

United States Government Accountability Office Report to Congressional Committees

February 2015

DEFENSE LOGISTICS

Improvements Needed to Accurately Assess the Performance of DOD's Materiel Distribution Pipeline



Highlights of GAO-15-226, a report to congressional committees

Why GAO Did This Study

DOD operates a complex, multibilliondollar distribution system for delivering supplies and equipment to U.S. forces globally. DOD's goal in operating this global distribution pipeline is to deliver the right item to the right place at the right time, at the right cost. GAO has reported on weaknesses in DOD's distribution performance and has identified management of DOD's entire supply chain as a high-risk area.

This review assesses the extent to which DOD (1) has established metrics for its distribution performance, (2) is able to accurately measure its performance against distribution standards, and (3) has taken actions to identify causes and develop solutions for any gaps in distribution. GAO analyzed DOD's distribution metrics, DOD's responses to data-reliability questionnaires, and corrective actions, and interviewed DOD officials.

What GAO Recommends

GAO recommends that DOD (1) revise quidance to ensure its metrics incorporate cost, (2) revise guidance to ensure the Marine Corps establishes a customer wait time metric, (3) incorporate performance information from the final destination, and (4) develop policy requiring data-reliability assessments. DOD concurred with the second and fourth recommendations and partially concurred with the first, stating that there would be no value to affix cost to time-definite delivery. DOD did not concur with the third recommendation, stating that data to the final destination should not be incorporated into DOD's performance metrics. GAO continues to believe the recommendations are valid, as discussed in the report.

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DEFENSE LOGISTICS

Improvements Needed to Accurately Assess the Performance of DOD's Materiel Distribution Pipeline

What GAO Found

To measure the performance of its global distribution pipeline, the Department of Defense (DOD) has established three metrics:(1) logistics response timenumber of days between the time a customer submits an order and receives it. (2) customer wait time—number of days between the time a maintenance unit, a subset of customers, submits an order and receives it, and (3) time-definite delivery-a measure of the probability (e.g., 85 percent) that a customer will receive an order within an established logistics response time. However, these metrics do not provide decision makers with a complete representation of performance across the entire global distribution pipeline. DOD's definitions of its metrics and guidance for using them do not address cost, although DOD officials stated that cost is included in metrics used to assess other aspects of the supply chain, and the Marine Corps has not established a customer wait time metric. Further, although joint doctrine has set efficient and effective distribution "from the factory to the foxhole" as a priority, these metrics do not always include performance for the final destination. Unless DOD's guidance is revised to ensure the three distribution performance metrics include cost information for decision making and the Marine Corps establishes a customer wait time metric. and DOD incorporates metric performance to the final destination, it will be difficult for DOD to achieve a comprehensive view of the performance of its entire global distribution pipeline.

DOD may not have sufficiently reliable data to accurately determine the extent to which it has met the standards it has established for distribution performance, because it has not developed policy for requiring regular comprehensive assessments to be conducted of its distribution data-collection and reporting processes. Several DOD organizations indicated that they had not conducted this type of review that would be consistent with standards for internal control in the federal government. Specifically, the Air Force indicated that it had not conducted a risk assessment of its data, a part of assessing data reliability. Officials GAO spoke with from U.S. Transportation Command (TRANSCOM), the services, and other DOD components described a number of potential inaccuracies, such as delivery dates recorded after deliveries were actually made, in the data TRANSCOM uses to evaluate distribution performance. Without a policy requiring regular comprehensive data-reliability assessments, DOD lacks reasonable assurance that organizations will conduct such assessments and that data will be sufficiently reliable to effectively measure DOD's performance in distribution.

Although DOD has taken several actions to address gaps in its distribution performance, including conducting performance reviews, and holding workshops to assess problems and develop solutions, these efforts focus on specific areas of distribution, and DOD has not developed a comprehensive corrective action plan for the entire distribution pipeline that identifies the scope and root causes of capability gaps and other problems, solutions, and actions to be taken. In July 2011, GAO recommended DOD develop such a corrective action plan. DOD did not concur, citing several ongoing efforts. However, these efforts do not address gaps across all distribution operations. Thus, implementing GAO's prior recommendation would help identify root causes of and solutions to distribution challenges and better position DOD to address distribution performance.

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Abbreviations

DASD SCI	Deputy Assistant Secretary of Defense for Supply
	Chain Integration
DLA	Defense Logistics Agency
DOD	Department of Defense
GPRA	Government Performance and Results Act
LMARS	Logistics Metrics Analysis Reporting System
TRANSCOM	U.S. Transportation Command

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U.S. GOVERNMENT ACCOUNTABILITY OFFICE

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Congressional Committees

The Department of Defense (DOD) operates a complex, multibillion-dollar distribution system for delivering needed supplies and equipment to U.S. forces across the world, known as its global distribution pipeline. DOD's goal in operating its global distribution system is to deliver the right item to the right place at the right time, and also at the right cost. The materiel distribution system covers multiple legs, from the movement of supplies in the continental United States to tactical movement on the battlefield, and must be capable of reaching its military customers whether they are located on large, well-established bases or at small, remote outposts. As we have reported, the federal government is facing serious long-term fiscal challenges, and DOD may confront increased competition over the next decade for federal discretionary funds.¹ Given the fiscal environment DOD is operating in now and into the future, it is important that the distribution of supplies and equipment to the warfighter be performed as effectively and efficiently as possible to ensure the best use of limited resources. Strategic guidance issued by the Secretary of Defense in January 2012 emphasized that DOD must continue to reduce the cost of doing business, in particular finding further efficiencies in overhead, business practices, and support activities.²

Since 1990, we have identified DOD supply chain management as a highrisk area, with materiel distribution as one focus area for improvement.³

¹GAO, *The Federal Government's Long-Term Fiscal Outlook: January 2010 Update*, GAO-10-468SP (Washington, D.C.: March 2010); and *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: February 2005).

²Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Jan. 5, 2012).

³This high-risk area was originally identified in 1990 as DOD inventory management; see GAO, *High Risk: Letter to Congressional Committees Identifying GAO's Original High Risk Areas* (Washington, D.C.: Jan. 23, 1990). In 2005, it was expanded to DOD's management of its entire supply chain, which includes three focus areas for improvement: requirements forecasting, asset visibility, and materiel distribution; see GAO, *High-Risk Series: An Update*, GAO-05-207 (Washington, D.C.: Jan. 1, 2005). For our most recent update, see GAO, *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: Feb. 11, 2015).

Our prior work has identified challenges DOD faced in distributing materiel to the warfighter in Iraq and Afghanistan, which contributed to shortages of some critical items and limited DOD's ability to track the status and location of cargo shipments. For example, in July 2011 we found that in its high-level logistics and supply chain management plans,⁴ DOD highlighted the need to improve materiel distribution and identified various improvement initiatives, but these high-level plans did not specify how DOD would integrate, guide, and measure the outcomes. Therefore, we recommended that DOD develop a comprehensive corrective action plan for improving materiel distribution that included key elements to maximize its usefulness.⁵ DOD did not concur with that recommendation, citing ongoing improvement efforts as sufficient. We continue to believe the recommendation is valid, as discussed later in the report.

In our October 2011 report,⁶ we found that DOD's means for assessing performance of the global distribution pipeline to the warfighter was limited and not comprehensive. Specifically, we found that no single entity within DOD maintained visibility and oversight of the entire DOD-wide global distribution pipeline. Instead, management and oversight, including the available performance metrics, were fragmented between the U.S. Transportation Command (TRANSCOM) and the combatant commands.

⁶GAO, Warfighter Support: DOD Has Made Progress, but Supply and Distribution Challenges Remain in Afghanistan, GAO-12-138 (Washington, D.C.: Oct. 7, 2011).

⁴These include DOD's *Supply Chain Management Improvement Plan* (2005), *Focused Logistics Roadmap* (2005), *Logistics Roadmap* (2008), and *Logistics Strategic Plan* (2010).

⁵Specifically, our recommendation stated that DOD's corrective action plan for materiel distribution should (1) identify the scope and root causes of capability gaps and other problems, effective solutions, and actions to be taken to implement the solutions; (2) include the characteristics of effective strategic planning, including a mission statement; goals and related strategies (for example, objectives and activities); performance measures and associated milestones, benchmarks, and targets for improvement; resources and investments required for implementation; key external factors that could affect the achievement of goals; and the involvement of all key stakeholders in a collaborative process to develop and implement the plan; and (3) document how the department will integrate these plans with its other decision-making processes; delineate organizational roles and responsibilities; and support department-wide priorities identified in higher-level strategic guidance (such as the Strategic Management Plan and Logistics Strategic Plan). See GAO, Defense Logistics: DOD Needs to Take Additional Actions to Address Challenges in Supply Chain Management, GAO-11-569 (Washington, D.C.: July 28, 2011). See the Related GAO Products page at the end of the report for a full list of reports related to this work.

We recommended that DOD revise its instructions to provide clear guidance on how TRANSCOM is to oversee the overall effectiveness. efficiency, and alignment of DOD-wide distribution activities, to include the last leg of distribution. DOD did not concur with our recommendation due to its view, based on the guidance at that time, that TRANSCOM as Distribution Process Owner does not and should not have any oversight over the last leg of distribution. We responded that DOD's view indicated confusion within and outside of DOD regarding TRANSCOM's role, including as Distribution Process Owner. Moreover, we responded that DOD's approach of limiting the Distribution Process Owner's oversight to only the first three distribution legs leaves a fragmented process without any comprehensive oversight or visibility over the entire DOD-wide global distribution pipeline. Additionally, in our October 2011 report, we found that data reliability was limited for some of DOD's metrics because of missing delivery information and that DOD had not assessed the reasons for the missing data or taken action to address those limitations. Therefore, we recommended that DOD direct the combatant command to, among other things, ensure that periodic inspections of data entries are performed. DOD partially concurred, responding that while the combatant command has a role in ensuring compliance, the primary responsibility has been assigned to TRANSCOM.

In light of these long-standing issues and congressional interest in DOD's distribution performance, we prepared this report under the authority of the Comptroller General to conduct evaluations to assist Congress with its oversight responsibilities. In this report, we assess DOD's efforts to support the timely and cost-effective delivery of supplies and equipment to its global operations. This report determines the extent to which DOD (1) has established metrics to measure its distribution performance, (2) is able to accurately measure its performance against its distribution standards, and (3) has taken actions to identify causes and develop solutions for any gaps in distribution.

To determine the extent to which DOD has established metrics to measure its distribution performance, we reviewed DOD guidance identifying distribution policies and priorities, such as DOD Manual 4140.01, DOD *Supply Chain Materiel Management Procedures*, and DOD Instruction 5158.06, *Distribution Process Owner*. We additionally reviewed the Government Performance and Results Act (GPRA) as

amended by the GPRA Modernization Act of 2010⁷ and our prior work that identifies elements that constitute a comprehensive oversight framework.⁸ We identified the definition and scope of DOD's distribution performance measures and compared them to leading practices for achieving results in government and the successful attributes of performance measures.⁹ We also interviewed officials from the Office of the Deputy Assistant Secretary of Defense for Supply Chain Integration (DASD SCI), TRANSCOM, the Defense Logistics Agency (DLA), and each of the four military services to determine how they measure distribution performance and what data they collect and report.

To determine the extent to which DOD is able to accurately measure its performance against its distribution standards, we sent data-reliability questionnaires to each of the military services and TRANSCOM. The standard set of questions we circulated asked detailed and technical questions about the relevant systems, such as the corresponding system architecture, the scope of user access, data quality controls and limitations, and the respondents' perceptions of data quality and limitations. We compared the responses to Standards for Internal Control in the Federal Government, which state that controls should be aimed at validating the propriety and integrity of performance measures.¹⁰ We reviewed TRANSCOM's 2012 annual report and spoke with agency officials from the Office of the DASD SCI, the services, TRANSCOM, and

⁹See, for example, GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, GAO/GGD-96-118 (Washington, D.C.: June 1996); and *The Results Act: An Evaluator's Guide to Assessing Agency Annual Performance Plans*, GAO/GGD-10.1.20 (Washington, D.C.: April 1998).

¹⁰GAO, *Standards for Internal Control in the Federal Government* (supersedes GAO/AIMD-98-21.3.1), GAO/AIMD-00-21.3.1 (Washington, D.C.: Nov. 1, 1999).

⁷Pub. L. No. 103-62 (1993), as amended by Pub. L. No. 111-352 (2011).

⁸See, for example, GAO, Joint Professional Military Education: Opportunities Exist for Greater Oversight and Coordination of Associated Research Institutions, GAO-14-216 (Washington, D.C.: Mar. 10, 2014); Building Partner Capacity: Actions Needed to Strengthen DOD Efforts to Assess the Performance of the Regional Centers for Security Studies, GAO-13-606 (Washington, D.C.: June 28, 2013); State Partnership Program: Improved Oversight, Guidance, and Training Needed for National Guard's Efforts with Foreign Partners, GAO-12-548 (Washington, D.C.: May 15, 2012); Preventing Sexual Harassment: DOD Needs Greater Leadership Commitment and an Oversight Framework, GAO-11-809 (Washington, D.C.: Sept. 21, 2011); and Results-Oriented Government: GPRA Has Established a Solid Foundation for Achieving Greater Results, GAO-04-38 (Washington, D.C.: Mar.10, 2004).

DLA to better understand these data. We also reviewed prior GAO reports related to distribution performance.

To determine the extent to which DOD has taken actions to identify causes and develop solutions for any gaps in distribution, we analyzed documentation, such as DOD's documentation of new distribution-related initiatives and policies. We also interviewed officials from the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, the Office of the DASD SCI, the Joint Staff J-4 Logistics Directorate, and each of the four military services to discuss DOD's planning, policy, and to the degree which DOD has taken actions to identify causes and develop solutions for any gaps in distribution performance. Appendix I provides further information on our scope and methodology.

We conducted this performance audit from November 2013 to February 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The DOD Supply Chain DOD defines its logistics mission, including supply chain management, as supporting the projection and sustainment of a ready, capable force through globally responsive, operationally precise, and cost-effective joint logistics support for America's warfighters. Supply chain management is the operation of a continuous and comprehensive logistics process, from initial customer order for materiel or services to the ultimate satisfaction of the customer's requirements. According to DOD, its goal is to have an effective and efficient supply chain, and the department's current improvement efforts are aimed at improving supply chain processes, synchronizing the supply chain from end to end, and adopting challenging but achievable standards for each element of the supply chain. To this end, DOD has identified the following aspects of the supply chain

for ongoing attention: materiel readiness, responsiveness, reliability, planning and precision, and costs. Integral to the supply chain's responsiveness and reliability is DOD's global distribution pipeline, which encompasses deploying units and their equipment, such as vehicles and

	materiel owned by the unit and brought from the home station; delivering sustainment items, which are supplies such as food, water, construction materiel, parts, and fuel that are requisitioned by units already deployed; and executing the retrograde of repairable items to support maintenance activities.
The DOD Distribution Pipeline	DOD policy states that all organizations in the supply chain must recognize and emphasize the importance of time in accomplishing their respective functions and be structured to be responsive to customer requirements during peacetime and war. ¹¹ Joint doctrine identifies distribution as a critical element of joint operations that synchronizes all elements of the logistics system to deliver the "right things" to the "right place" at the "right time" to support the geographic combatant commander. ¹² Accordingly, DOD mapped out the distribution pipeline to coordinate and synchronize the fulfillment of joint force requirements from the point of origin to the point of need. To measure the timeliness of the logistics system from the point of origin to the point of need, DOD divided the distribution pipeline into four segments—source, supplier, transporter, and theater. DOD further subdivided these four segments into a total of 12 subsegments (see fig. 1). Each subsegment accounts for a specific step—and period—in processing an order, such as container consolidation-point processing and transportation to point of debarkation. The total time expended by DOD's distribution pipeline to fulfill the order, from the submission of the order to the receipt of the materiel ordered, is determined by combining the times of all of the subsegments.

¹¹Department of Defense Manual 4140.01, *DOD Supply Chain Materiel Management Procedures*, vol. 2, p. 17 (Feb. 10, 2014).

¹²Joint Chiefs of Staff, Joint Pub. 4-0, *Joint Logistics*, p. GL-6 (Oct. 16, 2013).





Source: GAO analysis of Department of Defense (DOD) information. | GAO-15-226

Within the theater segment of the pipeline, DOD conducts distribution from the points of need (e.g., supply support activities at a major aerial port or seaport of debarkation) to the points of employment. According to DOD, the distribution pipeline between the point of origin and the point of need is under the authority and is the oversight responsibility of TRANSCOM. Furthermore, DOD has stated that in line with internal guidance and Title 10 of the United States Code, TRANSCOM's purview ends at the point of need, and the given geographic combatant commander in that theater is responsible for distribution between the point of need and the point of employment.¹³ DOD established these authorities and responsibilities because the point of employment is a physical location designated by the commander at the tactical level where force employment and commodity consumption occurs or where unit

¹³For further information on DOD's interpretation and GAO's response, see p. 7 of GAO-12-138.

	formations come directly into contact with enemy forces. The nominal distance between the point of need and the point of employment is also known as the "last tactical mile." Unit equipment and sustainment items may subsequently be transported between these two points using a combination of surface and air transportation modes.
DOD Organizations Responsible for the Global Distribution Pipeline	Many organizations within DOD have important roles and responsibilities regarding the global distribution pipeline, and these responsibilities are spread across multiple entities, each with its separate funding and management of logistics resources and systems. For example, the Under Secretary of Defense for Acquisition, Technology and Logistics serves as the principal staff assistant and advisor to the Secretary of Defense for all matters related to defense logistics, among other duties. ¹⁴ The Assistant Secretary of Defense for Logistics and Materiel Readiness, under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology and Logistics as the principal logistics official within the senior management of the department. ¹⁵ Within the Office of the Assistant Secretary for Logistics and Materiel Readiness, the DASD SCI improves the integration of DOD's supply chain through policy development and oversees the adoption of metrics. Subject to the authority, direction, and control of the Secretary of Defense, the Secretaries of the military departments are responsible for, among other things, organizing, training, and equipping their forces. ¹⁶ Another important organization in supply chain management is DLA, which purchases and provides nearly all of the consumable items needed by the military, including a majority of the spare parts needed to maintain and ensure the readiness of weapon systems and other equipment.

¹⁴Department of Defense Directive 5134.01, *Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))*, section 3 (Dec. 9, 2005) (incorporating Change 1, Apr. 1, 2008).

¹⁵Department of Defense Directive 5134.12, *Assistant Secretary of Defense for Logistics and Materiel Readiness (ASD(L&MR))*, section 3.1 (May 25, 2000) (incorporating Change 1, Oct. 27, 2010).

¹⁶10 U.S.C. §§ 3013, 5013, 8013.

	military operations. ¹⁷ The role of the distribution process owner is, among other things, to oversee the overall effectiveness, efficiency, and alignment of department-wide distribution activities, including force projection and sustainment operations. ¹⁸ As DOD's single manager for transportation (other than for transportation of service-unique or theater- assigned assets), TRANSCOM is responsible for providing common-user and commercial air, land, and sea transportation and terminal management. ¹⁹
DOD Global Distribution Information Systems and Reporting	DLA maintains the Logistics Metric Analysis Reporting System (LMARS), a database and collection of reports that serve as the authoritative source of data on the performance of the logistics pipeline. The information that DLA collects and archives provides managers with the ability to track trends, identify areas requiring improvement, and compare actual performance against established goals. The information collected and archived in LMARS encompasses all orders, beginning with their submission as customer orders and ending with the receipt of the ordered materiel. DLA additionally maintains the Strategic Distribution Database, which combines supplier and transportation data for use by TRANSCOM. Every month, DLA transmits the latest data to TRANSCOM, which then incorporates data from other information systems to calculate and analyze the distribution pipeline's performance in fulfilling all orders in a timely manner.
	The Office of the Assistant Secretary of Defense for Logistics and Materiel Readiness receives scheduled reports on distribution performance from DLA and TRANSCOM throughout the year. The office has a contract with the Logistics Management Institute to maintain an internal repository of received data and to complete various analyses. The Office of the DASD SCI uses this information to update the DOD Performance Management Database quarterly. This is a part of the
	¹⁷ Department of Defense Instruction 5158.06, <i>Distribution Process Owner (DPO)</i> , section 1.2 (July 30, 2007) (incorporating Administrative Change 1, Sept. 11, 2007).
	¹⁸ Department of Defense Instruction 5158.06, <i>Distribution Process Owner (DPO)</i> , section 5.4.1.
	¹⁹ Department of Defense Directive 5158.04, United States Transportation Command

¹^oDepartment of Defense Directive 5158.04, *United States Transportation Command* (*USTRANSCOM*), section 4.6.9 (July 27, 2007) (incorporating Administrative Change 1, Sept. 11, 2007).

DOD Has Established Metrics for Distribution Performance, but They Do Not Provide Decision Makers with a Comprehensive View of the Global Distribution Pipeline	performance budget tracking and is reported to the Office of Management and Budget, which then determines whether to report the information to Congress. DOD has established three metrics for distribution to measure the performance of its global distribution pipeline—logistics response time, customer wait time, and time-definite delivery. However, DOD's three distribution performance metrics do not provide decision makers with a comprehensive view of performance across the entire global distribution pipeline as they do not incorporate costs, cover all the military services, or extend to the "last tactical mile."
DOD Has Established Three Metrics to Measure Its Distribution Performance	To measure the performance of its global distribution pipeline, DOD has established three metrics—logistics response time, customer wait time, and time-definite delivery. DOD Manual 4140.01, volume 10, <i>DOD Supply</i> <i>Chain Materiel Management Procedures</i> , and DOD Instruction 5158.06, <i>Distribution Process Owner</i> , define the three metrics and identify the DOD organizations responsible for monitoring them, as shown in table 1.

Table 1: Department of Defense's (DOD) Metrics for Distribution Performance

Metric	Definition	Monitoring organization
Logistics response time	The number of days between the time a customer submits an order and receives it.	Deputy Assistant Secretary of Defense for Supply Chain Integration (DASD SCI)
Customer wait time	Similar to logistics response time, the number of days between the time a maintenance unit submits an order and receives it.	DASD SCI
Time-definite delivery	A measure of the probability (e.g., 85 percent) that a customer will receive an order within an established logistics response time.	U.S. Transportation Command (TRANSCOM)

Source: DOD. | GAO-15-226

Note: Customer wait time measures the processing time for a subset of customer orders— specifically, customer orders from organizational maintenance units.

Leading practices state that achieving results in government requires a comprehensive oversight framework that includes metrics for assessing progress, consistent with the framework established in GPRA.²⁰ Furthermore, DOD policy requires that all organizations in the supply chain recognize and emphasize the importance of time in accomplishing their respective functions.²¹ Accordingly, each of the three DOD metrics measures time expressed in days. All three performance metrics begin with the submission of a customer order and end with the receipt of the ordered materiel by the support supply activity²² that ordered it. For example, logistics response time measures the entire processing time of the customer order through each of the 12 subsegments in the distribution system, from the date the order is submitted to the date the customer posts the materiel received to the record of inventory at the supply support activity. Logistics response time is the broadest of the three metrics, and DOD has identified it as a key performance measure to monitor the effectiveness of the supply chain. In contrast, customer wait time measures the processing time for a subset of customer ordersspecifically, customer orders from organizational maintenance units.²³ If an organizational maintenance unit's order cannot be fulfilled by the local retail supply system, the unit will then place a new request with the wholesale supply system. Similar to logistics response time, customer wait time measures the total elapsed time between the submission and the receipt of an order. Time-definite delivery measures the entire processing time of an order and determines whether the distribution system is capable of delivering an order to the customer within a given period.

In general, we found that each of the three metrics is used to assess performance in terms of time, such as the maximum number of days to

²²A supply support activity is a storage location that stocks hundreds or even thousands of products to meet the needs of supported units.

²³Equipment maintenance is divided into three levels corresponding to the extent and complexity of the repairs—depot-level, intermediate, and organizational. Organizational maintenance consists of the tasks necessary for day-to-day operation, including inspection and servicing. For more information, see GAO, *Defense Acquisitions: Further Action Needed to Improve DOD's Insight and Management of Long-term Maintenance Contracts*, GAO-12-558 (Washington, D.C.: May 31, 2012).

²⁰See GAO/GGD-96-118 and GAO/GGD-10.1.20.

²¹Department of Defense Manual 4140.01, *DOD Supply Chain Materiel Management Procedures*, vol. 2, p. 17.

complete an order (customer wait time) or the likelihood that a delivery will be received within that number of days (time-definite delivery). DOD does not measure against a standard for logistics response time as, according to DOD, decision makers examine the data on logistics response time to determine whether the average number of days it takes to process orders is increasing or decreasing. DOD has established customer wait time standards for the Air Force, Army, and Navy (see table 2); however, the Marine Corps has not established a service-wide customer wait time standard, as discussed later in the report.

Table 2: Customer Wait Time Standards

Service	Customer wait time standard (days)
Air Force	7.5
Army	15
Navy	15

Source: Department of Defense (DOD). | GAO-15-226

Note: The Marine Corps has not established a customer wait time standard, as discussed later in this report.

Standards for time-definite delivery vary according to the mode of transportation used to deliver the shipments and the geographic destination. For example, DOD has set as a time-definite delivery standard that 85 percent of all items ordered from the United States for delivery to Germany by military air transport should be delivered within 18 days. Similarly, DOD has set as a time-definite delivery standard that 85 percent of all items ordered from the United States for delivery to Japan by ocean transport should be delivered within 57 days.

DOD's Metrics Do Not Provide a Comprehensive View of Distribution Performance

DOD's three distribution performance metrics do not provide decision makers with a comprehensive view of performance across the entire global distribution pipeline. According to leading practices, relying on a set of performance measures that address multiple priorities, such as timeliness, quality, and cost, and that provide useful information for decision making that helps alert managers and other stakeholders to the existence of problems can help leading organizations respond when problems arise.²⁴ However, because DOD's three metrics do not

²⁴See GAO/GGD-96-118 and GAO/GGD-10.1.20.

incorporate costs, cover all the military services, or extend to the "last tactical mile," they do not provide the department with a comprehensive view of the distribution system's performance.

Cost

DOD guidance establishing the customer wait time and time-definite delivery performance measures states that organizations in the supply chain must accomplish their respective functions in an efficient and costeffective manner.²⁵ Furthermore, DOD guidance regarding supply chain materiel management states that corresponding policy should balance risk and total cost.²⁶ However, DOD's definitions of its three metrics and its guidance for using them to measure distribution performance do not address cost. Officials from the Office of the DASD SCI explained that although cost is not an element in these three metrics for assessing the performance of the distribution system—which are time-based—it is an element in other metrics, such as customer price change and logistics cost baseline, two metrics that are used to assess other aspects of the supply chain. They told us that they currently consider cost in evaluating the performance of the entire supply chain but not in evaluating distribution performance specifically. Office of the Secretary of Defense officials noted the department continually attempts to balance cost with the importance of responding to critical orders in a timely fashion. For example, Office of the Secretary of Defense officials stated that the department's economic movement guality model minimizes total logistics costs by identifying the trade-offs among inventory, transportation, and materiel handling. However, officials from the Office of the DASD SCI and TRANSCOM stated that DOD does not collect information about cost or consider cost when compiling, analyzing, and reporting the data generated by logistics response time, customer wait time, and timedefinite delivery. Officials from the Office of the DASD SCI and TRANSCOM acknowledged that cost in the context of distribution could become more important, depending on the fiscal environment. Considering cost as a part of distribution performance is also important as DOD looks to effectively manage all of its distribution operations throughout the world, especially as current wartime efforts are drawing down.

²⁵Department of Defense Instruction 4140.61, *Customer Wait Time and Time Definite Delivery*, section 4 (Dec. 14, 2000).

²⁶Department of Defense Instruction 4140.01, *DOD Supply Chain Materiel Management Policy*, section 4 (Dec. 14, 2011).

As previously stated, DOD has demonstrated the ability to consider costs for evaluating aspects of the overall supply chain. Since some cost analysis is available throughout DOD, distribution performance may be able to incorporate those cost analyses related to the three distribution performance metrics. For example, according to DOD officials, reviews of distribution performance for the preceding period in terms of time-definite delivery compliance occur on a regularly scheduled basis. Similarly, DOD publicly reports the performance of the services against their customer wait time standards on an annual basis. DOD could help ensure cost is considered as part of its overall evaluation of distribution performance if it were able to identify and report the corresponding costs for distribution for the preceding period when reviewing time-definitely delivery compliance or when reporting customer wait time performance. As we found in April 2013, the federal government is facing serious long-term fiscal challenges, and DOD likely will encounter considerable budget pressures over the next decade.²⁷ Further, under DOD's Financial Management Regulation, cost information is essential to the department's compliance with the Government Performance and Results Act (GPRA) of 1993 as cost accounting information coupled with performance measures are essential in evaluating and reporting on efficiency and effectiveness of DOD missions and functions.²⁸

Marine Corps Does Not Have a Customer Wait Time Standard As of December 2014, customer wait time standards have been established for the Army, the Navy, and the Air Force, but not for the Marine Corps. The DOD guidance establishing the customer wait time performance measure requires that the military departments (e.g., the Departments of the Air Force, the Army, and the Navy) use the customer wait time measurement to assess the performance of the supply chain, but does not require that each of the military services establish a customer wait time standard to assess its distribution performance.²⁹ According to officials from the Office of the DASD SCI, their office and the military services agreed on a customer wait time standard after coordinating with each other, but that the Marine Corps has "not established a goal at this time."

²⁷GAO, *The Federal Government's Long-Term Fiscal Outlook: Spring 2013 Update*, GAO-13-481SP (Washington, D.C.: April 2013).

²⁸DOD 7000.14-R, Financial Management Regulation, vol. 2B, ch. 19 (September 2008).

²⁹Department of Defense Instruction 4140.61, *Customer Wait Time and Time Definite Delivery*, section 5.3.

DOD officials explained that the Marine Corps has not established a service-wide standard because it maintains a different logistics structure than the other services because of its expeditionary mission. According to DOD officials, in the course of military operations, Marine Corps units will deploy with their requisite supplies and then become "customers" of whatever service has its distribution system available. For example, according to these officials, when the Marine Corps is deployed and is the customer of another service, only the other service's distribution operations can be measured. However, when the Marine Corps is not deployed, it uses its own distribution system to operate and sustain units inside and outside the United States. However, this system does not have a service-wide customer wait time standard against which to measure distribution performance.

Marine Corps officials explained the service has not established a single customer wait time standard at the service level but that standards exist and are applied at the operational and tactical levels.³⁰ According to Marine Corps Order 4400.16H, current DOD time-definite delivery standards serve as the basis for customer wait time standards at the operational and tactical levels. However, these operational and tactical standards apply only at the level of specific Marine Corps units, not service-wide, and they are not reported as a single customer wait time metric for overall distribution performance as is done for the other three services. Having such a service-wide customer wait time standard for the Marine Corps that covers its distribution performance across the four services.

Moreover, unless DOD's guidance is revised to help ensure the three distribution performance metrics address multiple priorities and provide useful information for decision making on matters such as cost and unless a service-wide customer wait time standard is established and used for the U.S. Marine Corps, it will be difficult for DOD to form a

³⁰Operational and tactical levels refer to the military hierarchy of command and are below the strategic level. At the strategic level, a military commander identifies how national goals for a given geographical area of responsibility will be achieved. At the lower operational and tactical levels, subordinate commanders identify the specific actions that will be taken and how resources will be applied to achieve the objectives outlined at the strategic level.

comprehensive view of the performance of its entire global distribution pipeline.

In overseeing distribution performance, TRANSCOM and DOD Last Tactical Mile organizations have limited the reporting of the three time-based metrics up to the "point of need"³¹—the location in the distribution system just prior to the "point of employment."³² The nominal distance between the point of need and the point of employment is also known as the "last tactical mile." As discussed earlier, according to DOD guidance, TRANSCOM and other responsible organizations are responsible for measuring the time between the submission of a customer order and receipt of the materiel by the supply support activity.³³ In its role as the Distribution Process Owner, TRANSCOM interprets its authority and oversight responsibility to extend to the point of need but not to the point of employment. Overseeing distribution performance from the point of need to the point of employment is the responsibility of the given geographic combatant command in that theater. As discussed earlier, DOD established these authorities and responsibilities because the point of employment is a physical location designated by the commander at the tactical level where force employment and commodity consumption occurs or where unit formations come directly into contact with enemy forces.

> However, DOD's definitions of its three metrics and its guidance for using them to measure distribution performance are silent on whether to measure the time for delivery to the point of employment or the point of need. Furthermore, officials from the Office of the DASD SCI, TRANSCOM, the Army, and the Marine Corps confirmed that the distribution performance data they report are up to the point of need and

³³A supply support activity is a storage location that stocks hundreds or even thousands of products to meet the needs of supported units.

³¹According to joint doctrine, distribution is a critical element of joint operations that synchronizes all elements of the logistic system to deliver the "right things" to the "right place" at the "right time" to support the geographic combatant commander. The geographic combatant commander determines the point of need, which can be a major aerial port or seaport of debarkation, an austere airfield, a sea base, or any forward location within the operational area (e.g., open fields, parking lots, highways).

³²The point of employment is a physical location designated by the commander at the tactical level where force employment and commodity consumption occurs or where unit formations come directly into contact with enemy forces.

not to the point of employment, and therefore do not include the "last tactical mile." According to combatant-command and military-service officials we spoke with, their oversight omits the last tactical mile because, in some instances, servicemembers responsible for ensuring that the receipt of the ordered materiel is completely and accurately documented may designate it a lesser priority compared to fulfilling their combat missions. We acknowledge servicemembers may and, in some cases, should place a higher priority on the unit's mission, but taking action to ensure information at this level is collected, to the extent practical, would help provide decision makers with more-accurate and comprehensive data on distribution performance across the entire distribution pipeline.

In our October 2011 report,³⁴ we found issues concerning the lack of visibility to the last tactical mile in Afghanistan. Specifically, we found that because neither the Distribution Process Owner guidance nor joint doctrine explains clearly how TRANSCOM is to exercise oversight of the entire distribution pipeline, TRANSCOM has focused primarily on overseeing the effectiveness only for delivery to the point of need in Afghanistan, while the performance up to the point of employment is the responsibility of U.S. Forces-Afghanistan and its subordinate units. However, DOD officials stated that U.S. Forces-Afghanistan did not report this performance assessment to TRANSCOM. Accordingly, we recommended that DOD revise the applicable guidance to clarify how TRANSCOM is to oversee the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities, to include this last leg of distribution between the point of need and the point of employment. DOD did not concur with the recommendation, stating that TRANSCOM's authority and oversight responsibility, based on internal guidance and Title 10 of the United States Code, extend to the point of need but not all the way to the point of employment. We acknowledged the department's response, but stated that DOD's distribution joint publication, its directive establishing TRANSCOM as the Distribution Process Owner, and the Joint Logistics (Distribution) Joint Integrating Concept suggest that TRANSCOM does have a role in overseeing efficiency and

³⁴GAO-12-138.

synchronization DOD-wide, throughout the global distribution pipeline, including the last tactical mile.³⁵

Furthermore, in this same report, we noted that DOD and its components have many transportation information systems and processes to track the movement of supplies and equipment to Afghanistan at the tactical level. For example, U.S. Forces–Afghanistan and its subordinate units use many systems and processes, such as the Battle Command Sustainment Support Structure, to track cargo delivery between locations in Afghanistan. However, this type of distribution information is currently not being incorporated into the three distribution metrics used by DOD for measuring performance of the entire distribution pipeline because the distribution metrics measure performance to the point of need. Incorporating available information at this level into DOD's distribution metrics would help allow decision makers to more accurately and comprehensively measure distribution performance across the entire distribution pipeline.

³⁵Joint Publication 4-09 states that "[g]lobal distribution is the process that coordinates and synchronizes fulfillment of joint force requirements from point of origin to point of employment. ... Effective and efficient fulfillment of joint operational requirements is dependent on the deliberate coordination and synchronization of multiple logistic processes. TRANSCOM, as the [Distribution Process Owner], must coordinate and synchronize a joint distribution tempo that is responsive to the requirements, capabilities, and military limitations in the [operational area]." DOD Directive 5158.04, which provides guidance on TRANSCOM generally, defines a process owner as "the head of a DOD Component assigned a responsibility by the Secretary of Defense when process improvement involves more than one Military Service or DOD Component. The process owner has the responsibility for sustaining and improving processes, creating new processes where appropriate, and being accountable for their outcomes. Process owners advocate improvements for and across all DOD Components for effectiveness, efficiency, and alignment relevant to a particular process." Furthermore, the Directive directs TRANSCOM as Distribution Process Owner to "oversee the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities, including force projection. sustainment, and redeployment/retrograde operations." The Joint Logistics (Distribution) Joint Integrating Concept states that TRANSCOM, as Distribution Process Owner, has responsibility to coordinate and synchronize the Joint Deployment and Distribution Enterprise. It defines this enterprise's mission as including the execution of global joint distribution operations in support of joint force commanders and calls for an enterprise capable of providing prospective joint force commanders with the ability to rapidly and effectively move and sustain selected joint forces in support of major combat operations or other joint operations.

DOD May Not Have Sufficiently Reliable Data to Accurately Determine Whether It Has Met Its Established Distribution Standards DOD may not have sufficiently reliable data to accurately determine the extent to which it has met the standards it has established for distribution performance, because it has not conducted regular comprehensive assessments of its data collection and reporting processes. *Standards for Internal Control in the Federal Government*³⁶ state that control activities need to be established to monitor performance measures and indicators. These controls call for comparisons and assessments relating different sets of data to one another and state that a variety of control activities can be used in information processing, including edit checks of data. Moreover, internal control activities need to be clearly documented, and the documentation should be readily available for examination. Further, controls should be aimed at validating the propriety and integrity of performance measures.

However, DOD cannot be certain that the data captured by its three key metrics for distribution performance-logistics response time, timedefinite delivery, and customer wait time-are fully reliable, because it has not conducted regular comprehensive data-reliability assessments to evaluate how data are collected and transmitted across the systems used by DOD to measure its distribution performance. To gain understanding of the reliability of the data used to support DOD's metrics, we spoke with officials and sent data-reliability questionnaires³⁷ to TRANSCOM, which is responsible for managing time-definite delivery data, and to the military services, which feed their data as a part of the customer wait time metric to the Office of the DASD SCI. TRANSCOM officials stated that they had not conducted regular data-reliability assessments of their distribution data. Moreover, TRANSCOM officials, in responding to our data-reliability guestionnaire, indicated that they lacked documentation of key items to demonstrate that they had designed internal controls to provide reasonable assurance of data reliability. Specifically, TRANSCOM could not provide us with documentation of conducting a risk assessment, developing a procedure manual, having a system flow chart, or providing requirements documents, which are steps identified in federal internal control standards to help ensure data reliability. Similarly, the Air Force, in

³⁶GAO/AIMD-00-21.3.1.

³⁷The questionnaires consisted of 24 questions regarding the timeliness, completeness, and accuracy of the data used by TRANSCOM and the military services to measure DOD's performance against established time-definite delivery and customer wait time standards.

responding to our data-reliability questionnaire, indicated that it had not conducted a risk assessment of its data. Questionnaire responses to the same questions from the Navy indicated that it had conducted a risk assessment, but the Army did not answer whether it had conducted a risk assessment of its data.³⁸

In our past work, we identified several issues that indicate DOD's distribution data may not be sufficiently reliable for measuring performance against its standards. For example, in our 2011 report on materiel distribution in Afghanistan,³⁹ we found data-reliability concerns with some deliveries into Afghanistan that had missing delivery dates, which limited the usefulness of DOD's distribution metrics. Specifically, we found that 42 percent of unit surface shipments and 19 percent of sustainment surface shipments with required delivery dates in 2008 through 2010 did not have a documented delivery date in the database. DOD concurred with our recommendation to develop an ongoing, systematic approach to identify the reasons why delivery dates for delivered surface shipments are not documented and implement corrective actions to improve the documentation of delivered surface shipments, and to develop an ongoing, systematic approach to investigate cases of undelivered surface shipments to determine their status and update the database with the most-current information. However, DOD did not provide any details as to how and when it would implement our recommendation, and based on the results of our current data-reliability questionnaires, it is not clear whether DOD has addressed these prior issues.

Additionally, the responses to the data-reliability questionnaires we sent to the services indicated that they had not designed some important internal controls, which could have negatively affected the quality of their distribution data. For example, internal control standards call for policies to help ensure data reliability, such as edit checks. However, the questionnaire results indicate these controls, which should be a part of conducting a data-reliability assessment, may not be in place throughout

³⁸We did not send a questionnaire to the Marine Corps because Marine Corps officials told us that they only manage a small number of items. In addition, as previously discussed, at the time of our review, the Marine Corps had not established a customer wait time goal.

³⁹GAO-12-138.

DOD. For example, in questionnaire responses provided to us by the Army, officials stated that there are no controls separate from their data collection system to ensure accuracy and that errors sometimes occur, such as data indicating negative customer wait times (times of less than 0 days). The Navy and Air Force responded that they did have controls separate from their data-collection systems.

In addition, officials we spoke with from TRANSCOM, the services, and several other DOD components told us of a number of potential inaccuracies in the data TRANSCOM uses to evaluate distribution performance. DOD officials said that in some cases units in combat zones delay entering records of new deliveries because personnel responsible for this task have other, higher-priority duties. Specifically, on forward operating bases, DOD officials stated that the priority was to complete the mission rather than completing paperwork as soon as a delivery is made. In these cases, the delivery data may be inaccurate because the recorded delivery date may be after the actual delivery was made. However, DOD officials said that delays in logging deliveries also occur in noncombat areas. Sometimes the logging of deliveries is delayed because the personnel responsible for this task are not present at the time of the deliveries. For example, an employee who teleworks or takes leave on a Friday may not log a delivery made on that Friday until the following Monday. As a result, the recording of the delivery date is delayed by 3 days. Such a delay would have the effect of adding 3 days to the logistics response time and time-definite delivery times recorded for that delivery. Additionally, DOD officials stated that some DOD personnel responsible for logging deliveries wait until several deliveries have been received and log them all at once rather than as they arrive. For example, DOD officials stated that some may set aside a time every week to log deliveries for that week, so that deliveries from earlier in the week are logged later than they actually were received. Setting aside time every week is a reasonable approach; however, in doing so, it is important that the actual date of delivery be captured and collected to ensure accuracy of the data to aid in assessing the performance of the delivery system.

Moreover, we identified several concerns with regard to the data used to measure customer wait time. For example, in 2007, the DOD Inspector General reported that DOD officials lacked uniform results for measuring customer wait times because of differences in how the services measured and reported data. As previously mentioned, in the questionnaire responses provided to us by the Army, Navy, and Air Force, each service lacked at least some of the documentation that would be needed to provide assurance that internal controls were met. Notably, none of the

services indicated, as a part of assessing data reliability, that they had documentation to support that they had conducted tests or evaluations of their data systems to collect and report customer wait time.

Because DOD does not conduct and document regular comprehensive data-reliability assessments, the extent to which these or other data issues might affect the reliability of DOD distribution performance data is uncertain. Further, without data reliability assessments, it will be difficult for DOD to fully identify and correct any data gaps by taking appropriate actions to ensure that data supporting its distribution performance metrics are sufficiently reliable. In questionnaire responses, TRANSCOM stated that it relies on the systems that feed data to TRANSCOM to have its own data-guality processes in place. Therefore, TRANSCOM officials told us that one reason they do not assess the reliability of distribution data is that they have no authority to evaluate and address issues with respect to the military services' systems and processes. DOD officials also acknowledged this lack of authority, but stated that the Office of the Secretary of Defense did have the necessary authority. However, the Office of the Secretary of Defense has not developed and enforced any policies to require data-reliability assessments to be conducted by DOD organizations involved in the collection and reporting of distribution performance data. Without a policy requiring regular comprehensive datareliability assessments, DOD lacks reasonable assurance that organizations will conduct such assessments and data will be sufficiently reliable to effectively measure DOD's performance in distribution.

DOD Has Taken Some Actions to Address Gaps in Its Distribution Performance but Does Not Have a Comprehensive Corrective Action Plan to Manage Distribution	DOD has taken some actions to address gaps in its distribution performance, including establishing a distribution performance branch, combatant command performance reviews, and various workshops and boards. However, DOD has not developed a comprehensive corrective action plan that identifies and addresses root causes for gaps within its distribution performance.
DOD Has Experienced a Number of Challenges in the Area of Distribution but Has Taken Some Actions to Address Them	DOD has experienced a number of challenges in the area of distribution that have contributed to the department not being able to meet its performance standards. However, DOD has taken some actions to address these challenges. As previously mentioned, DOD's supply chain management area—which includes distribution—has been on our high- risk list since 1990, in part because of issues with distribution performance. DOD has also reported in the past that it has consistently not met the department-wide standards it has established for itself. Reasons DOD cited for being unable to meet these standards include reception delays at supply warehouses and processing delays at aerial ports resulting from limited storage space for incoming cargo and available personnel to process the cargo. To address some of these gaps, DOD, specifically TRANSCOM and DLA, have developed and implemented targeted efforts that focus on improving specific areas of distribution. These include establishing a distribution performance management branch, combatant command performance reviews, and various workshops and boards.
TRANSCOM Has Established Several Efforts to Address	In order to address gaps in distribution, TRANSCOM has established several efforts.
Gaps in Distribution	Distribution Performance Management Branch
	In August 2010, TRANSCOM issued guidance for a Distribution Performance Management Branch within its Strategy, Policy, Programs,

and Logistics Directorate. The Distribution Performance Management Branch's responsibilities include

- assessing global distribution performance and working with national partners to resolve problems;
- measuring and evaluating the effectiveness of distribution-process improvement solutions;
- participating in the combatant command distribution conferences to assess distribution performance and collaborate to address and resolve problems;
- being the lead for negotiating distribution performance standards with DOD distribution stakeholders;
- maintaining and monitoring performance reviews;
- providing analyses for TRANSCOM and DOD performance measurements;
- being the focal point for development of strategic metrics to be used by TRANSCOM, the Joint Staff, and components; and
- maintaining visibility of TRANSCOM Distribution Strategic Metrics.

The Distribution Performance Management Branch is to perform the above responsibilities specifically for DOD's time-definite delivery distribution metric. Since the collection and analysis of distribution data are focused primarily on this distribution metric, the identification of distribution gaps and associated solutions is also primarily supported by analysis of performance data related to the time-definite delivery distribution metric.

Distribution Performance Reviews and Workshops

TRANSCOM also conducts monthly and quarterly reviews—with officials from the combatant commands and other stakeholders—of the combatant commands' performance against the time-definite delivery standards. TRANSCOM holds monthly meetings with U.S. Central Command and quarterly meetings with each of the other geographic combatant commands. TRANSCOM collects and assesses the distribution performance of each geographic combatant command area of operation by segment (i.e., source, supplier, transporter, and theater), type (military or commercial), and mode of transportation (i.e., air, land, or sea) against the established time-definite delivery standards. According to TRANSCOM, this performance review aims to determine root causes for issues in performance, promote process improvement, explain variations within the system, and make any necessary changes to the business rules for distribution, rather than a comprehensive assessment of all capability gaps as discussed later in this report.

In addition, TRANSCOM conducts time-definite delivery standards workshops with DOD distribution stakeholders to review past time-definite delivery performance and standards and develop revised standards. These workshops are attended by officials from the Office of the Secretary of Defense, the military services, the combatant commands, DLA, and other stakeholders; TRANSCOM serves as the focal point. Based on process improvements that were identified at the time-definite delivery workshop held in June 2014, officials informed us that DOD recently approved four distribution performance process improvements. These process improvement areas are: (1) analyzing extended theater performance, (2) understanding continental United States group small package process, (3) aligning Marine Corps afloat units with Navy afloat time-definite delivery standards, and (4) analyzing extended direct vendor delivery performance. Although these performance reviews and workshops are intended to improve distribution performance, they are focused on time-definite delivery performance and standards. As a result, the outcomes of these efforts, such as decisions made regarding standards, identification of root causes, and process improvement, are primarily based on, and limited to, data and information collected related to the time-definite delivery metric.

Distribution Process Owner Strategic Opportunities Program

In its role as the Distribution Process Owner, TRANSCOM also continues to implement the Distribution Process Owner Strategic Opportunities program, which began in 2008 as an effort to identify opportunities to significantly improve the performance of distribution processes DODwide. This effort was intended to identify an actionable set of opportunities—approximately five—that would generate substantial cost avoidances and significant improvements in DOD's supply chain. In 2008, a Distribution Process Owner Strategic Opportunities project team began a process for identifying potential opportunities to pursue. The team first developed criteria for defining a potential "strategic opportunity." Some of these criteria included falling within the scope of authority granted to the Distribution Process Owner, being based on strategies and processes proven to generate results in leading supply chains and applicable in the DOD environment, having a plausible path to implementation, and being able to produce measurable improvements. The project team identified over 38 possible strategic opportunities and, by September 2008, had narrowed the list down to five actionable efforts. In March 2009, the Distribution Process Owner Executive Board approved the five Distribution Process Owner Strategic Opportunities for implementation. As of November 2014, according to TRANSCOM officials, these efforts have resulted in \$1 billion in cost avoidances through April 2013. However, although TRANSCOM officials cite significant cost avoidances, these avoidances are based on improvements made to capabilities and authorities that TRANSCOM has as the Distribution Process Owner. In this role, TRANSCOM is focused on a portion of distribution, not the entire distribution pipeline.

DOD has also established multiple boards and groups at various levels for addressing distribution issues. The activities of these boards and groups include conducting discussions regarding distribution metrics and performance. The Distribution Steering Group is a working level group cochaired by TRANSCOM and DLA that comprises representatives from TRANSCOM, the Office of the Secretary of Defense, DLA, the military services, and the combatant commands. The group meets quarterly, or as deemed necessary by its membership, to discuss distribution topics and issues. The Distribution Oversight Council is an oversight body for distribution that meets at least twice a year, or as necessary, and is one level above the Distribution Steering Group. It comprises representatives from the same organizations as the Distribution Steering Group. The Distribution Process Owner Executive Board is a senior-level group chaired by the TRANSCOM Commander that is above the Distribution Oversight Council, with representatives from the same organizations as the two lower-level groups. Although these boards and groups meet annually, or as necessary, to discuss specific issues related to distribution, there is no focal point within DOD that oversees all three of DOD's distribution metrics for the entire distribution pipeline. In our October 2011 report,⁴⁰ we noted the importance of having a focal point in order to effectively provide oversight for distribution. We recommended that TRANSCOM, as DOD's Distribution Process Owner, serve as that focal point to oversee the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities. DOD did not agree with our recommendation and stated that the Distribution Process Owner's authority and oversight responsibility extends to the point of need, not to

⁴⁰GAO-12-138.

DOD Has Established Multiple Distribution Boards and Groups

the point of employment. However, we continue to maintain that language in DOD's doctrine and policy documents suggests a role for TRANSCOM, as Distribution Process Owner or more broadly under its mission as a combatant command, to oversee activities within the DOD-wide global distribution pipeline and we continue to believe that DOD should implement the recommendation.

DOD also has established a senior-level governance body for logistics called the Joint Logistics Board. The Joint Logistics Board reviews the status of the logistics portfolio and the effectiveness of the defense-wide logistics chain in providing support to the warfighter. The Joint Logistics Board is cochaired by the Assistant Secretary of Defense for Logistics and Materiel Readiness and the Joint Staff Director of Logistics, and has senior-level participants from the military services, combatant commands, and DLA.

In an effort to reduce transportation costs to improve distribution, DLA began, in fiscal year 2014, implementation of Phase 1 of its Distribution Effectiveness effort, formerly known as the Strategic Network Optimization project, in collaboration with the military services and TRANSCOM. The project's purpose is to optimize the global distribution network supporting the warfighter. The Distribution Effectiveness effort has three phases: network, inventory, and infrastructure. According to DLA, implementation of Phase 2 is underway as of November 2014. The program's current goal is to achieve a total savings of \$402 million in fiscal years 2014 through 2019, to include savings in infrastructure, inventory, and transportation. Other goals include increasing the utilization of dedicated truck routes and maintaining/improving customer service levels.

DLA Has Begun to Implement Its Distribution Effectiveness Effort DOD Does Not Have a Comprehensive Corrective Action Plan for Identifying Problem Areas in Distribution Performance and Taking Corrective Actions

In July 2011,⁴¹ we recommended, among other things, DOD develop and implement a corrective action plan to address challenges in materiel distribution. Specifically, we stated that the corrective action plan should (1) identify the scope and root causes of capability gaps and other problems, effective solutions, and actions to be taken to implement the solutions; (2) include the characteristics of effective strategic planning, including a mission statement; goals and related strategies (for example, objectives and activities); performance measures and associated milestones, benchmarks, and targets for improvement; resources and investments required for implementation; key external factors that could affect the achievement of goals; and the involvement of all key stakeholders in a collaborative process to develop and implement the plan; and (3) document how the department will integrate these plans with its other decision-making processes; delineate organizational roles and responsibilities; and support department-wide priorities identified in higher-level strategic guidance. DOD disagreed with our recommendation and stated that the department is already engaged in major efforts to improve materiel distribution.

In our July 2011 report, we responded that while DOD for many years has had improvement initiatives for certain challenges within these areas, these challenges continue to plague DOD. Thus, developing and implementing a corrective action plan is critical to resolving supply chain management problems with a systemic, integrated, and enterprisewide approach. Our criteria for removing the high-risk designation—for supply chain management and other programs—specifically call for corrective action plans that identify the root causes of problems, solutions to these problems, and steps to achieve these solutions. Moreover, an effective strategic planning process that results in a high-quality corrective action plan can provide clear direction to addressing DOD's weaknesses in supply chain management.

DOD further commented that its involvement in major efforts to improve materiel distribution negates the need for a corrective action plan. DOD specifically referred to three efforts—(1) the Distribution Strategic Opportunities initiative, (2) the Strategic Network Optimization initiative, and (3) the Comprehensive Inventory Management Improvement Plan. DOD stated that each of these efforts has specific goals, milestones, and

⁴¹GAO-11-569.

targets, and involves key stakeholders. However, the 2010 Logistics Strategic Plan, which was, at the time, the department's most-recent highlevel strategy for addressing supply chain management issues, as well as other logistics issues, describes the Distribution Strategic Opportunities initiative as an effort "to improve distribution across the enterprise" and included it among several other initiatives the department has to improve supply chain processes. The Logistics Strategic Plan provided no other explanation of this initiative; provided no goals, milestones, or targets associated with the initiative; and did not show how this initiative was to enable it to achieve high-level outcomes such as operating supply chains more effectively and efficiently. The plan, moreover, made no specific mention of the second effort—the Strategic Network Optimization initiative—although information provided separately by the department indicated it was a subinitiative under the Distribution Strategic Opportunities initiative.

We have previously concluded that without a strategic planning process that examines root problems and capability gaps and results in a corrective action plan, it was unclear whether these initiatives alone would be sufficient for addressing all major challenges in materiel distribution. We further stated that DOD had demonstrated an ability to carry out a collaborative strategic planning process resulting in the issuance of its Comprehensive Inventory Management Improvement Plan. That plan identified corrective actions that could, when implemented, effectively address the requirements-forecasting focus area and other aspects of inventory management. We stated that following a similar collaborative approach that results in a corrective action plan for materiel distribution would result in significant progress in addressing remaining challenges in the supply chain management high-risk area.

Although DOD has taken several actions to address its distribution challenges and improve distribution processes, these efforts to improve distribution are focused on a specific portion or segment of the process and are not based on an assessment of the entire distribution pipeline. Many of these efforts, such as the Distribution Process Owner Strategic Opportunities program and the Distribution Effectiveness effort, began in response to various issues or opportunities for improvement in distribution where solutions were developed without a strategy or plan for the distribution pipeline as a whole. Individual efforts to address identified gaps in distribution may lead to additional costs and other unanticipated results that may also affect DOD's ability to effectively manage its distribution operations. Implementing our previous recommendation that DOD develop a comprehensive corrective action plan for distribution

	would help to identify and address root causes of distribution challenges and better position DOD to address distribution performance.
Conclusions	DOD continues to make improvements in the area of distribution. The department has established metrics and standards, gathered data to measure its performance, and developed efforts to make improvements and address gaps in distribution. However, without revised guidance to help ensure the three distribution performance metrics address multiple priorities and provide useful information for decision making on matters such as cost, and without establishing and using a customer wait time standard for the U.S. Marine Corps, it will be difficult for DOD to form a complete picture of the performance of its entire global distribution pipeline. Further, without incorporating available distribution information at the last tactical mile into the distribution metrics, DOD may not have all the information it needs to effectively manage distribution. Moreover, without assurance that the data being gathered are reliable, DOD is not fully aware of how its distribution pipeline is performing against established standards. Until these issues are addressed, DOD is likely to continue to face challenges in effectively and efficiently managing its distribution pipeline.
Recommendations for Executive Action	 To help improve the management of DOD's distribution performance, we recommend that the Secretary of Defense take the following four actions. To address the limitations of existing distribution performance metrics, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics, in conjunction with TRANSCOM, to revise guidance to ensure that the three distribution performance metrics incorporate cost; and a customer wait time standard is established and used for the Marine Corps.
	To address the limitations of existing distribution performance metrics and to begin gaining visibility over the last tactical mile, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics and TRANSCOM, in collaboration with the geographic combatant commands, to incorporate available distribution performance information at the last tactical mile level into the

	three key distribution metrics of logistics response time, time-definite delivery, and customer wait time.
	To ensure the reliability of DOD's distribution performance data, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics to develop and enforce policies to require data-reliability assessments to be conducted by DOD organizations involved in the collection and reporting of distribution performance data, such as TRANSCOM and the military services, to evaluate and address any gaps in its distribution performance data.
Agency Comments and Our Evaluation	We provided a draft of this report to DOD for review and comment. In its written comments, which are summarized below and reprinted in appendix II, DOD concurred with two of the four recommendations, partially concurred with one recommendation, and did not concur with one recommendation. DOD also provided technical comments, which we incorporated as appropriate.
	DOD partially concurred with the recommendation to revise guidance to ensure that the three distribution metrics incorporate cost. Specifically, DOD agreed that two of the three distribution performance metrics— logistics response time and customer wait time—should incorporate cost. DOD stated that the Assistant Secretary of Defense for Logistics and Materiel Readiness is identifying and capturing defense transportation data sources, supporting cost and performance metrics. DOD also stated that TRANSCOM fully supports these efforts, especially as cost might pertain to or be influenced by logistics response time and customer wait time. However, DOD did not agree that there would be value in any parallel effort to incorporate cost into the third distribution performance metric—time-definite delivery—because it maintains that this metric provides the standards to measure whether logistics response time performance is meeting expectations. DOD stated that it will instead use cost as a function of logistics response time to inform future assessments of and goals for time-definite delivery. According to DOD, this would better synchronize efforts to facilitate consistency in metrics reporting. Moreover, DOD stated that TRANSCOM has published policy and guidance reflecting the strategic requirement to understand cost and that current data and systems are often not conducive to cost analysis down to the level of individual shipments. DOD stated TRANSCOM is currently pursuing a major initiative to restructure and consolidate data systems to include a Common Record Movement which will, regardless of the mode

of transportation, include cost estimates for each cargo movement. The effort also includes the development of an automated tool leveraging existing data systems that, once completed, should enable a better understanding of cost.

We acknowledge that DOD's readiness to incorporate cost into logistics response time and customer wait time will help address limitations in the measurement of distribution performance. However, we believe that incorporating cost into the time-definite delivery metric would be of value because the time-definite delivery metric is a distinct measure that is managed and reported separately from logistics response time. Specifically, as discussed in the report, logistics response time is monitored by the DASD SCI and time-definite delivery is monitored by TRANSCOM. Furthermore, according to the draft Supply Chain Metrics Guide used to evaluate DLA's Distribution Effectiveness initiative, the two metrics have different definitions, business values, goals, and computations. Since these two measures are separate, cost considerations should be included in both time-definite delivery and logistics response time. Until DOD's guidance is revised to help ensure each of the three distribution performance metrics provide useful information for decision making on cost, it will be difficult for DOD to effectively manage and improve the performance of its entire global distribution pipeline.

DOD concurred with the recommendation to revise guidance to ensure that a customer wait time standard is established and used for the Marine Corps. DOD stated that the Marine Corps has a service-wide customer wait time standard and, according to DOD, the average executed customer wait time is 15 days, based on the priority of the maintenance unit's request. DOD stated that this standard is published in Marine Corps Order 4400.16H, Uniform Materiel Movement and Issue Priority System. As of February 2015, the order does not state a set standard but estimates 15 days as the amount of time for delivery within the continental United States of an item that a unit requires for immediate use and without which the unit could not perform its mission. DOD stated that the Marine Corps will change the order within 180 days to more accurately reflect the definition and standard contained in DOD policy. We believe that this action, if fully implemented, would address the recommendation.

DOD did not concur with the recommendation to incorporate available distribution performance information at the last tactical mile level into the three key distribution metrics. DOD cited its previous response to a similar recommendation in the October 2011 report, GAO-12-138,
Warfighter Support: DOD Has Made Progress, but Supply and Distribution Challenges Remain in Afghanistan, stating that the Distribution Process Owner's (e.g., TRANSCOM's) authority and oversight extend to the point of need, not the point of employment. DOD also stated that this distinction is made in DOD guidance, doctrine, and policy, and that the responsibility for the last tactical mile resides with the geographic combatant commander in the operational area. We acknowledge DOD's position on the matter, but we continue to believe that this interpretation of the roles and responsibilities of the Distribution Process Owner results in fragmentation, because no one single DOD entity has visibility into the performance of the global distribution pipeline as a whole. As we noted in the report, DOD and its components have many transportation information systems and processes to track the movement of supplies and equipment to Afghanistan at the tactical level. However, this type of distribution information is currently not being incorporated into the three distribution metrics used by DOD for measuring performance of the entire distribution pipeline, because the distribution metrics measure performance only to the point of need. However, the point of need is not always the final destination, and materiel may require transportation beyond the point of need to customers in more remote locations. We continue to believe that incorporating available information at this level into DOD's distribution metrics would help allow DOD to more accurately and comprehensively measure distribution performance across the entire distribution pipeline.

DOD concurred with the recommendation to develop and enforce policies to require that data reliability assessments be conducted by DOD organizations involved in the collection and reporting of distribution performance data. To further improve distribution performance, DOD stated that it will develop a comprehensive, integrated approach to address systematic issues across the distribution network. DOD stated that this approach will include an assessment of distribution performance metrics data along with associated policy and guidance. We believe that these actions, if fully implemented, would address the recommendation.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Under Secretary of Defense for Acquisition, Technology and Logistics, the Secretary of the Air Force, the Commandant of the Marine Corps, and the TRANSCOM Commander. 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) 512-5431 or russellc@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 III.

ary Russe"

Cary Russell Director Defense Capabilities and Management

List of Committees

Honorable John McCain Chairman 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

Appendix I: Scope and Methodology

To determine the extent to which the Department of Defense (DOD) has established metrics to measure its distribution performance, we reviewed DOD guidance identifying distribution policies and priorities, such as DOD Instruction 4140.01, DOD Supply Chain Materiel Management Policy, and DOD Instruction 5158.06, Distribution Process Owner. We additionally reviewed the Government Performance and Results Act (GPRA) as amended by the GPRA Modernization Act of 2010 and our prior work that identifies elements that constitute a comprehensive oversight framework.¹ We identified the definition and scope of DOD's distribution performance measures and compared them to leading practices for achieving results in government and the successful attributes of performance measures.² We also interviewed officials from the Office of the Deputy Assistant Secretary of Defense for Supply Chain Integration (DASD SCI), U.S. Transportation Command (TRANSCOM), the Defense Logistics Agency (DLA), and each of the four military services to determine how they measure distribution performance and what data they collect and report.

To determine the extent to which DOD is able to accurately measure its performance against its distribution standards, we obtained documentation on DOD data systems, such as TRANSCOM's Strategic Distribution Database. We also sent data-reliability questionnaires to the military services³ and TRANSCOM. The standard set of questions we circulated asked detailed and technical questions about the relevant systems, such as the corresponding system architecture, the scope of

²See, for example, GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, GAO/GGD-96-118 (Washington, D.C.: June 1996); and *The Results Act: An Evaluator's Guide to Assessing Agency Annual Performance Plans*, GAO/GGD-10.1.20 (Washington, D.C.: April 1998).

³We did not send a questionnaire to the Marine Corps because Marine Corps officials told us that they only manage a small number of items. In addition, as previously discussed, at the time of our review, the Marine Corps had not established a customer wait time goal.

¹See, for example, GAO, *Joint Professional Military Education: Opportunities Exist for Greater Oversight and Coordination of Associated Research Institutions*, GAO-14-216 (Washington, D.C.: Mar. 10, 2014); *Building Partner Capacity: Actions Needed to Strengthen DOD Efforts to Assess the Performance of the Regional Centers for Security Studies*, GAO-13-606 (Washington, D.C.: June 28, 2013); *State Partnership Program: Improved Oversight, Guidance, and Training Needed for National Guard's Efforts with Foreign Partners*, GAO-12-548 (Washington, D.C.: May 15, 2012); *Preventing Sexual Harassment: DOD Needs Greater Leadership Commitment and an Oversight Framework*, GAO-11-809 (Washington, D.C.: Sept. 21, 2011); and *Results-Oriented Government: GPRA Has Established a Solid Foundation for Achieving Greater Results*, GAO-04-38 (Washington, D.C.: Mar.10, 2004).

user access, data-quality controls and limitations, and the respondents' perceptions of data quality and limitations. We reviewed TRANSCOM's 2012 annual report and spoke with agency officials from the Office of the DASD SCI, the services, TRANSCOM, and DLA to better understand these data. We compared the responses to standards for internal control within the federal government. We also reviewed prior GAO reports related to distribution performance.

To determine the extent to which DOD has taken actions to identify causes and develop solutions for any gaps in distribution, we reviewed documents provided by TRANSCOM, including from TRANSCOM's Distribution Performance Management Branch within its Strategy, Policy, Programs, and Logistics Directorate. Documents we reviewed to assess DOD distribution improvement efforts include TRANSCOM's 2012 Annual Report and DOD's Comprehensive Inventory Management Improvement Plan. We also observed TRANSCOM's 2014 time-definite delivery standards workshop where TRANSCOM reviewed distribution performance and standards by working with officials from the Office of the Secretary of Defense, the military services, combatant commands, DLA, and other stakeholders. We spoke with officials from DLA, TRANSCOM, and the Office of the DASD SCI, Army, Navy, Air Force, and Marine Corps to discuss DLA's Distribution Effectiveness effort. We met with officials from the Office of the Under Secretary of Defense for Acquisition. Technology and Logistics, Office of the DASD SCI, Joint Staff J-4 Logistics Directorate, U.S. Central Command, and each of the four military services to discuss DOD's planning, policy, and the degree to which DOD has taken actions to identify causes and develop solutions for any gaps in distribution performance.

We conducted this performance audit from November 2013 to February 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Comments from the Department of Defense

	ASSISTANT SECRETARY OF DE 3500 DEFENSE PENTAGON WASHINGTON, DC 20301-3500	
LOGISTICS AND MATERIEL READINESS		FEB 2 2015
Mr. Cary Russell Director, Defense Capab U.S. Government Accou 441 G Street, N.W. Washington, DC 20548		
Dear Mr. Russell:		
This is the Depart	tment of Defense (DoD) response to the	e GAO Draft Report, GAO-15-
226, "DEFENSE LOGIS	TICS: Improvements Needed to Accur	rately Assess the Performance of
DOD's Materiel Distribu	tion Pipeline" dated January 9, 2015 (C	GAO Code 351879). Detailed
comments on the report r	recommendations are enclosed.	
-		
	Sincerely,	
	David J. Berteau	- \$20
Enclosure: As stated		

	GAO DRAFT REPORT DATED JANUARY 9, 2015 GAO-15-226 (GAO CODE 351879)	
"DEFENSE LOGISTICS: IMPROVEMENTS NEEDED TO ACCURATELY ASSESS THE PERFORMANCE OF DOD'S MATERIEL DISTRIBUTION PIPELINE"		
DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS		
etrics, we	ENDATION 1 : To address the limitations of existing distribution performance recommend that the Secretary of Defense direct the Under Secretary of Defense for Technology and Logistics, in conjunction with TRANSCOM, to revise guidance to	
	distribution performance metrics incorporate cost. ne Corps establish a customer wait time metric.	
hetrics; logi he Assistar lentifying a letrics. US' ffluenced b mply meas hat there wo leasurement ssessment a	ONSE: Concur. DoD concurs that two of the Department's three distribution performance istics response time (LRT), and customer wait time (CWT) should incorporate cost. at Secretary of Defense for Logistics and Materiel Readiness (ASD(L&MR)) is und capturing defense transportation data sources, supporting cost and performance IRANSCOM fully supports these efforts, especially as cost might pertain to or be y LRT and CWT. However, time-definite delivery (TDD) provides the standards to sure if LRT performance is meeting expectations. Therefore, DoD does not concur build be value in any parallel effort by USTRANSCOM to affix cost to TDD it. Rather, DoD will utilize cost as a function of LRT to inform future TDD and goals. This will better synchronize the efforts of ASD (L&MR) and COM and facilitate consistency in metrics reporting.	
the three of ready publicese include a. b. c.	commendation specifically identifies a requirement for revised guidance in regards distribution performance metrics (LRT, CWT, and TDD), USTRANSCOM has ished policy/guidance that pertain to the strategic requirement of understanding cost. le: USTRANSCOM Strategy, Our Story 2013-2017 USTRANSCOM Posture Statement USTRANSCOM Commanders Guidance (2015) USTRANSCOM Instruction 90-22, Deployment and Distribution Cost Based Decision Support (D2 CBDS)	
individual id consolid e mode of e developr	availability and systems are often not conducive to cost analysis down to the level l shipments. USTRANSCOM is currently pursuing a major initiative to restructure late data systems to include a Common Record Movement which will, regardless of transportation, include cost estimates for each cargo movement. This also includes nent of an automated tool leveraging our existing data systems which, once should enable a better understanding of cost.	



3 and distribution transactions for editing and validation. As DoD distribution data is built from accumulated data associated with requisition processing, this process constitutes an ongoing reliability assessment of distribution data. To further improve distribution performance, DoD will develop a comprehensive integrated approach to address systematic issues across the distribution network. This approach will be inclusive of an assessment of distribution performance metric data along with associated policy/guidance.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact	Cary B. Russell, (202) 512-5431 or russellc@gao.gov	
Staff Acknowledgments	In addition to the contact named above, Kimberly Seay (Assistant Director), Mitchell Karpman, Joanne Landesman, Ricardo A. Marquez, Christopher Miller, Mike Silver, Yong Song, Amie Steele, and Sabrina Streagle made key contributions to this report.	

Related GAO Products

High-Risk Series: An Update. GAO-15-290. Washington, D.C.: February 11, 2015.

High-Risk Series: An Update. GAO-13-283. Washington, D.C.: February 14, 2013.

Defense Logistics: DOD Has Taken Actions to Improve Some Segments of the Materiel Distribution System. GAO-12-883R. Washington, D.C.: August 3, 2012.

Warfighter Support: DOD Has Made Progress, but Supply and Distribution Challenges Remain in Afghanistan. GAO-12-138. Washington, D.C.: October 7, 2011.

DOD's High-Risk Areas: Observations on DOD's Progress and Challenges in Strategic Planning for Supply Chain Management. GAO-10-929T. Washington, D.C.: July 27, 2010.

Warfighter Support: Preliminary Observations on DOD's Progress and Challenges in Distributing Supplies and Equipment to Afghanistan. GAO-10-842T. Washington, D.C.: June 25, 2010.

Defense Logistics: Lack of Key Information May Impede DOD's Ability to Improve Supply Chain Management. GAO-09-150. Washington, D.C.: January 12, 2009.

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