity is maintained, helps air crews meet

¹This amount is specific to airlift services provided by Air Mobility Command, a subordinate command of TRANSCOM. TRANSCOM acts as the Department of Defense (DOD) single manager for transportation other than service-unique or theater-assigned transportation assets. TRANSCOM is a functional combatant command that supports the DOD's worldwide military missions to meet evolving national security challenges.

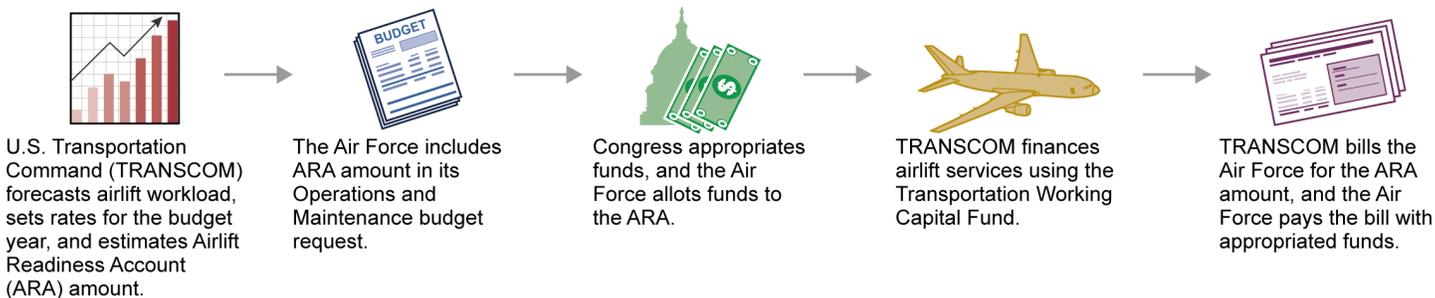
²The TWCF funds common-user transportation services provided through the Air Force's Air Mobility Command, sea transportation services provided by the Navy's Military Sealift Command, and surface transportation services provided by the Army's Surface Deployment and Distribution Command.

³To perform its variety of missions around the world, DOD operates six geographic combatant commands which manage military operations in designated areas of responsibility: U.S. Africa Command, U.S. Central Command, U.S. European Command, U.S. Northern Command, U.S. Indo-Pacific Command, and U.S. Southern Command.

⁴DOD 7000.14-R, *Financial Management Regulation*, vol. 11B, ch. 3 (October 2002).

training requirements, and supports readiness. When revenue is insufficient to support the costs of maintaining airlift capability, the Air Force provides additional appropriated funds through the Airlift Readiness Account (ARA).⁵ The Air Force allots (i.e., directs the use of these funds) to the ARA from its Operations and Maintenance funding appropriated by Congress.⁶ According to TRANSCOM and Air Force officials, TRANSCOM records the ARA amount as a funded order (i.e., the amount to be paid by the Air Force is agreed to before the order is recorded).⁷ The Air Force then provides appropriated funds to pay for airlift services. A simplified depiction of this process is shown in figure 1 below.

Figure 1: Relationship of the Airlift Readiness Account to the Transportation Working Capital Fund



Source: GAO analysis of Department of Defense information. | GAO-18-557

Note: The Airlift Readiness Account provides funds to maintain sufficient airlift capacity to respond to transportation requirements for a wide variety of mobilization conditions in peacetime and contingency environments using Air Force appropriated funds. The Transportation Working Capital Fund is a revolving fund used to maintain mobilization capabilities to meet national security needs.

House Report 115-200, which accompanied a bill for the National Defense Authorization Act for Fiscal Year 2018, included a provision for GAO to review the Airlift Readiness Account in conjunction with the Transportation Working Capital Fund.⁸ Our report examines the extent to

⁵DOD 7000.14-R, *Financial Management Regulation*, vol. 2B, ch. 9 (December 2014).

⁶Each agency makes allotments of appropriated funds pursuant to specific procedures it establishes within the general apportionment requirements stated in Office of Management and Budget Circular No. A-11. The amount allotted by an agency cannot exceed the amount apportioned by the Office of Management and Budget, and is part of an agency system of administrative control of funds whose purpose is to keep obligations and expenditures from exceeding apportionments.

⁷TRANSCOM records this funding as an order and revenue in its financial report, and submits an “Air Mobility Command Common User Services” exhibit to justify the ARA amount.

⁸H. Rep. No. 115-200 (2017).

which (1) Airlift Readiness Account funds were requested, allotted, and expended by the Air Force from fiscal years 2007 through 2017, (2) the Air Force provided Airlift Readiness Account information in its budget request to Congress and informed its request with information from TRANSCOM, and (3) TRANSCOM has implemented a process to set rates for airlift services and use workload forecasts to estimate the annual Airlift Readiness Account funding request.

To address the first objective, we analyzed Air Force budget request documents and underlying supporting documentation, and information from the Air Force's Automated Budget Interactive Data Environment Systems to determine the appropriated amounts allotted for ARA activities. We also analyzed summary-level documents provided by TRANSCOM detailing expenditures from TRANSCOM for fiscal years 2007 through 2017 to establish trends.⁹ Further, we reviewed TRANSCOM's procedures and supporting documentation for billing the Air Force for payment of the ARA.¹⁰ Lastly, we interviewed DOD, Air Force and TRANSCOM officials to gain an understanding of general reasons for variances from year to year or between the requested and expended amounts.

To address the second objective, we analyzed Air Force Operations and Maintenance budget justification documents to determine the type of ARA information (i.e. total amounts, changes from year to year, and other information) provided in the President's budget requests for fiscal years 2007 through 2017. To understand the differences, if any, between the ARA information provided from year to year, we interviewed Air Force budget officials to obtain an explanation for changes in the reported information. Further, we analyzed Air Force Operations and Maintenance budget justification documents, and TWCF budget documents to determine the extent to which the ARA amount was based on available

⁹Air Force uses the Automated Budget Interactive Data Environment Systems as a current and historical Force and Financial Plan database for resource managers to conduct research and analysis.

¹⁰TRANSCOM generally bills the Air Force in monthly increments for the ARA amount agreed to by both parties at the beginning of each fiscal year. This agreement is documented in an annual phasing plan and adjusted, as necessary, based on the needs of TRANSCOM to pay for its costs. For example, in October 2015, TRANSCOM and the Air Force agreed the expected ARA expenditure amount for fiscal year 2016 was \$730 million. The amount was revised downward twice during the fiscal year to \$122 million. For fiscal year 2016, TRANSCOM billed the Air Force two monthly installments of \$61 million each.

information. We also discussed with Air Force and TRANSCOM officials plans to change their procedures and the information considered in the development of the ARA amount. Further, we compared TRANSCOM's processes and procedures against *Standards for Internal Controls in the Federal Government*, specifically controls related to internal and external reporting and mechanisms to enforce management directives.¹¹

To address the third objective, we analyzed the processes TRANSCOM used to set rates it charges customers in various airlift workload categories for fiscal years 2007 through 2017. We also reviewed forecasting procedures and supporting documents provided by TRANSCOM; interviewed TRANSCOM officials to gain an understanding of how they implement rate setting and forecasting procedures; and analyzed forecast and actual workload data provided by TRANSCOM for the same timeframe. We compared TRANSCOM's processes against rate-setting and forecasting guidance¹² and reviewed whether TRANSCOM used quality information to establish workload projections, established performance measures and goals for forecasting its workload, and developed efforts to improve its forecasting of workload.¹³ In addition, we interviewed TRANSCOM and Air Mobility Command officials and reviewed supporting documentation to gain an understanding of challenges that exist to producing accurate workload forecasts and the relationship with the rate-setting and budgeting process.

We obtained revenue, cost, workload, and ARA data for this report from budget documents, financial reports, and Air Force and TRANSCOM records for fiscal years 2007 through 2017. We assessed the reliability of the data by (1) interviewing Air Force and TRANSCOM officials to gain an

¹¹GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

¹²DOD 7000.14-R, *Financial Management Regulation* vol. 11B, ch. 3 (October 2002); U.S. Transportation Command Instruction 90-21, *Transportation Workload Forecasting* (Jan. 23, 2015).

¹³The *Standards for Internal Control in the Federal Government* ([GAO-14-704G](#)) state that management should use quality information that is appropriate, current, complete, accurate, accessible, and provided on a timely basis to achieve the entity's objectives. Furthermore, management should define objectives in specific and measurable terms to enable the design of internal control for related risks, establish activities to monitor performance measures and indicators, and assess performance against plans, goals, and objectives set by the entity. Additionally, management should complete and document corrective actions to remediate internal control deficiencies on a timely basis to achieve established objectives.

understanding of the processes used to estimate the cash, revenue, cost, workload, and ARA data; (2) reviewing our prior work to determine if there were reported concerns with TRANSCOM's financial or budgetary data; (3) comparing cash, revenue, costs and workload data provided by TRANSCOM to the same data presented in the Air Force Working Capital Fund budgets for fiscal years 2007 through 2017; and (4) comparing ARA data to Air Force and TRANSCOM supporting documentation, or to Air Force Operations and Maintenance budget execution reports to validate ARA amounts for fiscal years 2007 through 2017.¹⁴ Based on our assessment, these data were sufficiently reliable for the purposes of this report.

We conducted this performance audit from August 2017 through September 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. For more detail regarding our scope and methodology see appendix I.

Background

Working Capital Funds

DOD uses working capital funds to focus management's attention on the total costs of carrying out critical business operations and encourage DOD support organizations to provide quality goods and services at the lowest cost. The ability of working capital funds to operate on a break-even basis depends on accurately projecting workload, estimating costs, and setting rates to recover the full costs of producing goods and services. Generally, customers use appropriated funds to finance orders placed with working capital funds.

¹⁴GAO, *Defense-Wide Working Capital Fund: Action Needed to Maintain Cash Balances within Required Levels*, [GAO-17-465](#) (Washington, D.C.: June 30, 2017); GAO, *Air Force Working Capital Fund: Actions Needed to Manage Cash Balances to Required Levels*, [GAO-14-480](#) (Washington, D.C.: July 31, 2014); and GAO, *Defense Transportation: More Reliable Information Key To Managing Airlift Services More Efficiently*, [GAO/NSIAD-00-6](#), (Washington, D.C.: March 6, 2000).

DOD sets the rates charged for goods and services during the budget preparation process, which generally occurs approximately 18 months before the rates go into effect. To develop rates, working capital fund managers review projected costs such as labor and materials, as well as projected customer requirements. The rates are intended to remain fixed during the fiscal year in accordance with DOD policy.¹⁵ DOD's stabilized price policy serves to protect customers from unforeseen inflationary increases and other cost uncertainties and better assures customers that they will not have to reduce programs to pay for potentially higher-than-anticipated prices. Because working capital fund managers base rates charged on assumptions formulated in advance of rates going into effect, some variance is expected between projected and actual costs and revenues.

Transportation Working Capital Fund

The TWCF is dedicated to TRANSCOM's mission to provide air, land, and sea transportation for DOD in times of peace and war, with a primary focus on wartime readiness. Specifically, TWCF is used to provide air transportation and services for passengers or cargo in support of DOD operations or along established routes. The TWCF is also used to finance Air Force and joint training requirements. Examples of joint capabilities supported by the TWCF are depicted in figure 2.

¹⁵DOD 7000.14-R, *Financial Management Regulation*, vol. 2B, ch. 9 (December 2014).

Figure 2: C-17 “Globemaster” Aircraft Being Used in Joint Activities



Source: Defense Visual Information Distribution Service. | GAO-18-557

Note: These photos, left to right, show Air Force and Army personnel loading heavy equipment during training exercises in which Air Mobility Command transported thousands of paratroopers and millions of pounds of heavy vehicles, container delivery systems, and other cargo; and illustrate Army paratroopers jumping from an Air Force aircraft.

The TWCF uses rates for airlift services that do not cover the full cost of airlift operations. The military services may choose between TRANSCOM and commercial service providers along established routes. Thus, fund managers set rates for some airlift services to remain competitive with commercial airlift carriers, which historically, do not result in revenue sufficient to cover the full cost of airlift operations. DOD must maintain airlift capacity and must remain ready and available to support mobilization for war and contingencies.¹⁶ Providing an incentive for customers to use DOD airlift capacity helps TRANSCOM maintain military airlift capabilities not available from commercial providers.

¹⁶While DOD working capital funds are generally required to set rates to recover the full costs of the services provided, TRANSCOM is authorized to set rates to be competitive with commercial airlift carriers.

TWCF cash balances are managed as a component of the Air Force Working Capital Fund.¹⁷ Although the TWCF is managed on a day-to-day basis by TRANSCOM, it is part of the Air Force Working Capital Fund for cash management purposes. The relationship of the TWCF to the Air Force Working Capital Fund provides a cash management benefit. According to Air Force officials, retaining the TWCF within the Air Force Working Capital Fund for cash management purposes provides flexibility while minimizing the need for additional funding. According to month-end cash balance data, the TWCF has been able to operate using cash available in the Air Force Working Capital Fund when no funds were available in the TWCF. For example, the TWCF month-end cash balance was negative fifteen times during fiscal years 2007-2017, but there was sufficient cash in the Air Force Working Capital Fund to allow the TWCF to continue to operate and execute its missions. For more information on the cash balances of the Air Force Working Capital Fund and the TWCF see appendix II.

Roles and Responsibilities for Managing the Transportation Working Capital Fund

Multiple DOD organizations have roles in managing various aspects of the TWCF:

- The Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer is generally responsible for coordinating DOD budget preparation, issuing guidance, issuing working capital fund annual financial reports, and overseeing the implementation of working capital funds across DOD. The Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer is also responsible for approving rates developed for the budget process and charged to the military services.
- The Air Force assumed responsibility for TWCF cash management in fiscal year 1998 and the TWCF cash balance is included in the Air Force Working Capital Fund cash balance. The Air Force is also responsible for developing Operations and Maintenance budget requests that include requests for funds to pay TRANSCOM for airlift services financed through the TWCF and the ARA. The Assistant

¹⁷The Air Force operates the Air Force Working Capital Fund to provide goods and services such as aircraft repairs and overhauls, and inventory items. The three components of the Air Force Working Capital Fund include the Consolidated Sustainment Activity Group, the Supply Management Activity Group – Retail, and the TWCF. The TWCF is managed by TRANSCOM, which provides transportation to a variety of customers, including the Army, the Navy, the Air Force, non-DOD agencies, and foreign countries.

Secretary of the Air Force (Financial Management and Comptroller) is responsible for directing and managing all comptroller, programming, and financial management functions, activities, and operations of the Air Force.

- TRANSCOM is responsible for the day-to-day financial management of the TWCF and has financial reporting responsibility for the TWCF, including setting rates for airlift services. TRANSCOM is also responsible for providing defense components with transportation services to meet national security needs; providing guidance for forecasting; and providing guidance for the standardization of rates, regulations, operational policies, and procedures.
- Air Mobility Command is a major Air Force command and is responsible to TRANSCOM for providing airlift services paid for by the TWCF.¹⁸ To fulfill its responsibility for providing airlift services to defense components, TRANSCOM and Air Mobility Command use a combination of military and commercial aircraft.

¹⁸U.S. Air Force Major Commands are subdivisions within the Air Force that conduct a major part of the service's mission and are directly subordinate to Headquarters, U.S. Air Force.

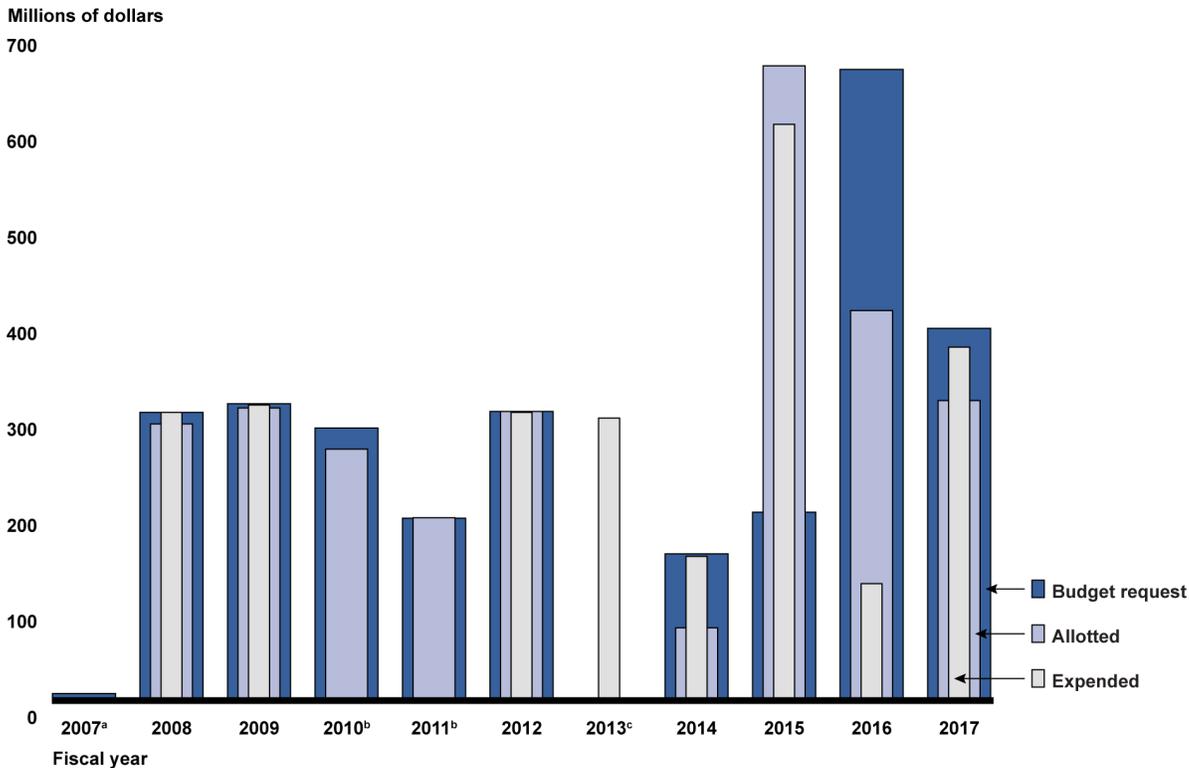
**Billions of Dollars
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The Air Force requested, allotted, and expended billions of dollars for ARA for fiscal years 2007 through 2017. These amounts varied annually, in some cases, by hundreds of millions of dollars. Our analysis of Air Force and TRANSCOM budget and financial information showed that for fiscal years 2007 through 2017, the Air Force requested \$2.8 billion from Congress for ARA requirements, as part of its annual Operations and Maintenance appropriation. The Air Force allotted \$2.8 billion (i.e., directed the use of the appropriated funds) and expended \$2.4 billion of the ARA appropriated funds.¹⁹ During this period, the total allotted amount was about \$400 million dollars more than the expended amount. According to Air Force officials, this \$400 million was used to pay for other Air Force readiness priorities.²⁰ ARA amounts requested, allotted, and expended for fiscal years 2007 through 2017 are shown in figure 3.

¹⁹The \$2.4 billion expended for the ARA for fiscal years 2007-2017 represents about 3 percent of the total \$81.5 billion in revenue recorded by TRANSCOM for providing airlift services with \$72.5 billion from rate revenue and the remainder from other reimbursable funds, such as cash recovery charges and fuel supplementals.

²⁰Air Force Operations and Maintenance amounts allotted for ARA requirements for a particular fiscal year are available for new obligations only in that fiscal year. This is referred to as the period of availability. Generally, agencies may shift funds within an appropriation or fund account as part of their duty to manage their funds. Agencies may reprogram without additional statutory authority. DOD reprogramming actions are guided by DOD 7000.14-R, Financial Management Regulation, vol. 3, chap. 6 (September 2015). Air Force officials told us they were unable to provide further detail regarding how unobligated ARA funds were used for other Operations and Maintenance priorities because doing so would require extensive transaction-level analysis.

Figure 3: Air Force Operations and Maintenance Airlift Readiness Account (ARA) Budget Requests, Allotted, and Expended Amounts



Source: GAO analysis of Air Force and U.S. Transportation Command data. | GAO-18-557

Notes: For each fiscal year in which ARA expenditures exceeded initial allotments, Air Force officials stated that they used additional Operations and Maintenance amounts to cover the increased ARA requirement. For years in which allotments exceeded expenditures for ARA, the Air Force used the remaining available amounts for other readiness priorities.

^aThe Air Force requested \$7.1 million for ARA funds for fiscal year 2007, but did not allot any funds for this requirement.

^bThe Air Force did not expend any funds for the ARA in fiscal years 2010 and 2011, and according to Air Force officials, used the funds that had been allotted for the ARA for other readiness priorities.

^cThe Air Force requested and allotted \$0.2 million for ARA for fiscal year 2013, and expended \$294 million from other funds to cover the ARA.

In five fiscal years (2008-2009, 2013-2014, and 2017) the Air Force allotted less than the amount ultimately expended for the ARA. In these fiscal years, Air Force officials stated that they used available Operations and Maintenance appropriations to support the ARA. For example, in fiscal year 2013, the Air Force requested and allotted less than a million dollars for the ARA. However, the Air Force expended \$294 million for the ARA in fiscal year 2013. According to Air Force officials, the Air Force

used Air Force Operation and Maintenance mobilization funding to provide the ARA funds to the TWCF to cover this gap.

Furthermore, in five fiscal years (2010-2012 and 2015-2016) the Air Force did not expend the total amounts allotted for the ARA, because the allotments exceeded ARA funding needs. According to Air Force officials, they expended amounts initially allotted for ARA requirements to support other readiness priorities, such as training and sustainment requirements. For additional information related to TWCF costs and revenues for airlift services see appendix III.

Based on our analysis and interviews with Air Force and TRANSCOM officials, we determined that the Air Force's ARA budget request, the ARA amount allotted, and the amount expended by the Air Force can vary for a number of reasons. For example,

- **Workload variations occurred due to changes in the global security environment, natural disasters, and force structure changes:** For example, in fiscal year 2010, airlift services workload increased 8 percent over the previous year's level and 39 percent over budgeted levels as a result of force structure changes in Iraq and Afghanistan. This occurred because during fiscal year 2010 the number of U.S. armed forces personnel in Iraq declined by about 81,000, and the number of U.S. armed forces personnel in Afghanistan increased by about 34,000. These changes required additional airlift services, and resulted in more revenue than was originally estimated for the TWCF. The TWCF also received additional funding from the military services to offset increased fuel costs.²¹ As a result, TRANSCOM did not issue a bill for the ARA for fiscal year 2010, and the Air Force used the \$262 million allotted for ARA requirements for other readiness priorities.
- **ARA budget requests and subsequent expenditures in the fiscal year of availability may be affected by other revenue sources:** From fiscal years 2007 through 2017, the TWCF received \$6.5 billion from other revenue sources, such as amounts from cash recovery charges, fuel supplement charges, and cash transfers from the Air

²¹In fiscal year 2010, TRANSCOM charged the military services a fuel supplement charge totaling \$795 million to pay for higher than expected fuel costs.

Force.²² For example, cash recovery charges were paid by the military services, including the Air Force, using Overseas Contingency Operations funding to cover cash shortages in the TWCF in the early part of the Global War on Terrorism. TRANSCOM charged its customers cash recovery charges in fiscal years 2007 through 2014, with the exception of 2010.

- **ARA expenditures in the fiscal year of availability may be more or less than budgeted:** For example, in fiscal year 2015, TRANSCOM did not receive revenue from other sources, resulting in the Air Force expending \$404 million dollars more from its Operations and Maintenance funds than requested to cover the ARA bill for that fiscal year.²³ On the other hand, in the fiscal year 2016 Air Force Operations and Maintenance budget request, the Air Force requested \$657 million for the ARA, and subsequently allotted \$406 million to the ARA—about \$251 million less than requested. This occurred because the cost of fuel declined in fiscal year 2016, and TRANSCOM did not bill the Air Force for the full amount allotted for ARA by the Air Force. As a result, the Air Force contributed \$122 million of the \$406 million to the TWCF and used the remaining available amount for other readiness priorities. DOD and its components have considerable flexibility in using Operation and Maintenance funds and can redesignate funds appropriated among activity and subactivity groups in various ways.²⁴

²²Other revenue sources include reimbursement for C-17 repair, Radio Frequency Identifications, Air Force reimbursed contractor logistics support, reimbursement for Air Force information technology systems maintenance, overseas contingency operations contractor logistics support, and imputed employee benefits.

²³TRANSCOM airlift revenue from cash recovery charges and supplemental charges for fuel, among other revenue sources, was \$768 million in fiscal year 2014, but TRANSCOM revenue from these sources was \$0 in fiscal year 2015.

²⁴For example, for fiscal year 2004, Congress appropriated billions of dollars for DOD Operations and Maintenance, and conference report data show that Congress designated \$14 billion for Base Operating Support. According to the military services, fiscal year 2004 Operations and Maintenance funds designated for Base Operating Support services totaled \$15.6 billion, in part due to funding redesignations that occurred during the year. See GAO, *Defense Infrastructure: Issues Need to Be Addressed in Managing and Funding Base Operations and Facilities Support*, [GAO-05-556](#) (Washington, D.C.: June 15, 2005).

Since Fiscal Year 2010, Air Force Budget Requests Have Omitted Complete Airlift Readiness Account Information and Have Not Been Informed by Estimates

Air Force Budget Requests Include Some Information on the Airlift Readiness Account but Omit Details Provided In Budget Requests Prior to Fiscal Year 2010

Air Force budget requests include some information on the ARA but omit details provided in budget requests prior to fiscal year 2010. Air Force budget officials stated the ARA budget information that was included for fiscal years 2007 through 2009 was changed for the fiscal year 2010 budget request as part of a DOD initiative to reduce the overall number of budget line items. For fiscal years 2007 through 2009 Air Force Operations and Maintenance budget requests, the amounts requested by the Air Force for the ARA were explicitly stated in the budget justification documents as part of a separate subactivity group line item.²⁵ For fiscal years 2010 through 2017, the ARA amount was bundled with funding requests for other training requirements in the Air Force Operations and Maintenance budget justification documents, thus omitting specific details with respect to the ARA.²⁶ Specifically, Air Force budget justification materials included the amount the ARA changed from one fiscal year to the next, but did not include the total ARA amount.

In the annual President's budget request submission, DOD requests specific amounts for Operations and Maintenance activities and includes

²⁵For the fiscal years 2007 through 2009 Air Force Operations and Maintenance budget requests, the Air Force included actual and budgeted ARA information in its budget justification material under budget activity Mobilization, activity group Mobility Operations, and subactivity group Payments to Transportation Business Area.

²⁶For the fiscal years 2010 through 2017 Air Force Operations and Maintenance budget requests, the Air Force included the ARA amounts bundled with other funds in its budget requests in a line item for Air Mobility Command training under budget activity Mobilization, activity group Mobility Operations, and sub-activity group Airlift Operations.

information about (1) amounts for the next fiscal year for which estimates are submitted, (2) revisions to the amounts for the fiscal year in progress, and (3) reports on the actual amounts allotted to a particular activity or subactivity for the last completed fiscal year. The *Standards for Internal Control in the Federal Government* state that management should communicate the necessary quality information (internally and externally).²⁷

According to Air Force budget officials there is no requirement from the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer to separately identify the ARA amount and related details in the Air Force Operations and Maintenance annual budget requests. Nevertheless, officials from the Air Force and the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer agreed that it would be helpful to include additional information in the budget, because of DOD and congressional interest. Without establishing specific requirements to present detailed ARA information in the annual Air Force Operations and Maintenance budget request, DOD and congressional decision-makers do not have sufficient information to make informed decisions about the level of funding necessary to cover airlift costs not recovered by the rates charged by TRANSCOM.

U.S. Transportation Command Has Not Provided Airlift Readiness Account Estimates in Time to Inform Air Force Budget Requests

TRANSCOM has not provided ARA estimates in time to inform Air Force budget requests. Air Force officials stated that they need to have TRANSCOM's estimates by mid-June to be able to conduct analysis to strengthen confidence in the ARA budget request and obtain senior leadership approval. The Air Force submits its Operations and Maintenance annual budget request to DOD in early July. However, TRANSCOM was not providing its ARA estimate until August. As a result, Air Force officials stated they have been developing their own ARA estimate based on historical average trends because they have not received information from TRANSCOM on time. TRANSCOM and Air Force officials agree that TRANSCOM—as the provider of transportation services—is in the best position to understand transportation workload demands.

The *Standards for Internal Control in the Federal Government* state that management should use quality information that is appropriate, current,

²⁷ [GAO-14-704G](#).

complete, accurate, accessible, and provided on a timely basis to achieve the entity's objectives.²⁸ Furthermore, management should use quality information to make informed decisions and evaluate the entity's performance in achieving key objectives and addressing risks and should design control activities, such as policies, procedures, techniques, and mechanisms as needed to enforce management's directives.

In October 2017, Air Force and TRANSCOM officials told us they were working on a memorandum of understanding to improve the timing and communication of budgetary information from TRANSCOM to support the Air Force ARA budget request. Officials stated that the memorandum of understanding is expected to be completed by the end of fiscal year 2018. However, in May 2018, the draft memorandum that the Air Force provided for our review consisted of a 2-page template with a list of potential topics, and no substantive details regarding formalizing processes. Without developing sufficient detail on the formal processes and subsequently finalizing the memorandum of understanding, the Air Force and TRANSCOM will not be able to reasonably assure that the timing and communication of budgetary information from TRANSCOM are sufficient to support the Air Force Operations and Maintenance ARA annual budget request.

TRANSCOM Has a Rate-Setting Process for Airlift Services, but Producing Accurate Workload Forecasts Is Challenging

TRANSCOM has a rate-setting process for airlift services, but producing accurate workload forecasts is challenging. Our analysis of TRANSCOM data showed that the airlift forecasting process produced increasingly inaccurate projections of actual workload. Producing accurate forecasts is challenging because TRANSCOM has not fully implemented: (1) an effective process to gather workload projections from customers, (2) forecasting goals and metrics and the review of its performance, and (3) an action plan to improve workload forecasts.

U.S. Transportation Command Has a Rate-Setting Process for Airlift Services

TRANSCOM has a rate-setting process for airlift services that is generally established to be competitive with commercial airlift services, according to DOD guidance. Specifically, TRANSCOM operates five categories of airlift services, and according to documents and TRANSCOM officials the rate-setting process for each category is as follows:

²⁸GAO-14-704G.

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- *Channel Cargo* rates apply to military air cargo along established routes. The rates for this category generally cover about 65 percent of the cost to provide airlift cargo services, and do not vary based on the type of aircraft used. Rates are benchmarked against commercial prices based on the weight of cargo using the following step-by-step process. Initially, International Heavyweight Air Tender price data from the prior year are checked for commercial rates on various routes.²⁹ If no data are available for some routes, data from the closest country are used to develop average country-to-country rates or a weighted average when there is more than one country-to-country combination. Once rates are developed they are adjusted based on budget exhibits.³⁰ The TRANSCOM Operations and Plans directorate is responsible for Channel Cargo forecasts to inform rate-setting for this category of service.³¹
 - *Channel Passenger* rates apply when military and civilian passengers are flying on established routes. The rates are benchmarked against commercial prices, recover about 85 percent of costs, and do not vary based on the type of aircraft used. Channel passenger rate-setting guidance also uses a step-by-step process. General Services Administration city pairs are checked for comparable prices. If no General Services Administration rate is found, the Defense Travel System is checked. If the Defense Travel System does not have a rate, online travel websites are checked. If the online travel sites do not have a rate, then a prior standard rate per mile for that route is adjusted based on budget exhibits. The TRANSCOM Strategic Plans, Policy, and Logistics directorate is responsible for channel passenger forecasts to inform rate-setting.
 - *Special Assignment Airlift Missions/Contingency* rates apply for the use of full-plane charters performing and providing exclusive services for specific users. Rates are generally determined by the type of

²⁹International Heavyweight Air Tender carriers provide airlift services that include international shipments over 300 pounds, but less than a full plane load to regions/locations not supported by the Air Mobility Command channel airlift system.

³⁰Budget exhibits include outlay rates for each appropriation account, which are factored into the final DOD inflation rates using inflation rates provided by the Office of Management and Budget as a baseline. The Office of Management and Budget bases their rates on Gross Domestic Product composite rates, and DOD includes military and civilian pay raise rates, fuel rates, and medical factors in its composite rates.

³¹U.S. Transportation Command Instruction 90-21, *Transportation Workload Forecasting* (Jan. 23, 2015) provides details on the role of forecasted workload in the rate-setting process.

aircraft and those rates recover about 91 percent of costs for military aircraft and 100 percent of costs for commercial aircraft.³² Flight hour rates for military aircraft, flight length (miles), and capacity used for commercial aircraft are considered in the rate determinations. The TRANSCOM Operations and Plans Directorate is responsible for Special Assignment Airlift Missions/Contingency workload forecasts to inform rate-setting for this category of service.

- *Joint Exercise Transportation Program* rates apply to airlift services in support of realistic operational joint training. Rates are generally set in the same manner as the rates for the Special Assignment Airlift Missions/Contingency category, except that the TRANSCOM Operations and Plans Directorate is responsible for workload forecasting for the Joint Exercise Transportation Program.
- *Training* rates apply to those activities used to conduct programmed flying training, which generally includes a required number of sorties, flying hours, and aircrew training to support readiness. Rates are set to recover 100 percent of the recorded costs because the Air Force is the sole customer for these missions, according to TRANSCOM and Air Force officials. Training rates are generally based on the type of aircraft, and the cost per flight hour. According to TRANSCOM officials, the Air Mobility Command Air, Space and Information Operations Directorate is responsible for the flying hour model that determines requirements for this category of airlift services.

Producing Accurate Workload Forecasts Is Challenging, and TRANSCOM Improvement Efforts Have Not Been Sustained

TRANSCOM produces a forecast of its airlift workload to inform the development of the ARA budget request. According to TRANSCOM's guidance, workload forecasts are to be developed using future demand derived from a combination of statistical methods and necessary adjustments for expected operational conditions. The basic principles used for workload forecasting are generally the same for all five categories of airlift services. According to TRANSCOM officials, forecasting methods are applied with some variation. This practice is allowed under the forecasting instruction, depending on the category, and which TRANSCOM or Air Mobility Command entity is responsible for developing the forecast.³³ For example, forecasts for the Joint Exercise Transportation Program and Training are affected more by requirements

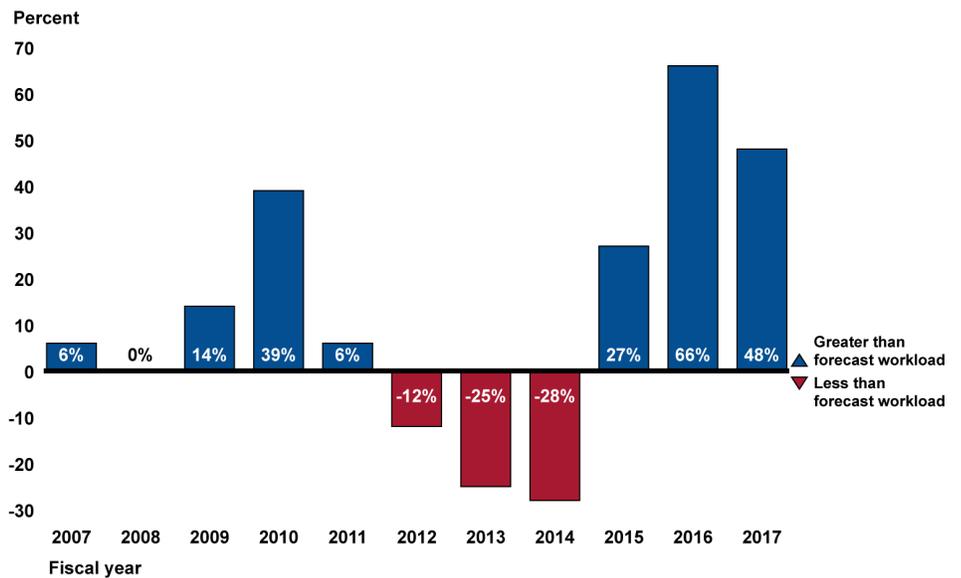
³²At times commercial aircraft must be chartered to augment the capacity provided by government aircraft.

³³The office of primary responsibility for each airlift workload category is listed under each category above.

to support readiness and funding constraints. On the other hand, the basic forecasting process for Channel Cargo, Channel Passenger, and Special Assignment Airlift Missions/Contingency are affected by the transportation needs of the military services and combatant commands and generally based on historical workload.

Based on our analysis, workload forecasts have been increasingly inaccurate for fiscal years 2007 through 2017. Specifically, we found that forecast inaccuracy (i.e., the variance between the forecast and the actual workload amounts aggregated across all five workload categories) averaged about 25 percent and was trending upward in absolute value for fiscal years 2007 through 2017, as shown in figure 4.³⁴

Figure 4: Difference between Total Forecasted Airlift Workload and Total Actual Workload, Fiscal Years 2007-2017



Source: GAO analysis of Department of Defense data. | GAO-18-557

Note: The variance presented is an aggregate weighted average of all airlift workload categories. In fiscal year 2008, the overall variance was less than two-tenths of one percent. However, forecast inaccuracy across the five categories of workload can have an offsetting effect. For example, workload forecast variances by category in fiscal year 2008 were as follows: (1) Channel Passenger: -6 percent; (2) Channel Cargo: -17 percent; (3) Special Assignment Airlift Missions/Contingency: +12 percent; Joint Exercise Transportation Program: -35 percent; and Training: -22 percent.

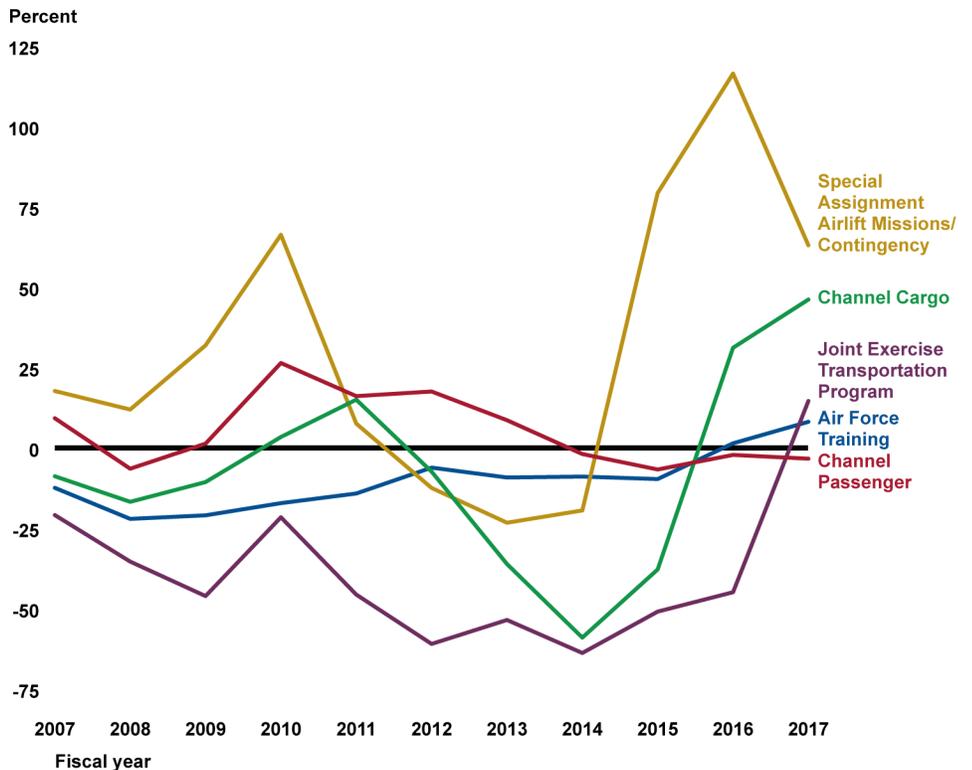
³⁴The average percentage difference was calculated using the sum of the absolute difference per year divided by eleven (the number of years we reviewed).

In addition to the aggregate workload forecast being increasingly inaccurate, the accuracy of the workload forecasts across each of the five categories varies from year to year. For example,

- In fiscal year 2008, channel cargo actual workload was about 17 percent lower than the forecast, and Special Assignment Airlift Missions/Contingency actual workload was about 12 percent higher than the forecast; and
- In fiscal year 2016 Special Assignment Airlift Missions/Contingency actual workload was about 116 percent higher than the forecast and the Joint Exercise Transportation Program actual workload was about 45 percent lower than forecasts.

For fiscal years 2007 through 2017, the workload categories with the largest absolute forecast inaccuracy include Special Assignment Airlift Missions/Contingency, Channel Cargo, and the Joint Exercise Transportation Program. Two of these categories (Special Assignment Airlift Missions/Contingency and Channel Cargo) also have the largest share of airlift services. However, all five workload categories had forecast inaccuracy of more than 15 percent in at least three of the eleven years we reviewed. The variance of forecasted workload from actual workload by airlift service category is presented in figure 5 below.

Figure 5: Difference between Forecasted Airlift Workload and Actual Workload by Category for Fiscal Years 2007-2017



Source: GAO analysis of Air Force and U.S. Transportation Command data. | GAO-18-557

Based on our analysis and discussions with TRANSCOM officials, TRANSCOM has not taken sustained actions to improve forecasting accuracy. Specifically, we found that TRANSCOM has not fully implemented (1) an effective process to collect projected airlift workload information from its customers (i.e., military services) to inform its forecasts, (2) metrics and goals for measuring and reviewing forecast accuracy, and (3) an action plan to improve workload forecasting. Specifically,

- **TRANSCOM has not implemented an effective process for collecting projected airlift workload information:** TRANSCOM officials told us they use historic workload data to establish a baseline, and perform statistical analysis to estimate averages and trends

according to their instructions.³⁵ Next, forecasters use information from the military services and combatant commands that may affect each category of workload, if available, and adjust workload estimates as needed.

However, according to TRANSCOM officials, personnel conducting forecasts have limited visibility over factors that may influence forecasts, such as demand for transportation services, due to the lack of information obtained from their customers (i.e., the military services and Combatant Commands). Attempts to collect information from the military services and combatant commands have been made on an ad hoc basis. For example, in April 2016 TRANSCOM's Commander solicited information from the military services' senior leadership regarding their future transportation requirements, including airlift needs. The message emphasized the importance of forecasting to inform budget requests and management decisions to improve operational efficiency. However, according to TRANSCOM officials, the Air Force—who is TRANSCOM's largest customer for airlift services—was the only military service that provided the requested information in response to the TRANSCOM's Commander's one-time request. According to TRANSCOM officials, the other military services have not provided the requested information for workload projections because the services do not understand how they would benefit from providing the information and TRANSCOM's terminology and processes are not familiar to the services. As a result, TRANSCOM's ad hoc approach has not obtained quality information from its customers to use in forecasting workload.

Standards for Internal Control in the Federal Government state that management should use quality information that is appropriate, current, complete, accurate, accessible, and provided on a timely basis to achieve the entity's objectives.³⁶ Furthermore, we found other defense organizations have provided a mechanism for customers to routinely communicate projected workload information. For example, the Defense Logistics Agency and their customers work together to evaluate historical demand data for spare parts and tailor forecast

³⁵TRANCOM officials stated that they use an autoregressive integrated moving average model to calculate a statistical baseline to support workload forecasts.

³⁶[GAO-14-704G](#).

plans for those spare parts based on projected future usage.³⁷ To this end, communications with customers are expected to be consistent and to use terminology shared in common with customers. Options are presented in a manner that is readily understood by customers in a format determined by customers' needs to encourage the most efficient and effective solutions available.

- **TRANSCOM no longer uses forecast accuracy metrics and has not established forecast accuracy goals:** In 2012, TRANSCOM developed a forecasting process, and according to officials started providing forecast performance metric briefings to TRANSCOM senior leadership on a quarterly basis in fiscal year 2014. TRANSCOM's overall forecast accuracy improved slightly in 2015. However, according to TRANSCOM officials, these forecast briefings were canceled after the first quarter of fiscal year 2016 because they were viewed as minimally useful for budgeting, and were not used to position airlift capacity to meet operational needs. In addition, TRANSCOM officials stated that they no longer measure forecast performance. We found that overall forecast inaccuracy was higher for fiscal years 2016 and 2017 than any other year we reviewed, as indicated above in figure 4.

However, TRANSCOM's January 2015 forecasting instruction requires forecast accuracy metrics to be developed to support management decisions and forecast variance from actual workload to be reviewed. Furthermore, the Standards for Internal Control in the Federal Government state that management should define objectives in specific and measurable terms to enable the design of internal control for related risks, establish activities to monitor performance measures and indicators, and assess performance against plans, goals, and objectives set by the entity.³⁸

³⁷The Defense Logistics Agency has developed collaborative forecasting processes with each of the military services to allow them to evaluate historical demand data and tailor forecasts based on projected future usage. See GAO, *Defense Inventory: Further Analysis and Enhanced Metrics Could Improve Service Supply and Depot Operations*, [GAO-16-450](#) (Washington, D.C.: June 9, 2016).

³⁸[GAO-14-704G](#).

Army Sales and Operations Planning

In January 2013, the Army began to implement a Sales and Operations Planning (S&OP) process to improve supply chain management. S&OP is designed to help ensure senior management has visibility over issues, and seeks to align demand and supply across a forward-looking 24-month horizon to support predetermined goals, such as a shift from overseas counterinsurgency contingency operations to domestic full spectrum training. S&OP also integrates financial considerations into planning using a series of monthly meetings to enhance communication and inform decision making through a continuous process.

Key meetings in the S&OP process include the following:



Source: GAO analysis of Army documents. | GAO-18-557.

TRANSCOM does not have a corrective action plan for improving workload forecasts: TRANSCOM officials acknowledge that workload forecasting needs improvement, and told us that TRANSCOM does not have an action plan to improve its forecasting processes to inform budgetary and operational decisions. In October 2013, TRANSCOM considered, but did not adopt, a process designed to help ensure senior management has visibility over issues, including forecasting, known as Sales and Operations Planning (S&OP). We reported that the Army implemented this process in 2013 after Army officials concluded that they could leverage commercial best practices to improve logistics performance (see sidebar).³⁹ We discussed the S&OP process with TRANSCOM officials, and they told us that the possibility of adapting the process to military logistics was not readily accepted at TRANSCOM because of organizational resistance to change. Initial organizational resistance to change was also experienced by the Army, as discussed in our prior report.⁴⁰ However, according to the Army, the benefits of implementing S&OP resulted in a 50 percent reduction in forecast error, and a decision was made to deploy the S&OP process for use across all Army depots and arsenals by the end of fiscal year 2018.⁴¹ Adopting a corrective action plan, or approach such as S&OP can help TRANSCOM focus and improve planning efforts resulting in improved and more accurate workload forecasting.

Furthermore, according to TRANSCOM's January 2015 forecasting instruction, opportunities to improve forecasts should be assessed. Additionally, *Standards for Internal Control in the Federal Government* state that management should complete and document corrective actions to remediate internal control deficiencies on a timely basis to achieve

³⁹GAO, *Defense Inventory: Services Generally Have Reduced Excess Inventory, but Additional Actions Are Needed*, GAO-15-350 (Washington, D.C.: Apr. 20, 2015).

⁴⁰GAO-15-350.

⁴¹We did not conduct a review of Army S&OP results to determine whether the improvements attributed to S&OP were valid or precise.

established objectives. Our prior work has also shown that organizations benefit from corrective action plans for improvement.⁴²

TRANSCOM officials told us that producing accurate workload forecasts is challenging, and we agree that there are some inherent difficulties in accurately forecasting airlift workload on an annual basis. However, our prior work on aviation forecasting has noted that forecasting is inherently uncertain, but managing the risk related to that uncertainty is essential to making informed decisions.⁴³ Improved forecasting by addressing the weaknesses identified could allow for more effective financial planning and enable more efficient airlift operations. For example, TRANSCOM estimated needing an ARA amount of \$772 million for fiscal year 2016. However, according to our analysis of TRANSCOM financial records, the TWCF did not require support from ARA funds because actual revenue from airlift services exceeded its costs by \$148 million in fiscal year 2016.

Inaccurate forecasts can lead to unreliable budget requests and hinder effective and efficient operational planning necessary to provide customers with the service they need. For example, according to a 2017 Air Force Audit Agency report, flying channel passenger flights at 85 percent of capacity may result in estimated savings of about \$30 million over a 6-year period.⁴⁴ Our past work also shows that underutilization of cargo airlift capacity is a longstanding issue.⁴⁵ Improving forecast accuracy would help TRANSCOM manage airlift services more efficiently,

⁴²Our prior work has discussed the importance of establishing goals, objectives, activities, and performance measures (metrics) and implementing a corrective action plan to improve results. GAO, *Naval Shipyards: Actions Needed to Improve Poor Conditions that Affect Operations*, [GAO-17-548](#) (Washington, D.C.: Sept. 12, 2017); and *DOD's 2010 Comprehensive Inventory Management Improvement Plan Addressed Statutory Requirements, But Faces Implementation Challenges*, [GAO-11-240R](#) (Washington, D.C.: Jan. 7, 2011).

⁴³GAO, *Aviation Forecasting: FAA Should Implement Additional Risk-Management Practices in Forecasting Aviation Activity*, [GAO-16-210](#) (Washington, D.C.: Mar. 8, 2016).

⁴⁴The Air Force Audit Agency chose 85 percent utilization as a benchmark and noted that during multiple discussions Air Mobility Command personnel identified utilization goals as 80 to 90 percent or 75 to 90 percent, and there was no definitive TRANSCOM guidance. See Air Force Audit Agency Installation Report of Audit, *Channel Operations*, 618th Air Operations Center Scott AFB IL, F2017-0057-REM000 (September 2017).

⁴⁵GAO, *Unused Cargo Space on Military Aircraft Returning to the United States*, [GAO/NSIAD-83-19](#) (Washington, D.C.: Aug. 9, 1983), and GAO, *Greater Use of Peacetime Airlift Cargo Capacity Would Reduce Costs*, [GAO/NSIAD-92-263](#) (Washington, D.C.: Sept. 16, 1992).

make better use of budgetary resources to maximize airlift capacity more effectively, and result in an ARA budget estimate that is more accurate. In response to our findings and discussions, TRANSCOM officials stated they plan to begin reviewing TRANSCOM's workload forecasting process and determine a path ahead in June 2018. However, the outcome and timeframes for this review are uncertain. Furthermore, TRANSCOM leadership still must approve and fully implement changes to forecasting processes, metrics, and goals.

Unless TRANSCOM fully implements an effective process to obtain projected workload requirements from its customers on a routine basis, uses forecast accuracy metrics and establishes goals, and develops an action plan, airlift workload forecasting will not improve. We acknowledge that eliminating volatility entirely in the ARA budget request is unlikely given that there will be unexpected and unpredictable workload adjustments due to changes in the global security environment or natural disasters.⁴⁶ We also understand improving workload forecasts through the use of goals, metrics, and an action plan for improvement will not eliminate the inherent volatility associated with the ARA budget request amount. However, these improvements would allow TRANSCOM to better manage the inherent risks associated with the accuracy of forecasts and improve ARA estimates used to inform future Air Force Operations and Maintenance budget requests.

Conclusions

Each year DOD spends billions of dollars on airlift services flying personnel and cargo worldwide. The clarity of budget estimates and the accuracy of forecasts for airlift services are essential for Congress and DOD to make informed decisions. Accordingly, Congress would benefit from detailed ARA information in its budget requests, and this information would be improved by TRANSCOM providing timely information on the annual ARA estimate to the Air Force. Additionally, TRANSCOM continues to face challenges in forecasting its workload, which is a key factor in estimating the ARA. Until TRANSCOM establishes a process to collect projected workload information from its customers, uses forecast accuracy metrics and goals to monitor its performance, and implements a corrective action plan, forecast accuracy and ARA estimates are not likely to improve.

⁴⁶Volatility in fuel costs has also contributed to volatility in the ARA expenditures. See GAO, *Bulk Fuel Pricing: DOD Needs to Take Additional Actions to Establish a More Reliable Methodology*, [GAO-16-78R](#) (Washington, D.C.: Nov. 19, 2015).

Recommendations for Executive Action

We are making a total of five recommendations to DOD.

The Secretary of Defense should ensure that the Undersecretary of Defense (Comptroller)/Chief Financial Officer establishes requirements to present details related to the ARA in the annual Air Force Operations and Maintenance budget request including (1) amounts for the next fiscal year for which estimates are submitted, (2) revisions to the amounts for the fiscal year in progress, and (3) the actual amounts allotted for the last completed fiscal year. (Recommendation 1)

The Secretary of Defense should ensure that the Secretary of the Air Force and the Commander, U.S. Transportation Command, in collaboration, develop sufficient detail on the formal processes and finalize their memorandum of understanding to improve the timing and communication of budgetary information to support the Air Force Operations and Maintenance Airlift Readiness Account annual budget request. (Recommendation 2)

The Secretary of Defense should ensure that the Commander, U.S. Transportation Command, fully implements a process to obtain projected airlift workload from the military services and Combatant Commanders on a routine basis to improve the accuracy of its workload forecasts. (Recommendation 3)

The Secretary of Defense should ensure that the Commander, U.S. Transportation Command, uses forecast performance metrics and establishes forecast accuracy goals for the airlift workload. (Recommendation 4)

The Secretary of Defense should ensure that the Commander, U.S. Transportation Command, develops a corrective action plan to improve the accuracy of its workload forecasting. (Recommendation 5)

Agency Comments

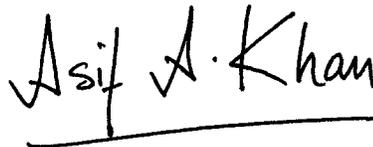
We provided a draft of this report to DOD for review and comment. In written comments, which are reprinted in appendix IV, DOD concurred with our recommendations and stated that it plans to take specific actions in response to our recommendations. DOD also provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to appropriate congressional committees. 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 Diana Maurer at (202) 512-9627 or maurerd@gao.gov, or Asif Khan at (202) 512-9869, or khana@gao.gov. Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff that made key contributions to this report are listed in appendix V.



Diana Maurer
Director
Defense Capabilities and Management



Asif A. Khan
Director
Financial Management and Assurance

List of Committees

Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Mac Thornberry
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Richard Shelby
Chairman
The Honorable Richard Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Mac Thornberry
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Kay Granger
Chairwoman
The Honorable Peter J. Visclosky
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

To determine the extent to which ARA funds were requested, allotted, and expended by the Air Force from fiscal years 2007 through 2017, we analyzed Air Force budget request documents and underlying support documentation. We also analyzed information from the Air Force's Automated Budget Interactive Data Environment Systems to determine the appropriated amounts allotted for ARA activities. Furthermore, we analyzed summary-level documents detailing expenditures from the Air Force and TRANSCOM for fiscal years 2007 through 2017 to establish trends.¹ Moreover, we reviewed TRANSCOM's procedures and supporting documentation for billing the Air Force for payment of the ARA.² Lastly, we interviewed DOD, Air Force and TRANSCOM officials to gain an understanding of general reasons variances from year to year occurred or between the requested and expended amounts.

To determine the extent to which the Air Force provided ARA information in its budget request to Congress and informed its request with information from TRANSCOM, we analyzed Air Force Operations and Maintenance budget justification documents to determine the type of ARA information (i.e., total budget request amount, changes from year to year, and other information) provided in the fiscal years 2007 through 2017 President budget submissions. To understand the differences, if any, between the ARA information provided from year to year, we interviewed Air Force budget officials to obtain an explanation for changes in the reported information. In addition, we analyzed Air Force Operations and Maintenance budget justification documents, and Transportation Working Capital Fund budget documents to determine if the ARA was based on available information. We also discussed with Air Force and TRANSCOM officials future plans to change their procedures and the information considered in the development of the ARA estimate. Further, we compared the Air Force and TRANSCOM processes and procedures against *Standards for Internal Controls in the Federal Government*,

¹The Air Force uses its Automated Budget Interactive Data Environment Systems as a current and historical Force and Financial Plan database for resource managers to conduct research and analysis.

²TRANSCOM generally bills the Air Force in monthly increments for the ARA amount agreed to by both parties at the beginning of each fiscal year. This agreement is documented in an annual phasing plan and adjusted, as necessary, based on the needs of TRANSCOM to pay for its costs. For example, in October 2015, TRANSCOM and the Air Force agreed that the expected ARA expenditure amount for fiscal year 2016 was \$730 million. The amount was revised downward twice during the fiscal year to \$122 million. For fiscal year 2016, TRANSCOM billed the Air Force two monthly installments of \$61 million each.

specifically standards regarding internal and external reporting and mechanisms to enforce management directives.³

To determine the extent to which TRANSCOM has implemented a process to set rates for airlift services and use workload forecasts to estimate the annual ARA funding request, we analyzed the processes TRANSCOM used to set rates it charges customers in various airlift workload categories for fiscal years 2007 through 2017. We also reviewed forecasting procedures and analyzed supporting documents provided by TRANSCOM; interviewed TRANSCOM officials to gain an understanding of how they implement these rate setting and forecasting procedures; and analyzed forecast and actual workload data provided by TRANSCOM for the same timeframe. We compared TRANSCOM's processes against rate-setting and forecasting guidance⁴ and reviewed whether TRANSCOM used quality information to establish workload projections, established any performance measures and goals for forecasting its workload, and developed any efforts to improve its forecasting of workload.⁵ In addition, we interviewed TRANSCOM and Air Mobility Command officials and reviewed supporting documentation to gain an understanding of challenges that exist to producing accurate workload forecasts, and the relationship with the rate-setting and budgeting process.

We obtained revenue, cost, workload, and ARA data in this report from budget documents, accounting reports, and Air Force and TRANSCOM records for fiscal years 2007 through 2017. We assessed the reliability of the data by (1) interviewing Air Force and TRANSCOM officials to gain an understanding of the processes used to produce the cash, revenue, cost,

³GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

⁴DOD 7000.14-R, *Financial Management Regulation*, vol. 11B, ch. 3, *Budgetary Resources*, pg. 3-4 (October 2002); U.S. Transportation Command Instruction 90-21, *Transportation Workload Forecasting*, (Jan. 23, 2015).

⁵The *Standards for Internal Control in the Federal Government* ([GAO-14-704G](#)) state that management should use quality information that is appropriate, current, complete, accurate, accessible, and provided on a timely basis to achieve the entity's objectives. Furthermore, management should define objectives in specific and measurable terms to enable the design of internal control for related risks, establish activities to monitor performance measures and indicators, and assess performance against plans, goals, and objectives set by the entity. Additionally, management should complete and document corrective actions to remediate internal control deficiencies on a timely basis to achieve established objectives.

workload and ARA data; (2) reviewing prior work to determine if there were reported concerns with TRANSCOM's data; (3) comparing cash balances, revenue, costs and workload data provided by TRANSCOM to the same data presented in the Air Force Working Capital Fund budgets for fiscal years 2007 through 2017; and (4) comparing ARA data to Air Force and TRANSCOM supporting documentation, or to Air Force Operations and Maintenance budget execution reports to support ARA reported amounts for fiscal years 2007 through 2017.⁶ On the basis of these procedures, we have concluded that these data were sufficiently reliable for the purposes of this report.

To address all of our objectives, we conducted a site visit to U.S. Transportation Command Headquarters and Air Mobility Command at Scott Air Force Base, Illinois, and interviewed officials with the Office of the Undersecretary of Defense (Comptroller)/Chief Financial Officer, the Assistant Secretary of the Air Force (Financial Management and Comptroller), the U.S. Transportation Command, and the Air Mobility Command.

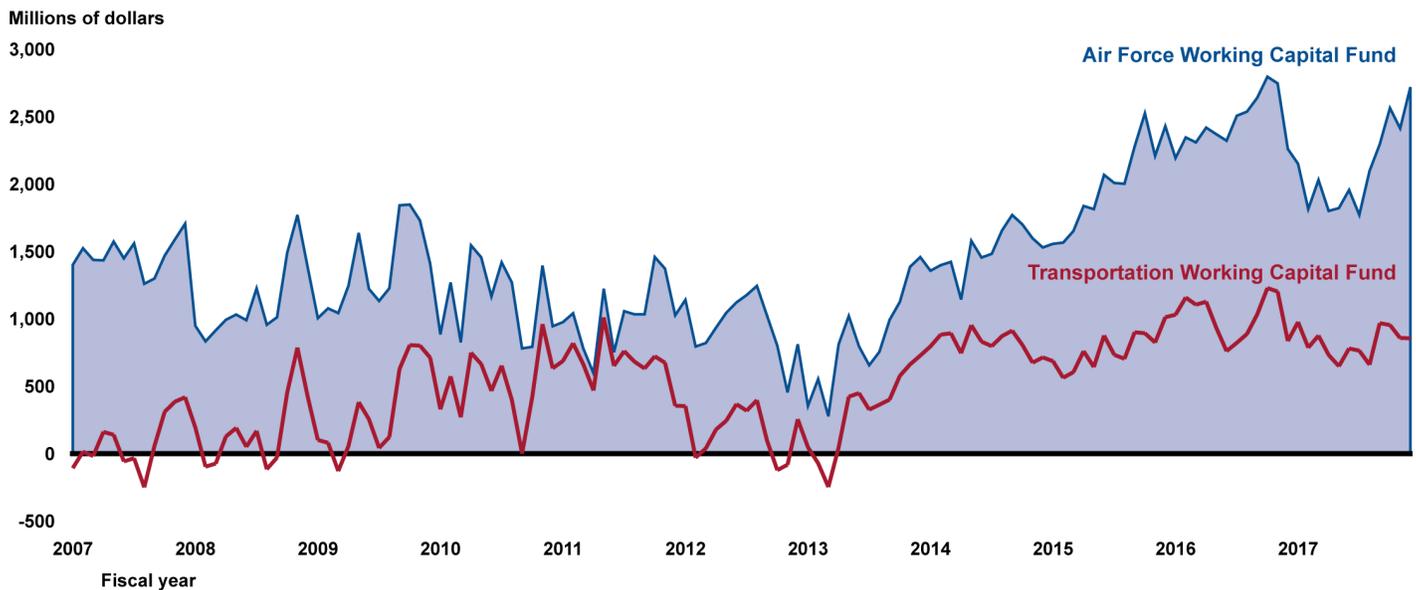
We conducted this performance audit from August 2017 through September 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions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

⁶GAO, *Defense-Wide Working Capital Fund: Action Needed to Maintain Cash Balances within Required Levels*, [GAO-17-465](#) (Washington, D.C.: June 30, 2017); GAO, *Air Force Working Capital Fund: Actions Needed to Manage Cash Balances to Required Levels*, [GAO-14-480](#) (Washington, D.C.: July 31, 2014); and GAO, *Defense Transportation: More Reliable Information Key To Managing Airlift Services More Efficiently*, [GAO/NSIAD-00-6](#), (Washington, D.C.: Mar. 6, 2000).

Appendix II: Air Force Working Capital Fund and Transportation Working Capital Fund Monthly Cash Balances for Fiscal Years 2007-2017

The Air Force Working Capital Fund maintained a positive monthly cash balance throughout fiscal years 2007 through 2017. The Transportation Working Capital Fund (TWCF) is a part of the Air Force Working Capital Fund for cash management purposes.¹ DOD working capital funds are authorized to charge amounts necessary to recover the full costs of goods and services provided.² However, the TWCF is authorized to establish airlift customer rates to be competitive with commercial air carriers. Due to mobilization requirements, the resulting revenue does not always cover the full costs of airlift operations provided through the TWCF. To the extent customer revenue is insufficient to support the costs of maintaining airlift capability the Air Force shall provide appropriated funds. The Air Force Working Capital Fund and TWCF monthly cash balances are depicted in figure 6 below.

Figure 6: Air Force Working Capital Fund and Transportation Working Capital Fund Cash Balances, Fiscal Years 2007-2017



Source: GAO analysis of Department of Defense data. | GAO-18-557

Note: Generally, an obligation or expenditure that exceeds the amount available in an account or fund would violate the Antideficiency Act. The Antideficiency Act is a funds control, financial management statute that prohibits incurring obligations or making expenditures in advance of or in excess of available amounts in appropriation or fund accounts. However, because the TWCF is part of the larger cash corpus of the Air Force Working Capital Fund account, total available amounts were never exceeded.

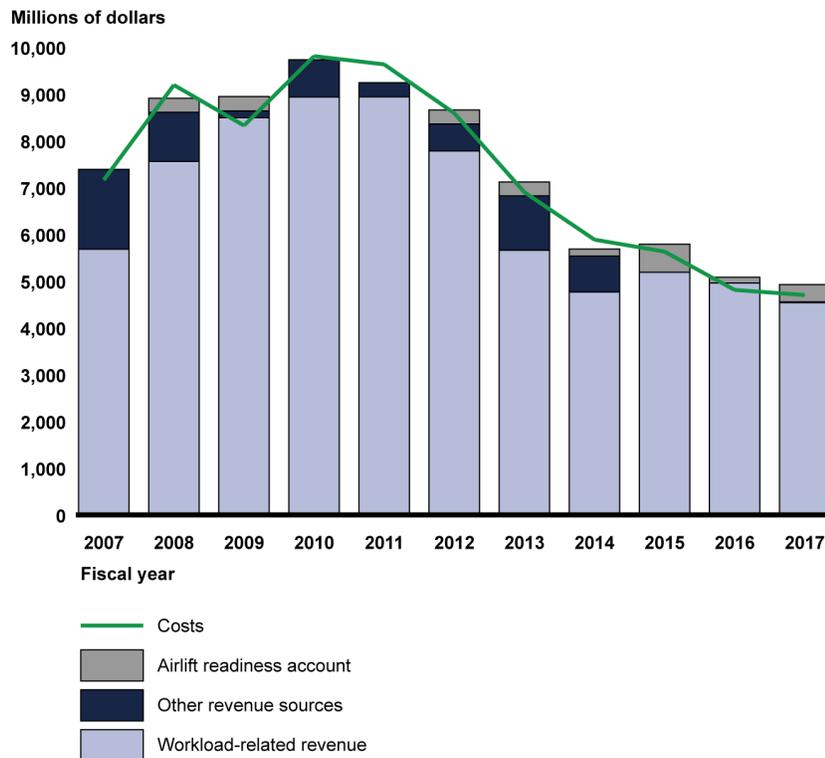
¹The TWCF is the primary funding mechanism for the Transportation Activity Group, one of three components of the Air Force Working Capital Fund.

²10 U.S.C. § 2208.

Appendix III: Transportation Working Capital Fund Costs and Revenues for Airlift Services

Total costs for airlift services for fiscal years 2007 through 2017 were less than revenue collected for airlift services. Revenue came from rates charged to customers for services performed (workload related revenue), the Airlift Readiness Account (ARA), and other revenue sources. For seven of the eleven years we reviewed, revenues exceeded costs, and for four of the eleven years, costs exceeded revenue. For the eleven year period we reviewed, workload related revenue (\$73 billion) was not sufficient to pay for the full costs of airlift services. The remaining revenue included \$2 billion from the ARA and \$7 billion from other revenue sources.

Figure 7: U.S. Transportation Command Airlift Costs and Revenues, Fiscal Years 2007-2017



Source: GAO analysis of Department of Defense data. | GAO-18-557

Note: Other revenue sources included: \$3.9 billion from cash recovery charges; \$1.9 billion from fuel supplement charges; and \$0.8 billion from other accounts (total differs due to rounding). The cash recovery charge was paid by the military services, including the Air Force, using Overseas Contingency Operations funding to cover cash shortages in the Transportation Working Capital Fund during the early part of the Global War on Terrorism. U.S. Transportation Command (TRANSCOM) used the cash recovery charge through fiscal year 2014. A fuel supplement was billed directly to the military services and according to TRANSCOM officials, was used to recover costs incurred when fuel prices were higher than anticipated in the annual budget request. Additional "other revenue sources" include cash transfers from the Air Force, overseas contingency operations contractor logistics

**Appendix III: Transportation Working Capital
Fund Costs and Revenues for Airlift Services**

support, reimbursement for C-17 repair, Radio Frequency Identifications, Air Force reimbursed contractor logistics support, reimbursement for Air Force information technology systems maintenance, and imputed employee benefits.

Appendix IV: Comments from the Department of Defense



COMPTROLLER

OFFICE OF THE UNDER SECRETARY OF DEFENSE
1100 DEFENSE PENTAGON
WASHINGTON, DC 20301-1100

AUG 11 2018

Mr. Asif A. Khan
Director, Financial Management and Assurance
U.S. Government Accountability Office
441 G Street, NW
Washington DC 20548

Dear Mr. Khan,

Enclosed is the Department of Defense (DoD) response to the GAO draft report (GAO-18-557), "DEFENSE LOGISTICS: DOD Needs to Improve Budget Estimates and Accuracy of Forecasts for Airlift Services," dated June 22, 2018 (GAO Code 102255). Comments on the draft recommendations are included in the enclosure. Actions to improve the budgeting for and management of carryover noted in the draft report are underway.

Sincerely,

Monique Dilworth
Director for Operations

Enclosure:
As stated



GAO DRAFT REPORT DATED JUNE 22, 2018
GAO-18-557 (GAO CODE 102255)

“DEFENSE LOGISTICS: DOD Needs to Improve Budget Estimates and Accuracy of
Forecasts for Airlift Services”

DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The Secretary of Defense should ensure that the Under Secretary of Defense (Comptroller)/Chief Financial Officer establishes requirements to present details related to the ARA in the annual Air Force Operations and Maintenance budget request including (1) amounts for the next fiscal year for which estimates are submitted, (2) revisions to the amounts for the fiscal year in progress, and (3) the actual amounts allotted for the last completed fiscal year.

DoD RESPONSE: Concur. The Office of the Under Secretary of Defense (Comptroller) will update the DoD Financial Management Regulation Volume 2A and FY 2021 budget guidance to require the Air Force Operation and Maintenance budget request to present (1) details related to the ARA for the next fiscal year for which estimates are submitted, (2) revisions to the amounts for the fiscal year in progress, and (3) the actual amounts allotted for the last completed fiscal year. The estimated completion date is April 30, 2019.

RECOMMENDATION 2: The Secretary of Defense should ensure that the Secretary of the Air Force and the Commander, U.S. Transportation Command, in collaboration, should develop sufficient detail on the formal processes and finalize their memorandum of understanding to improve the timing and communication of budgetary information to support the Air Force Operation and Maintenance Airlift Readiness Account annual budget request.

DoD RESPONSE: Concur. The Air Force and USTRANSCOM are developing a Memorandum of Understanding (MOU) that includes the timing of both Airlift Readiness Account (ARA) budget requirement and associated rates and prices. The estimated completion date is December 31, 2018.

RECOMMENDATION 3: The Secretary of the Defense should ensure that the Commander, U.S. Transportation Command fully implements a process to obtain projected airlift workload from the military services and Combatant Commanders on a routine basis to improve the accuracy of its workload forecasts.

DoD RESPONSE: Concur. In the proposed process, the USTRANSCOM will continuously collect projected workload from the Services, Transportation Component Commands and Combatant Commanders through their Operations Directorate. The process will include both projected air and surface (vessel) workload.

RECOMMENDATION 4: The Secretary of the Defense should ensure that the Commander, U.S. Transportation Command uses forecast performance metrics and establishes forecast accuracy goals for the airlift workload.

DoD RESPONSE: Concur. USTRANSCOM's future process will include establishing metrics and goals to inform Senior Leaders in making future decisions.

RECOMMENDATION 5: The Secretary of the Defense should ensure that the Commander, U.S. Transportation Command develops a corrective action plan to improve the accuracy of its workload forecasting.

DoD RESPONSE: Concur. The corrective action plan will include codifying the proposed processes through a rewrite of USTRANSCOMI 90-21. Based on the proposed process, USTRANSCOM anticipates a significant increase in their ability to determine the cause of variances in forecasts. USTRANSCOM will use that ability as a mechanism to improve future forecasting efforts.

Appendix V: GAO Contacts and Staff Acknowledgments

GAO Contacts

Diana Maurer, (202) 512-9627 or maurerd@gao.gov, or Asif A. Khan, at (202) 512-9869, or khana@gao.gov.

Staff Acknowledgments

In addition to the contacts named above, John Bumgarner (Assistant Director), Doris Yanger (Assistant Director), John E. “Jet” Trubey (Analyst In Charge), Pedro Almoguera, John Craig, Jason Kirwan, Amie Lesser, Felicia Lopez, Keith McDaniel, Clarice Ransom, and Mike Silver made key contributions to this report.

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