

September 2006

# DEFENSE TRAVEL SYSTEM

## Reported Savings Questionable and Implementation Challenges Remain





Highlights of [GAO-06-980](#), a report to congressional addressees

## Why GAO Did This Study

In 1995, the Department of Defense (DOD) began an effort to implement a standard departmentwide travel system. The Defense Travel System (DTS) is envisioned as DOD's standard end-to-end travel system. This report is a follow-up to GAO's January 2006, report which highlighted DTS implementation problems. Because of continued congressional interest in DTS, GAO initiated this follow-up audit under the Comptroller General's statutory authority. GAO determined whether (1) two key assumptions made in the September 2003 economic analysis were reasonable, (2) DOD is taking action to ensure full utilization of DTS and gathering the data needed to monitor DTS utilization, and (3) DOD has resolved the previously identified problems with DTS flight information. To address the above objectives, GAO (1) reviewed the September 2003 DTS economic analysis, (2) analyzed DTS utilization data, and (3) analyzed DTS flight information.

## What GAO Recommends

GAO is making four recommendations to DOD aimed at improving the management oversight of DTS including periodic reports on DTS utilization and resolution of inconsistencies in DTS's requirements. DOD generally agreed with the recommendations and described its efforts to address them. DOD also strongly objected to a finding that the reported personnel savings were unrealistic. [www.gao.gov/cgi-bin/getrpt?GAO-06-980](http://www.gao.gov/cgi-bin/getrpt?GAO-06-980).

To view the full product, including the scope and methodology, click on the link above. For more information, contact McCoy Williams at (202) 512-9095 or Keith Rhodes at (202) 512-6412.

# DEFENSE TRAVEL SYSTEM

## Reported Savings Questionable and Implementation Challenges Remain

### What GAO Found

GAO's analysis of the September 2003 DTS economic analysis found that the two key assumptions used to estimate annual net savings were not based on reliable information. Two cost components represent the majority of the over \$56 million in estimated net savings—personnel savings and reduced commercial travel office (CTO) fees. In regard to the personnel savings, GAO's analysis found that the \$24.2 million of personnel savings related to the Air Force and the Navy was not supported.

- Air Force and Navy DTS program officials stated that they did not anticipate a reduction in the number of personnel, but rather the shifting of staff from the travel function to other functions.
- The Naval Cost Analysis Division stated that the Navy will not realize any tangible personnel cost savings from the implementation of DTS.

In regard to the CTO fees, the economic analysis assumed that 70 percent of all DTS airline tickets would either require no intervention or minimal intervention from the CTOs, resulting in an estimated annual net savings of \$31 million. However, the sole support provided by the DTS program office was an article in a trade industry publication. The article was not based on information related to DTS, but rather on the experience of one private sector company. Furthermore, the economic analysis was not prepared in accordance with guidance prescribed by OMB and DOD.

- DOD guidance stated that the life-cycle cost estimates should be verified by an independent party, but this did not occur.
- The economic analysis did not undertake an assessment of the effects of the uncertainty inherent in the estimates of benefits and costs. Because an economic analysis uses estimates and assumptions, it is critical that the imprecision in both the underlying data and assumptions be understood. Such an assessment is referred to as a sensitivity analysis.

DOD acknowledged that DTS is not being used to the fullest extent possible, but lacks comprehensive data to effectively monitor its utilization. DOD's utilization data are based on a model that was developed in calendar year 2003. However, the model has not been completely updated to reflect actual DTS usage. The lack of accurate utilization data hinders management's ability to monitor progress toward the DOD vision of DTS as the standard travel system. GAO also found that the military services have initiated actions that are aimed at increasing the utilization of DTS.

Finally, GAO found that DTS still has not addressed the underlying problems associated with weak requirement management and system testing. While DOD has acted to address concerns GAO previously raised, GAO found that DTS's requirements are still ambiguous and conflicting. For example, DTS displaying up to 25 flights for each inquiry is questionable because it is unclear whether this is a valid requirement. Until DOD improves DTS's requirement management practices, the department will not have reasonable assurance that DTS can provide the intended functionality.

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## Abbreviations

BTA	Business Transformation Agency
CTO	commercial travel office
DFAS	Defense Finance and Accounting Service
DOD	Department of Defense
DTS	Defense Travel System
FTR	Federal Travel Regulation
GDS	Global Distribution System
GSA	General Services Administration
IOC	Initial Operating Capability
NCAD	Naval Cost Analysis Division
OMB	Office of Management and Budget
PMO-DTS	Program Management Office—Defense Travel System
RTS	Reserve Travel System
TDY	temporary duty

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United States Government Accountability Office  
Washington, DC 20548

September 26, 2006

Congressional Addressees

In 1995, the Department of Defense (DOD) embarked upon the daunting challenge of implementing a standard, departmentwide travel system in response to a report by the DOD Task Force to Reengineer Travel.<sup>1</sup> The report pinpointed three principal causes for DOD's inefficient travel system: (1) travel policies and programs were focused on compliance with rigid rules rather than mission performance, (2) travel practices did not keep pace with travel management improvements implemented by industry, and (3) the various existing travel systems were not integrated. To address these concerns, DOD established the Program Management Office—Defense Travel System (PMO-DTS) to acquire travel services that would be used DOD-wide. The department launched this program with the goal of replacing existing travel systems with a single departmentwide system to more effectively support nonintegrated travel processes and procedures across its component organizations. The Defense Travel System (DTS) is envisioned as being the department's standard end-to-end travel system.<sup>2</sup>

The department estimates that DTS will be fully deployed at all 11,000 intended locations during fiscal year 2007.<sup>3</sup> The September 2003 economic analysis noted that DTS, when fully implemented, would result in annual net savings of over \$56 million. The economic analysis noted that savings would be realized by the department during fiscal years 2009-2016. In

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<sup>1</sup> Department of Defense, *Report of the Department of Defense Task Force to Reengineer Travel* (Arlington, Va.: January 1995).

<sup>2</sup> DOD expects DTS to perform all functions related to travel or ensure that other systems are provided with adequate information to provide this functionality. For example, obligating funds associated with travel is a necessary function, and DTS is expected to (1) make sure that adequate funds are available before authorizing travel either through information contained in its system or by obtaining the necessary information from another system, (2) obligate funds through issuance of approved travel orders, and (3) provide DOD's financial management systems with the necessary information so that those systems can record the obligation. Since DTS is required to ensure that all travel-related functionality is properly performed, DOD commonly refers to DTS as an "end-to-end travel system."

<sup>3</sup> As of September 2005, the department had estimated that DTS would be fully deployed during fiscal year 2006.

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December 2003, the department's Chief Information Officer approved a DTS funding level of approximately \$564 million. Of this amount, the contract for the design, development, and deployment of DTS was for about \$264 million. The remaining costs are associated with areas such as the operation and maintenance of DTS, operation of the PMO-DTS, the voucher payment process, and management and oversight of the numerous contracted commercial travel offices (CTO).

This report is a follow-up to our September 2005 testimony and January 2006 report in which we highlighted problems encountered by the department in its efforts to successfully implement DTS.<sup>4</sup> One of our major findings was that DOD did not have reasonable assurance that flight information was properly displayed for DOD travelers because the department failed to properly test the system interfaces through which the data are accessed for display. We further noted that the continued use of the existing legacy travel systems at locations where DTS has been deployed results in underutilization of DTS and reduces the envisioned savings.

The objectives of this audit were to determine whether (1) two key assumptions related to the estimated cost savings in the September 2003 economic analysis were reasonable, (2) DOD is taking action to ensure full utilization of DTS and gathering the data needed to monitor DTS utilization, and (3) DOD has resolved the previously identified problems with properly displaying DTS flight information. To address the first objective, we obtained and reviewed the September 2003 economic analysis to (1) ascertain if the economic analysis was prepared in accordance with criteria prescribed by the Office of Management and Budget (OMB) and DOD; (2) analyze two key assumptions on which the majority of the estimated savings were predicated—personnel savings and reduced CTO fees; and (3) analyze the underlying supporting documentation related to these two assumptions. In addition, we interviewed PMO-DTS and military service officials to obtain an

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<sup>4</sup> GAO, *DOD Business Transformation: Defense Travel System Continues to Face Implementation Challenges*, [GAO-06-18](#) (Washington, D.C.: Jan. 18, 2006), and *DOD Business Transformation: Preliminary Observations on the Defense Travel System*, [GAO-05-998T](#) (Washington, D.C.: Sept. 29, 2005).

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understanding of the basis they used to compute the reported annual net savings of over \$56 million.<sup>5</sup>

To address the second objective, we obtained and analyzed DTS utilization data from the PMO-DTS. We also met with military service officials to obtain an understanding of the efforts they have underway to help ensure the full utilization of DTS. Further, we obtained from the military services an understanding of the data they used to monitor DTS utilization. Finally, to address the third objective, we analyzed 246 U.S. General Services Administration (GSA) city pair flights to determine if the information being displayed to the traveler was consistent with DTS's stated requirement. We also met with PMO-DTS and contractor officials.

Because of the continued widespread congressional interest in DTS, this assignment was performed at our initiative under the statutory authority provided to the Comptroller General of the United States. Our work focused on the validity of the assumptions that were the principal drivers of the net annual estimated savings of over \$56 million. We determined that the data were sufficiently reliable for this purpose. We did not review the accuracy and reliability of the specific dollar amounts shown in the September 2003 economic analysis. Our work was performed from October 2005 through July 2006 in accordance with U.S. generally accepted government auditing standards. Details on our scope and methodology are included in appendix I. We requested comments on a draft of this report from the Secretary of Defense or his designee. We received written comments from the Under Secretary of Defense (Personnel and Readiness), which are reprinted in appendix II.

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## Results in Brief

Our analysis of the September 2003 DTS economic analysis found that two key assumptions used to estimate cost savings were not based on reliable information. Two primary areas represented the majority of the over \$56 million of estimated annual net savings DTS was expected to realize—personnel savings of \$24.2 million and reduced CTO fees of \$31 million. The \$24.2 million estimated annual personnel savings were attributed to

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<sup>5</sup> The total estimated annual savings were \$123.5 million and the total estimated annual costs were \$67.1 million for a net annual savings of \$56.4 million. The annual net savings are in constant fiscal year 2003 dollars. The department estimated that savings would start in fiscal year 2009.

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the Air Force and Navy.<sup>6</sup> However, the Naval Cost Analysis Division has stated that the Navy will not realize any tangible personnel cost savings from the implementation of DTS. In regard to the estimated annual savings of \$31 million attributed to lower CTO fees, we requested, but the PMO-DTS could not provide, any analysis of travel data to support the assumption that 70 percent of all airline tickets would be considered “no touch”—meaning that there would be no or minimal intervention by the CTO, thereby resulting in lower CTO fees. We found that the 70 percent assumption was based solely upon an article that appeared in a travel industry trade publication.

In addition, the economic analysis was not prepared in accordance with guidance prescribed by OMB and DOD. Both sets of guidance require that an economic analysis be based on facts and data and be explicit about the underlying assumptions used to arrive at future benefits and costs. DOD guidance also states that life-cycle cost estimates should be independently validated. An independent review is intended, in part, to provide program management some degree of assurance that the life-cycle cost estimates are reasonable and the cost estimates are built on realistic program assumptions. However, an independent validation was not performed.

Based on these factors, the estimated annual net savings of over \$56 million included in the 2003 economic analysis is highly questionable. While the reliability of the economic analysis is questionable, the department’s system acquisition criteria do not require that a new economic analysis be prepared because DTS has already completed all of the major milestones related to a major automated system. However, the department’s business system investment management guidance stipulates that all business systems must be reviewed annually and provides an opportunity for DOD management to assess whether DTS is meeting its planned cost, schedule, and functionality goals.

Our analysis also found that the department did not have quantitative metrics to measure the extent to which DTS is actually being used. The reported DTS utilization rates were based on a methodology that was developed using estimated data, and PMO-DTS program officials acknowledged that the model had not been completely updated with actual data as DTS continued to be implemented at the 11,000 sites. As a

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<sup>6</sup> The economic analysis identified annual savings of \$11.3 million and \$12.9 million for the Air Force and Navy, respectively.



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result, the PMO-DTS continues to rely on outdated information in calculating DTS utilization rates that are reported to DOD management and the Congress. Additionally, while the military services have initiated actions to help increase the utilization of DTS, they pointed out that ineffective DTS training is a contributing factor to the lower than expected usage rate by the military services.

Finally, DOD still has not addressed the several functional problems associated with weak requirements management and system testing. Requirements represent the blueprint that system developers and program managers use to design, develop, test, and implement a system. Because requirements provide the foundation for system testing, they must be complete, clear, and well documented to design and implement an effective testing program. Our February 2006 analysis disclosed that DOD still did not have reasonable assurance that the flight information was being properly displayed to DOD travelers. We identified 246 unique GSA city pair flights that should have been identified on one or more DTS flight displays according to the DOD requirements. However, 87 of these flights did not appear on one or more of the required listings. We also identified instances in which DTS displayed flights for selection that did not appear to comply with the Fly America Act.<sup>7</sup> By not displaying flights in accordance with the Fly America Act's criteria, DTS places the traveler who purchases a ticket or the individual authorizing, certifying, or disbursing a payment made when a ticket is paid for directly by DOD through a centrally billed account at unnecessary risk of personal liability, because the travelers can be held accountable for the cost of the trip. While the PMO-DTS has taken action to address our concerns, these actions do not fully address the fundamental problems we found during this audit and on which we have previously reported.<sup>8</sup> For example, the DTS requirements we reviewed were still ambiguous and conflicting.

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<sup>7</sup> 49 U.S.C. § 40118(c). The act requires federal employees and their dependents, consultants, contractors, grantees, and others performing U.S. government-funded air travel to travel by U.S. certificated flag air carriers except under certain circumstances, such as when travel by a foreign air carrier is a matter of necessity as defined by the statute or when U.S. certificated flag air carrier service is not available.

<sup>8</sup> [GAO-05-998T](#) and [GAO-06-18](#).

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Adequately defined and tested requirements are one of the key elements to help reduce a project's risks to acceptable levels.<sup>9</sup>

We are making four recommendations to the Secretary of Defense aimed at improving the department's management and oversight of DTS. More specifically, we recommend that the Secretary of Defense (1) evaluate the cost effectiveness of the Navy continuing with the CTO management fee structure, (2) update the DTS Voucher Analysis Model to report DTS actual utilization rates, (3) require the PMO-DTS to provide periodic reports on the utilization of DTS, and (4) resolve inconsistencies in DTS requirements.

In written comments on a draft of this report, DOD agreed with three and partially agreed with one of the recommendations. For those recommendations the department agreed with, the comments briefly outlined its actions for addressing two of them, but did not comment on the third. In regard to the recommendations to which it responded, the department's planned actions are in keeping with the intent of our recommendations.

DOD disagreed with our finding that the estimated personnel savings are unrealistic. DOD stated that recognizing fiscal constraints, the department continues to identify efficiencies and eliminate redundancies to help leverage available funds. As noted in our report, DOD officials responsible for reviewing economic analyses stated that while shifting personnel to other functions is considered a benefit, it should be considered an intangible benefit rather than tangible dollar savings since the shifting of personnel does not result in a reduction of DOD expenditures. Because none of the military services could validate an actual reduction in the number of personnel as a result of DTS implementation, we continue to believe that the estimated annual personnel savings of \$54.1 million is unrealistic. The Agency Comments and Our Evaluation section of this report provides a more detailed discussion of the department's comments. We have reprinted DOD's written comments in appendix II.

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<sup>9</sup> Acceptable levels refer to the fact that any systems acquisition effort will have risks and will suffer the adverse consequences associated with defects in the processes. However, effective implementation of disciplined processes, which includes project planning and management, requirements management, risk management, quality assurance, and testing, reduces the possibility of the potential risks actually occurring and prevents significant defects from materially affecting the cost, timeliness, and performance of the project.

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## Background

In September 1993, the National Performance Review recommended an overhaul of DOD's temporary duty (TDY) travel system. In response, DOD created the DOD Task Force to Reengineer Travel to examine the travel process. The task force found that the current process was expensive to administer and was neither customer nor mission oriented with the net result being a travel process that was costly, inefficient, fragmented, and did not support DOD's needs. On December 13, 1995, the Under Secretary of Defense for Acquisition and Technology and the Under Secretary of Defense (Comptroller)/Chief Financial Officer issued a memorandum, "Reengineering Travel Initiative," establishing the PMO-DTS to acquire travel services that would be used DOD-wide. Additionally, in a 1997 report to Congress, the DOD Comptroller pointed out that the existing DOD TDY travel system was never designed to be an integrated system.<sup>10</sup> The report stated that because there was no centralized focus on the department's travel practices, the travel policies were issued by different offices and the process had become fragmented and "stovepiped." The report further noted that there was no vehicle in the current structure to overcome these deficiencies, as no one individual within the department had specific responsibility for management control of DOD TDY travel.

DOD management and oversight of the DTS program has varied over the years. DTS was designated a "Special Interest" program in 1995. It retained this status until May 2002 when it was designated a major automated information system,<sup>11</sup> with the Defense Finance and Accounting Service (DFAS) being designated as the lead component for the program. This meant that DFAS was responsible for the management oversight of DTS program acquisition, including DTS compliance with the required DOD acquisition guidance.

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<sup>10</sup> Office of the Under Secretary of Defense (Comptroller), *Department of Defense Travel Reengineering Pilot Report to Congress* (Arlington, Va.: June 1997).

<sup>11</sup> A major automated information system is one in which the DOD component head estimates that (1) program costs in any single year will exceed \$32 million in fiscal year 2000 constant dollars, (2) total program costs will exceed \$126 million in fiscal year 2000 constant dollars, or (3) total life-cycle costs will exceed \$378 million in fiscal year 2000 constant dollars. The life-cycle cost is the total cost to the government for an information system over its expected useful life and includes the costs to acquire, operate, maintain, and dispose of the system. DOD Instruction 5000.2, *Operation of the Defense Acquisition System*, specifies current mandatory policies and procedures for major acquisitions. The policy also specifies that the DOD Chief Information Officer is the milestone decision authority, responsible for program approval, for all major automated information systems.

In September 2003, DOD finalized its economic analysis for DTS in preparation for a milestone decision review.<sup>12</sup> The highlights of the economic analysis are shown in table 1. In December 2003, the DOD Chief Information Officer granted approval for DTS to proceed with full implementation throughout the department.

**Table 1: Summary of DTS Estimated Annual Net Savings Reported in the September 2003 Economic Analysis**

Constant fiscal year 2003 dollars in millions	
<b>Cost components</b>	<b>Estimated annual net savings</b>
Records management	\$19.8
Centrally billed accounts	1.7
CTO acquisition and administration	2.4
CTO services	31.0
Voucher process and compute	54.1
Voucher pay	0
Legacy systems	14.5
PMO	(8.8)
Help desk/DTA	(36.8)
System operations	(21.5)
<b>Total net savings</b>	<b>\$56.4</b>

Source: September 2003 economic analysis provided by the PMO-DTS.

Note: In arriving at the estimated annual net savings of over \$56 million, the economic analysis took into consideration the estimated costs of over \$2.1 billion, which covers fiscal years 2003-2016. The estimated costs included the costs that are estimated to be incurred by the PMO-DTS, the Army, the Navy, the Air Force, and the defense agencies.

In October 2005, DOD established the Business Transformation Agency (BTA) to advance DOD-wide business transformation efforts, particularly with regard to business systems modernization. DOD believes it can better address managing defensewide business transformation, which includes planning, management, organizational structures, and processes related to all key business areas, by first transforming business operations to support the warfighter, while also enabling financial accountability across DOD. BTA operates under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics, who is the vice chair of the Defense Business Systems Management Committee—

<sup>12</sup> This is an addendum to the July 2003 DTS economic analysis.

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which serves as the highest ranking governing body for business systems modernization activities. Among other things, BTA includes a Defense Business Systems Acquisition Executive who is responsible for centrally managing 28 DOD-wide business projects, programs, systems, and initiatives—one of which is DTS.<sup>13</sup> In October 2004, responsibility for the policies and procedures related to the management of commercial travel throughout DOD transferred to the Office of the Under Secretary of Defense (Personnel and Readiness).

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## Validity of DTS Economic Analysis Questionable

Our analysis of the September 2003 DTS economic analysis found that two key assumptions used to estimate cost savings were not based on reliable information. Consequently, the economic analysis did not serve to help ensure that the funds invested in DTS were used in an efficient and effective manner. Two primary areas represented the majority of the over \$56 million of estimated annual net savings DTS was expected to realize—personnel savings and reduced CTO fees. However, the estimates used to generate these savings were unreliable. Further, DOD did not effectively implement the policies relating to developing economic analyses for programs such as DTS. Effective implementation of these policies should have highlighted the problems that we found and allowed for appropriate adjustments so that the economic analysis could have served as a useful management tool in making funding decisions related to DTS—which is the primary purpose of this analysis. While the department’s system acquisition criteria do not require that a new economic analysis be prepared, the department’s business system investment management structure provides an opportunity for DOD management to assess whether DTS is meeting its planned cost, schedule, and functionality goals.

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## Personnel Savings Are Unrealistic

The economic analysis estimated that the annual personnel savings was over \$54 million,<sup>14</sup> as shown in table 2.

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<sup>13</sup> Examples of some of these DOD-wide programs, systems, and initiatives besides DTS include the Standard Procurement System, the Defense Integrated Military Human Resources System, and the Standard Financial Information Structure.

<sup>14</sup> During fiscal years 2009 through 2016.

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**Table 2: Summary of Estimated Annual Personnel Savings**

Constant fiscal year 2003 dollars in millions	
<b>DOD component</b>	<b>Estimated annual savings</b>
Army	\$16.0
Navy	12.9
Air Force	11.3
Marine Corps	5.8
Defense agencies	6.3
Permanent change of station	1.8
<b>Total savings</b>	<b>\$54.1</b>

Source: September 2003 economic analysis provided by the PMO-DTS.

As shown in table 2, approximately 45 percent of the estimated savings, or \$24.2 million was attributable to the Air Force and Navy. The assumption behind the personnel savings computation was that there would be less manual intervention in the processing of travel vouchers for payment, and therefore fewer staff would be needed. However, based on our discussions with Air Force and Navy DTS program officials, it is questionable as to how the estimated savings will be achieved. Air Force and Navy DTS program officials stated that they did not anticipate a reduction in the number of personnel with the full implementation of DTS, but rather the shifting of staff to other functions. According to DOD officials responsible for reviewing economic analyses, while shifting personnel to other functions is considered a benefit, it should be considered an intangible benefit rather than tangible dollar savings since the shifting of personnel does not result in a reduction of DOD expenditures. Also, as part of the Navy's overall evaluation of the economic analysis, program officials stated that "the Navy has not identified, and conceivably will not recommend, any personnel billets for reduction." Finally, the Naval Cost Analysis Division (NCAD) October 2003 report on the economic analysis noted that it could not validate approximately 40 percent of the Navy's total costs, including personnel costs, in the DTS life-cycle cost estimates because credible supporting documentation was lacking. The report also noted that the PMO-DTS used unsound methodologies in preparing the DTS economic analysis.

The extent of personnel savings for the Army and defense agencies, which are reported as \$16 million and \$6.3 million respectively, is also unclear. The Army and many defense agencies use DFAS to process their travel vouchers, so the personnel savings for the Army and the defense agencies

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were primarily related to reductions in DFAS's costs. In discussions with DFAS officials, they were unable to estimate the actual personnel savings that would result since they did not know (1) the number of personnel, like those at the Air Force and Navy, that would simply be transferred to other DFAS functions or (2) the number of personnel that could be used to avoid additional hiring. For example, DFAS expects that some of the individuals assigned to support the travel function could be moved to support its ePayroll program. Since these positions would need to be filled regardless of whether the travel function is reduced, transferring personnel from travel to ePayroll would reduce DOD's overall costs since DFAS would not have to hire additional individuals.

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### Savings Associated with Reduction of CTO Fees Are Unknown

According to the September 2003 economic analysis, DOD expected to realize annual net savings of \$31 million through reduced fees paid to the CTOs because the successful implementation of DTS would enable the majority of airline tickets to be acquired with either no or minimal intervention by the CTOs. These are commonly referred to as "no touch" transactions. However, DOD did not have a sufficient basis to estimate the number of transactions that would be considered "no touch" since (1) the estimated percentage of transactions that can be processed using the "no touch" was not supported and (2) the analysis did not properly consider the effects of components that use management fees, rather than transaction fees, to compensate the CTOs for services provided. The weaknesses we identified with the estimating process raise serious questions as to whether DOD will realize substantial portions of the estimated annual net savings of \$31 million.

### "No Touch" Transaction Volume Estimates Are Not Supported

DOD arrived at the \$31 million of annual savings in CTO fees by estimating that 70 percent of all DTS airline tickets would be considered "no touch" and then multiplying these tickets by the savings per ticket in CTO fees. However, a fundamental flaw in this analysis was that the 70 percent assumption had no solid basis. We requested, but the PMO-DTS could not provide, any analysis of travel data to support the assertion. Rather, the sole support provided by the PMO-DTS was an article in a travel industry trade publication.<sup>15</sup> The article was not based on information related to DTS, but rather on the experience of one private sector company.

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<sup>15</sup> *American Express News Releases: American Express' Interactive Travel Update* (New York: Aug. 11, 2003), <http://corp.americanexpress.com/gcs/cards/us/ni/pr/081303.aspx>.

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The economic analysis assumed that DOD could save about \$13.50 per “no touch” ticket. Since that analysis, DOD has awarded one contract that specifically prices transactions using the same model as that envisioned by the economic analysis. This contract applies to the Defense Travel Region 6 travel area.<sup>16</sup> During calendar year 2005, the difference in fees for “no touch” transactions and the transactions supported by the current process averaged between \$10 and \$12, depending on when the fees were incurred because the contract rates changed during 2005.<sup>17</sup> In analyzing travel voucher data for Region 6 for calendar year 2005, we found that the reported “no touch” rate was, at best 47 percent—far less than the 70 percent envisioned in the economic analysis.

PMO-DTS program officials stated they are uncertain as to why the anticipated 70 percent “no touch” was not being achieved. According to PMO-DTS program officials, this could be attributed, in part, to the DOD travelers being uncomfortable with the system and making reservations without using a CTO. Although this may be one reason, other factors may also affect the expected “no touch” fee. For example, we were informed that determining the airline availability and making the associated reservation can be accomplished, in most cases, rather easily. However, obtaining information related to hotels and rental cars and making the associated reservation can be more problematic because of the limitations in the data that DTS is able to obtain from its commercial sources. Accordingly, while a traveler may be able to make a “no touch” reservation for the airline portion of the trip, the individual may need to contact the CTO in order to make hotel or rental car reservations. When this occurs, rather than paying a “no touch” fee to the CTO, DOD ends up paying a higher fee, which eliminates the savings estimated in the economic analysis.

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<sup>16</sup> Defense Travel Region 6 includes the Air Force and defense agencies in the states of Kentucky, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin. The contract also applies to Army activities in 8 of the 11 states (excluding Kentucky, Missouri, and Nebraska). As discussed later, the Navy uses a management fee contract, and is therefore not included in the Defense Travel Region 6 contract.

<sup>17</sup> According to DTS officials, these savings are consistent with the DTS contracts that have been awarded to small businesses. The average savings per “no touch” ticket under these contracts is about \$12.88. Because the contractors are paid these fees directly by the traveler, they are unable to determine the percentage of transactions that are actually paid using the “no touch” rate.



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Navy Impact of CTO  
Management Fees Not  
Adequately Considered

The economic analysis assumed that (1) DOD would be able to modify the existing CTO contracts to achieve a substantial reduction in fees paid to a CTO when DTS was fully implemented across the department and (2) all services would use the fee structure called for in the new CTO contracts. The first part of the assumption is supported by results of the CTO contract for DOD Region 6 travel. The fees for the DTS “no touch” transactions were at least \$10 less than if a CTO was involved in the transactions. However, to date, the department has experienced difficulty in awarding new contracts with the lower fee structure. On May 10, 2006, the department announced the cancellation of the solicitation for a new contract. According to the department, it decided that the solicitation needed to be rewritten based on feedback from travel industry representatives at a March 28, 2006, conference. The department acknowledged that the “DTS office realized its solicitation didn’t reflect what travel agency services it actually needed.”<sup>18</sup> The department would not say how the solicitation would be refined, citing the sensitivity of the procurement process. The department also noted that the new solicitation would be released soon, but provided no specific date.

The economic analysis assumed that the Navy would save about \$7.5 million, almost 25 percent, of the total savings related to CTO fees once DTS is fully deployed. The economic analysis averaged the CTO fees paid by the Army, the Air Force, and the Marine Corps—which amounted to about \$18.71 per transaction—to compute the savings in Navy CTO fees. Using these data, the assumption was made in the economic analysis that a fee of \$5.25 would be assessed for each ticket, resulting in an average savings of \$13.46 per ticket for the Navy (\$18.71 minus \$5.25).<sup>19</sup> While this approach may be valid for the organizations that pay individual CTO fees, it may not be representative for organizations such as the Navy that pay a management fee. The management fee charged the Navy is the same regardless of the involvement of the CTO—therefore, the reduced “no touch” fee would not apply.

We were informed by Navy DTS program officials that they were considering continuing the use of management fees after DTS is fully implemented. According to Navy DTS program officials, they paid about \$14.5 million during fiscal year 2005 for CTO management fees, almost \$19

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<sup>18</sup> “DOD Retracts Solicitation for Travel Agency Services,” *FederalTimes.com* (May 16, 2006), <http://www.federaltimes.com/index.php?> (downloaded June 14, 2006).

<sup>19</sup> These savings translate to about 572,000 tickets annually.

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per ticket for approximately 762,700 tickets issued. Accordingly, even if the department arrives at a new CTO contract containing the new fee structure or fees similar to those of Region 6, the estimated savings related to CTO fees for the Navy will not be realized if the Navy continues to use the management fee concept.

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### Effective Implementation of Existing Policies Should Have Identified Problems with the Economic Analysis

Effective implementation of DOD guidance would have detected the types of problems discussed above and resulted in an economic analysis that would have accomplished the stated objective of the process—to help ensure that the funds invested in DTS were used efficiently and effectively. DOD policy<sup>20</sup> and OMB guidance<sup>21</sup> require that an economic analysis be based on facts and data and be explicit about the underlying assumptions used to arrive at estimates of future benefits and costs. Since an economic analysis deals with costs and benefits occurring in the future, assumptions must be made to account for uncertainties. DOD policy recognizes this and provides a systematic approach to the problem of choosing the best method of allocating scarce resources to achieve a given objective.

A sound economic analysis recognizes that there are alternative ways to meet a given objective and that each alternative requires certain resources and produces certain results. The purpose of the economic analysis is to give the decision maker insight into economic factors bearing on accomplishing the objectives. Therefore, it is important to identify factors, such as cost and performance risks and drivers, which can be used to establish and defend priorities and resource allocations. The DTS economic analysis did not comply with the DOD policy, and the weaknesses we found should have been detected had the DOD policy been effectively implemented. The PMO-DTS had adequate warning signs of the potential problems associated with not following the OMB and DOD guidance for developing an effective economic analysis. For example, as noted earlier, the Air Force and Navy provided comments when the economic analysis was being developed that the expected benefits being claimed were unrealistic. Just removing the benefits associated with personnel savings from the Air Force and Navy would have reduced the overall estimated program cost savings by almost 45 percent. This would have put increased pressure on the credibility of using a 70 percent “no

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<sup>20</sup> DOD Instruction 7041.3, *Economic Analysis for Decisionmaking*, November 7, 1995.

<sup>21</sup> Office of Management and Budget, Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (Revised Jan. 18, 2006).

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touch” utilization rate. The following are examples of failures to effectively implement the DOD policy on conducting economic analyses and the adverse effects on the DTS economic analysis.

- The DTS life-cycle cost estimates portion of the economic analysis was not independently validated as specified in DOD’s guidance.<sup>22</sup> PMO-DTS officials acknowledged that there was not an independent assessment of the DTS life-cycle cost estimates. However, they noted that the department’s Office of Program Analysis and Evaluation had provided comments on the economic analysis.<sup>23</sup> Program Analysis and Evaluation officials informed us that they did not perform an independent assessment of the DTS economic analysis because the data were not available to validate the reliability of that analysis. Program Analysis and Evaluation officials also noted that they had raised similar concerns about the July 2003 economic analysis, but those issues had not been resolved when the September 2003 economic analysis was provided for their review. Because the September 2003 DTS life-cycle cost estimates were not independently assessed, the department did not have reasonable assurance that the reported estimates were realistic, that the assumptions on which the analysis was based were valid, or that the estimated rate of return on the investment could reasonably be expected to be realized.
- The September 2003 DTS economic analysis did not undertake an assessment of the effects of the uncertainty inherent in the estimates of benefits and costs, as required by DOD and OMB guidance.<sup>24</sup> Because an economic analysis uses estimates and assumptions, it is critical that a sensitivity analysis be performed to understand the effects of the imprecision in both underlying data and modeling assumptions. This analysis is required since the estimates of future benefits and costs are subject to varying degrees of uncertainty. For example, according to DOD officials, the number of travel transactions has remained relatively stable over the years. On the other hand, as discussed previously, the

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<sup>22</sup> Department of Defense Instruction 5000.2, *Operation of the Defense Acquisition System*, May 12, 2003.

<sup>23</sup> Department of Defense Regulation 5000.2-R, *Interim Defense Acquisition Guidebook* (Oct. 30, 2002), para.c4.5.1.61, required the Office of Program Analysis and Evaluation to assess certain aspects of the economic analysis.

<sup>24</sup> Department of Defense Instruction 7041.3, *Economic Analysis of Decisionmaking* (Nov. 7, 1995), and Office of Management and Budget Revised Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (Oct. 29, 1992).

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number of transactions that can be processed as “no touch” is unknown. Sensitivity analysis refers to changing the value of a given variable in a model to gauge the effect of change on model results. More importantly, it identifies key elements—data and assumptions—as discussed above—and varies a single element while holding the others constant to determine what amount of change in that element is required to raise or lower the resulting dominant benefit and cost elements by a set amount. In this way, data and assumptions can be risk-ranked for decisionmaking and auditing. In the case of DTS, we requested that the PMO-DTS determine the effects of a change in “no touch” transaction percentage. With all other factors remaining the same, DTS would have to achieve a 35 percent “no touch” transaction rate just to break even—where tangible costs and benefits are equal. Had DOD performed such an analysis, it would have understood that depending solely on an industry trade publication as its support for the “no touch” transaction percentage had major implications on the potential savings.

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### New Economic Analysis Not Required by DOD Criteria

Although the September 2003 economic analysis was not based on supportable data, the department’s criteria do not require that a new economic analysis be prepared. DTS has already completed all of the major milestones related to a major automated system, which require that an economic analysis be prepared or at least updated to reflect the current assumptions and the related costs and benefits. However, the fiscal year 2005 defense authorization act<sup>25</sup> requires the periodic review, but not less than annually, of every defense business system investment. Further, the department’s April 2006 guidance<sup>26</sup> notes that the annual review process “provides follow-up assurance that information technology investments, which have been previously approved and certified, are managed properly, and that promised capabilities are delivered on time and within budget.” If effectively implemented, this annual review process provides an excellent opportunity for DOD management to assess whether DTS is meeting its planned cost, schedule, and functionality goals. Going forward, such a review could serve as a useful management tool in making funding and other management decisions related to DTS.

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<sup>25</sup> Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 332, 118 Stat. 1811, 1851-56 (Oct. 28, 2004) (*codified, in part, at 10 U.S.C. §§ 186, 2222*).

<sup>26</sup> DOD, *DOD IT Business Systems Investment Review Process: Investment Certification and Annual Review Process User Guidance* (Apr. 10, 2006).

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## DTS Remains Underutilized by the Military Services

Our September 2005 testimony and January 2006 report<sup>27</sup> noted the challenge facing the department in attaining the anticipated DTS's utilization. While DOD has acknowledged the underutilization, we found that across DOD, the department does not have reasonable quantitative metrics to measure the extent to which DTS is actually being used. Presently, the reported DTS utilization is based on a DTS Voucher Analysis Model<sup>28</sup> that was developed in calendar year 2003 using estimated data, but over the years has not been completely updated with actual data. While the military services have initiated actions to help increase the utilization of DTS, they pointed out that ineffective DTS training is a contributing factor to the lower than expected usage rate by the military services.

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## Metrics to Measure DTS Utilization Are Inadequate

The DTS Voucher Analysis Model was prepared in calendar year 2003 and based on airline ticket and voucher count data that were reported by the military services and defense agencies, but the data were not verified or validated. Furthermore, PMO-DTS officials acknowledged that the model has not been completely updated with actual data as DTS continues to be implemented at the 11,000 sites. We found that the Air Force is the only military service that submits monthly metrics to the PMO-DTS officials for their use in updating the DTS Voucher Analysis Model. Rather than reporting utilization based on individual site system utilization data, the PMO-DTS continues to rely on outdated information in the reporting of DTS utilization to DOD management and Congress. We have previously reported<sup>29</sup> that best business practices indicate that a key factor of project management and oversight is the ability to effectively monitor and evaluate a project's actual performance against what was planned.

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<sup>27</sup> [GAO-05-998T](#) and [GAO-06-18](#).

<sup>28</sup> DOD developed a model in calendar year 2003 that compares the expected usage against the actual usage. The expected usage is obtained by using historical data, such as ticket counts, to determine the expected number of vouchers processed by a given location. For example, if a location had 1,000 vouchers as its expected number of vouchers per the model, but now processes 750 actual vouchers through DTS, then the PMO model considers that that location has achieved a 75 percent utilization rate. It then takes the individual computations for each DTS location and "rolls them up" to determine the total utilization for individual service performance on a monthly basis.

<sup>29</sup> GAO, *Financial Management Systems: Additional Efforts Needed to Address Key Causes of Modernization Failures*, [GAO-06-184](#) (Washington, D.C.: Mar. 15, 2006), and *Financial Management Systems: Lack of Disciplined Processes Puts Implementation of HHS' Financial System at Risk*, [GAO-04-1008](#) (Washington, D.C.: Sept. 23, 2004).

In order to perform this critical task, best business practices require the adoption of quantitative metrics to help measure the effectiveness of a business system implementation and to continually measure and monitor results, such as system utilization. This lack of accurate and pertinent utilization data hinders management’s ability to monitor its progress toward the DOD vision of DTS as the standard travel system, as well as to provide consistent and accurate data to Congress. With the shift of the DTS program to BTA, which now makes DTS an enterprisewide endeavor, improved metrics and training are essential if DTS is to be DOD’s standard, integrated, end-to-end travel system for business travel.

Table 3 presents DTS’s reported percentage of utilization during the period October 2005 through April 2006. PMO-DTS officials calculated these utilization percentages by comparing the actual number of travel vouchers processed through DTS to the outdated universe of travel transaction data per the model, as described previously. Because the PMO-DTS was not able to identify the total number of travel vouchers that should have been processed through DTS (total universe of travel vouchers), the utilization percentages shown in table 3 may be over- or understated.

**Table 3: DTS Reported Utilization Percentage for the Period October 2005 through April 2006**

Month	Army	Navy	Air Force
October 2005	46	28	33
November 2005	59	32	48
December 2005	50	27	38
January 2006	40	20	29
February 2006	54	30	40
March 2006	66	39	47
April 2006	59	35	40
<b>Average</b>	<b>53</b>	<b>30</b>	<b>39</b>

Source: PMO-DTS.

PMO-DTS program officials confirmed that the reported utilization data were not based on complete data because the department did not have comprehensive information to identify the universe or the total number of travel vouchers that should be processed through DTS. PMO-DTS program and DTS military service officials agreed that the actual DTS utilization rate should be calculated by comparing actual vouchers being processed in DTS to the total universe of vouchers that should be processed in DTS. The universe would exclude those travel vouchers that cannot be

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processed through DTS, such as those related to permanent change of station travel.

The Air Force was the only military service that attempted to obtain data on (1) the actual travel vouchers processed through DTS and (2) those travel vouchers eligible to be processed through DTS, but were not. These data were site specific. For example, during the month of December 2005, the PMO-DTS reported that at Wright-Patterson Air Force Base, 2,880 travel vouchers were processed by DTS, and the Air Force reported that another 2,307 vouchers were processed through the legacy system—the Reserve Travel System (RTS). Of those processed through RTS, Air Force DTS program officials stated that 338 travel vouchers should have been processed through DTS. DTS Air Force program officials further stated that they submitted to the PMO-DTS the number of travel vouchers processed through RTS each month. These data are used by the PMO-DTS to update the DTS Voucher Analysis Model. However, neither the Air Force nor the PMO-DTS have verified the accuracy and reliability of the data. Therefore, the accuracy of the utilization rates reported for the Air Force by the PMO-DTS is not known. As shown in table 3, PMO-DTS officials reported utilization data for the Air Force from a low of 29 percent (January 2006) to a high of 48 percent (November 2005) during the 7-month period ending April 2006.

Because Army and Navy DTS program officials did not have the information to identify the travel transactions that should have been processed through DTS, the Army and Navy did not have a basis for evaluating DTS utilization at their respective military locations and activities. Furthermore, Navy DTS program officials indicated that the utilization data that the PMO-DTS program officials reported for the Navy were not accurate. According to Navy DTS program officials, the Navy's primary source of utilization data was the monthly metrics reports provided by the PMO-DTS, but Navy DTS program officials questioned the accuracy of the Navy utilization reports provided by the PMO-DTS.

- For example, the Navy PMO-DTS utilization site report has a site name of Ballston, Va.; however, Ballston, Va. is not listed on the map site names on the DTS contractor's database. As a result, the PMO-DTS Navy utilization report for this location indicates no usage every month. Our analysis indicated that this was 1 of at least 33 similar instances where no usage was reported for a nonexistent location. Navy DTS program officials stated that an effort is underway to "re-map" all Navy organizations to the correct site name, but as of June 2006 this effort had not been completed.

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- Another example indicates the inconsistencies that exist in the different information used by the Navy and the PMO-DTS program officials to report utilization rates for the Navy. The PMO-DTS program officials reported that the Navy had a total of 9,400 signed, original vouchers processed through DTS during December 2005; however, this is less than the 10,523 reported by the DTS contractor for the same month. According to Navy DTS program officials, they have not been able to confirm whether either figure is correct. Since the number of DTS vouchers is required to calculate utilization, the Navy is unable to determine the accuracy of the utilization metrics reported by the PMO-DTS officials, as shown in table 3.

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### DOD Has Taken Steps to Improve DTS Utilization, but Further Action Is Needed

While the military services have issued various memorandums that direct or mandate the use of DTS to the fullest extent possible at those sites where DTS has been deployed, resistance still exists. As highlighted below, deployed sites are still using non-DTS systems, or legacy systems, to process TDY travel.

- The Army issued a memorandum in September 2004 directing each Army installation to fully disseminate DTS to all travelers within 90 to 180 days after Initial Operating Capability<sup>30</sup> (IOC) at each installation.<sup>31</sup> Subsequently in September 2005, DFAS officials reported that 390,388 travel vouchers were processed through the Army's legacy system—the Windows Integrated Automated Travel System, but DFAS officials could not provide a breakout of how many of the 390,388 travel vouchers should have been processed through DTS.
- The Air Force issued a memorandum in November 2004 that stressed the importance of using DTS once it was implemented at an installation. The Air Force memorandum specifically stated that business, local, and group travel vouchers should be electronically processed through DTS and that travel claims should not be submitted to the local finance office for processing. However, we found that Air Force travelers continued to process travel claims through legacy systems, such as RTS. For example, during the month of November 2005, the Air Force reported that 3,277

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<sup>30</sup> When a military service location has declared Initial Operating Capability (IOC), that location moves into an “operational phase” in which all units/activities are fully proliferated for use of DTS.

<sup>31</sup> The memorandum included a list of sites to which DTS should be fully disseminated and the types of vouchers that must be processed through DTS.



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business vouchers, 1,875 local vouchers, and 1,815 group vouchers were processed through RTS that should have been processed through DTS. Additionally, a DFAS internal review<sup>32</sup> analyzed Air Force vouchers during the period January 2005 through June 2005, at locations where DTS was deployed, and found that Air Force travelers used legacy systems to process 79 percent of all routine TDY transactions.

- The Navy issued a memorandum in May 2005 that directed the use of DTS to generate travel orders throughout all Navy locations. Navy DTS program officials reported in an April 2006 briefing that 18,300 travel vouchers were processed in DTS during the month of March 2006, but that over 90,000 travel vouchers were still being processed monthly through the Integrated Automated Travel System—a legacy system.

Thus, despite memoranda issued by the military services, it appears that DTS continues to be underutilized by the military services. As discussed in our September 2005 testimony and January 2006 report,<sup>33</sup> the unnecessary continued use of the legacy travel systems results in the inefficient use of funds because the department is paying to operate and maintain duplicative systems that perform the same function—travel.

Besides the memorandums, DOD is taking other actions to increase DTS utilization as the following examples illustrate.

- The Assistant Secretary of the Army for Financial Management (Financial & Accounting Oversight Directorate) holds monthly Senior Focus Group meetings with the installation leadership of major commands to discuss DTS utilization issues and possible corrective actions.
- The Navy conducts quarterly video and telephone conferences with major commands and contacts commands with low usage to determine the causes for low DTS usage.
- The PMO-DTS conducts monthly working group meetings with the military service and defense agency DTS program officials to discuss DTS functionality issues and concerns, DTS usage, and other related DTS issues.

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<sup>32</sup> Department of Defense, Defense Finance and Accounting Service, Internal Review, *Audit of the Defense Travel System (DTS)*, October 2005 – February 2006, CO06SRP005AR (Arlington, Va.: Feb. 22, 2006).

<sup>33</sup> [GAO-05-998T](#) and [GAO-06-18](#).

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Although the military services have issued various memorandums aimed at increasing the utilization of DTS, the military service DTS program officials all pointed to ineffective training as a primary cause of DTS not being utilized to a far greater extent. The following examples highlight the concerns raised by the military service officials.

- Army DTS program officials emphasized that the DTS system is complex and the design presents usability challenges for users—especially for first-time or infrequent users. They added that a major concern is that there is no PMO-DTS training for existing DTS users as new functionality is added to DTS. These officials stated that the PMO-DTS does not do a good job of informing users about functionality changes made to the system. We inquired if the Help Desk was able to resolve the users’ problems, and the Army DTS officials simply stated “no.” The Army officials further pointed out that it would be beneficial if the PMO-DTS improved the electronic training on the DTS Web site and made the training documentation easier to understand. Also, improved training would help infrequent users adapt to system changes. The Army officials noted that without some of these improvements to resolve usability concerns, DTS will continue to be extremely frustrating and cumbersome for travelers.
- Navy DTS program officials stated that DTS lacks adequate user/traveler training. The train-the-trainer concept of training system administrators who could then effectively train all their travelers has been largely unsuccessful. According to Navy officials, this has resulted in many travelers and users attempting to use DTS with no or insufficient training. The effect has frustrated users at each step of the travel process and has discouraged use of DTS.
- Air Force officials stated that new DTS system releases are implemented with known problems, but the sites are not informed of the problems. Workarounds are not provided until after the sites begin encountering problems. Air Force DTS program officials stated that DTS releases did not appear to be well tested prior to implementation. Air Force officials also stated that there was insufficient training on new functionality. PMO-DTS and DTS contractor program officials believed that conference calls to discuss new functionality with the sites were acceptable training, but Air Force officials did not agree. The Air Force finance office was expected to fully comprehend the information received from those conference calls and provide training on the new functionality to users/approvers, but these officials stated that this was an unrealistic expectation.

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## Previously Reported DTS Requirements Management and Testing Deficiencies Have Not Been Resolved

Our September 2005 testimony and January 2006<sup>34</sup> report noted problems with DTS's ability to properly display flight information and traced those problems to inadequate requirements management and testing. DOD stated that it had addressed those deficiencies and in February 2006, we again tested the system to determine whether the stated weaknesses had been addressed. We found that similar problems continue to exist. We also identified additional deficiencies in DTS's ability to display flights that comply with the Fly America Act.<sup>35</sup> DTS's inability to display flights that comply with the Fly America Act places the traveler who purchases a ticket or the individual authorizing, certifying, or disbursing a payment made when a ticket is paid for directly by DOD through a centrally billed account at unnecessary risk of personal liability. Once again, these problems can be traced to ineffective requirements management and testing processes. Properly defined requirements are a key element in systems that meet their cost, schedule, and performance goals since they define (1) the functionality that is expected to be provided by the system and (2) the quantitative measures by which to determine through testing whether that functionality is operating as expected.

We briefed PMO-DTS officials on the results of our tests and in May 2006 the officials agreed that our continued concerns about the proper display of flight information and compliance with the Fly America Act were valid. PMO-DTS officials stated that the DTS technology refresh, which is to be completed in September 2006, should address some of our concerns. While these actions are a positive step forward, they do not address the fundamental problem that DTS's requirements are still ambiguous and conflicting—a primary cause of the previous problems. Until a viable requirements management process is developed and effectively implemented, the department (1) cannot develop an effective testing process and (2) will not have reasonable assurance the project risks have been reduced to acceptable levels.

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<sup>34</sup> [GAO-05-998T](#) and [GAO-06-18](#).

<sup>35</sup> 49 U.S.C. §40118, commonly referred to as the Fly America Act, requires federal employees and their dependents, consultants, contractors, grantees, and others performing U.S. government-funded air travel to travel by U.S. certificated flag air carriers except under certain circumstances, such as when travel by foreign air carrier is a matter of necessity as defined by the statute or when U.S. certificated flag air carrier service is not available. See 41C.F.R. § 301-10.135.

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## Providing Complete Flight Information Has Been a Continuing Problem

In our earlier testimony and report,<sup>36</sup> we noted that DOD did not have reasonable assurance that the flights displayed met the stated DOD requirements. Although DOD stated in each case that our concerns had been addressed, subsequent tests found that the problems had not been corrected. Requirements represent the blueprint that system developers and program managers use to design, develop, and acquire a system. Requirements should be consistent with one another, verifiable, and directly traceable<sup>37</sup> to higher-level business or functional requirements. It is critical that requirements be carefully defined and that they flow directly from the organization's concept of operations (how the organization's day-to-day operations are or will be carried out to meet mission needs). Improperly defined or incomplete requirements have been commonly identified as a cause of system failure and systems that do not meet their cost, schedule, or performance goals.

Requirements represent the foundation on which the system should be developed and implemented. As we have noted in previous reports,<sup>38</sup> because requirements provide the foundation for system testing, significant defects in the requirements management process preclude an entity from implementing a disciplined testing process. That is, requirements must be complete, clear, and well documented to design and implement an effective testing program. Absent this, an organization is taking a significant risk that its testing efforts will not detect significant defects until after the system is placed into production. Our February 2006 analysis of selected flight information disclosed that DOD still did not have reasonable assurance that DTS displayed flights in accordance with its stated requirements. We analyzed 15 U.S. General Services Administration

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<sup>36</sup> [GAO-05-998T](#) and [GAO-06-18](#).

<sup>37</sup> Traceability allows the user to follow the life of the requirement both forward and backward through these documents and from origin through implementation. Traceability is also critical to understanding the parentage, interconnections, and dependencies among the individual requirements. This information in turn is critical to understanding the impact when a requirement is changed or deleted.

<sup>38</sup> See, for example, [GAO-04-1008](#) and *Army Depot Maintenance: Ineffective Oversight of Depot Maintenance Operations and System Implementation Efforts*, [GAO-05-441](#) (Washington, D.C.: June 30, 2005).

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(GSA) city pairs,<sup>39</sup> which should have translated into 246 GSA city pair flights for the departure times selected. However, we identified 87 flights that did not appear on one or more of the required listings based on the DTS requirements. For instance, our analysis identified 44 flights appearing on other DTS listings or airline sites that did not appear on the 9:00 am DTS listing even though those flights (1) met the 12-hour flight window<sup>40</sup> and (2) were considered GSA city pair flights—two of the key DTS requirements the system was expected to meet.

After briefing PMO officials on the results of our analysis in February 2006, the PMO-DTS employed the services of a contractor to review DTS to determine the specific cause of the problems and recommend solutions. In a March 2006 briefing, the PMO-DTS acknowledged the existence of the problems, and identified two primary causes. First, part of the problem was attributed to the methodology used by DTS to obtain flights from the Global Distribution System (GDS). The PMO-DTS stated that DTS was programmed to obtain a “limited” amount of data from GDS in order to reduce the costs associated with accessing GDS. This helps to explain why flight queries we reviewed did not produce the expected results. To resolve this particular problem, the PMO-DTS proposed increasing the amount of data obtained from GDS. Second, the PMO-DTS acknowledged that the system testing performed by the contractor responsible for developing and operating DTS was inadequate and, therefore, there was no assurance that DTS would provide the data in conformance with the stated requirements. This weakness was not new, but rather reconfirms the concerns discussed in our September 2005 testimony and January 2006 report<sup>41</sup> related to the testing of DTS.

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<sup>39</sup> GSA awards contracts to airlines to provide flight services between pairs of cities. This is commonly referred to as the GSA city pair program. Under this program (1) no advanced ticket purchases are required, (2) no minimum or maximum length of stay is required, (3) tickets are fully refundable and no charges are assessed for cancellations or changes, (4) seating is not capacity controlled (i.e., as long as there is a coach-class seat on the plane, the traveler may purchase it), (5) no blackout dates apply, (6) fare savings average 70 percent over regular walk-up fares, and (7) fares are priced on one-way routes permitting agencies to plan for multiple destinations. We selected the first 15 city pairs that were provided by DOD to GSA in support of a GSA study on accuracy of flight displays and fare information by DTS and the GSA eTravel providers.

<sup>40</sup> A flight window is the amount of time before and after a specified time and is used for determining the flights that should be displayed. DTS uses a 12-hour flight window for domestic flights and a 24-hour flight window for foreign flights. The system is also expected to display up to 25 flights for the flight window.

<sup>41</sup> [GAO-05-998T](#) and [GAO-06-18](#).

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Our analysis also found that DOD did not have reasonable assurance that the system displayed flights in compliance with the requirements of the Fly America Act. In 1996, Congress assigned the Administrator, GSA, the responsibility<sup>42</sup> to determine the situations for which appropriated funds could be used consistent with the Fly America Act, and GSA has published its rules in the *Federal Travel Regulation (FTR)*.<sup>43</sup> Within the basic guidelines that GSA publishes, agencies must establish “internal procedures” to ensure that agency reimbursements with federal funds for travelers’ air carrier expenses are made only in compliance with the Fly America Act and the FTR rules. As a result, DTS places the traveler who purchases a ticket or the individual authorizing, certifying, or disbursing a payment made when a ticket is paid for directly by DOD—such as those tickets purchased using a centrally billed account—at unnecessary risk of personal liability. DOD guidance expressly states that for code-sharing<sup>44</sup> airline tickets related to foreign travel (1) the entire airline ticket must be issued by and on the U.S.-flag carrier (not necessarily the carrier operating the aircraft) and (2) the flight must be between a centennial United States and a foreign destination. If these conditions are not met, DOD requires a determination that a U.S.-flag carrier is not available or use of a non-U.S.-flag carrier is necessary.<sup>45</sup> These requirements are commonly referred to as the Fly America Act requirements. According to PMO-DTS officials, DTS’s requirements are intended to comply with the Fly America Act. However, our analysis of March 2006 flight display data identified several instances in which flights were displayed to the DOD traveler that did not meet the requirements of the Fly America Act. For example, six of the first seven flights displayed between Santiago, Chile, and San Antonio, Texas, did not appear to comply with the Fly America Act requirements since they did not involve a U.S.-flag carrier. More importantly, several flights that appeared later in the listing and involved U.S.-flag carriers were more advantageous to the traveler because they required less actual travel time. Figure 1 shows the DTS display of flights.

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<sup>42</sup> See 49 U.S.C. § 40118(c).

<sup>43</sup> See 41 C.F.R. §301-10.143.

<sup>44</sup> A code-share agreement is a marketing arrangement in which an airline places its designator code on a flight operated by another airline and sells, advertises, and issues tickets as its own flights. U.S. carriers must obtain authorization for foreign code-share operations from the Department of Transportation.

<sup>45</sup> JTR, C2204-C, and JFTR, U3125-C.

**Figure 1: March 2006 DTS Display of Flights between Santiago, Chile, and San Antonio, Texas**

**Defense Travel System**  
A New Era of Government Travel

Logged In As: ERIC.GAO  
Traveller Name: ERIC.GAO  
Document Name: EGSEOUK0R040306\_A01  
Document Type: Authorization  
Screen ID: 1070.1  
Close Window  
Help for this screen

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Required Search Criteria

Please Note: A Red Star (\*) indicates a field is required.

\* Departure Airport (airport code, city code or city name):  
SCL - Santiago, Chile (Arturo Merino Benitez Apt)

\* Arrival Airport (airport code, city code or city name):  
SAT - San Antonio, Tx (Usa)

\* Arrival or Departure:  
Departing: 04/07/06 01:00 PM (mm/dd/yyyy)

Show Alternate Airports

Select up to 10 flight(s) to price.

SCL - Santiago, Chile (Arturo Merino Benitez Apt) to SAT - San Antonio, Tx (Usa)

Price Flight(s)

Sort By:  DoD Policy  Departure Time  Arrival Time  Elapsed Time

Check to price this flight

No image available	09:55PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 05:25AM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 30min Equipment 762	Aeromexico 11 Fri 07-Apr-06 10h 30min
	11:05AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 01:05PM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min Equipment 319	Mexicana 834 Sat 08-Apr-06 10h 30min
<input type="checkbox"/> Check to price this flight	<input type="checkbox"/> Check to price this flight	
	09:55PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 05:25AM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 30min OPERATED BY AM	Mexicana 1011 Fri 07-Apr-06 10h 30min
	07:30AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 09:30AM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min Equipment 319	Mexicana 830 Sat 08-Apr-06 10h 30min
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No image available	09:55PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 05:25AM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 30min Equipment 762	Aeromexico 11 Fri 07-Apr-06 10h 30min
	07:30AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 09:30AM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min Equipment 319	Mexicana 830 Sat 08-Apr-06 10h 30min
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No image available	09:55PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 05:25AM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 30min OPERATED BY AA	Mexicana 1011 Fri 07-Apr-06

**Only these flights comply with the Fly America Act**

	Flying Time 8h 30min Equipment 762 OPERATED BY AM	10h 30min
	11:05AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 01:05PM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min Equipment 319	Mexicana 834 Sat 08-Apr-06 10h 30min
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No image available	02:05PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 09:50PM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 45min Equipment 763	Lan-Chile 622 Fri 07-Apr-06 10h 45min
	07:30AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 09:30AM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min OPERATED BY MX	American 8336 Sat 08-Apr-06 10h 45min
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	02:00PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 09:45PM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 45min Equipment 763 OPERATED BY LA	Mexicana 1944 Fri 07-Apr-06 10h 45min
	07:30AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 09:30AM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min Equipment 319	Mexicana 830 Sat 08-Apr-06 10h 45min
<input type="checkbox"/> Check to price this flight	<input type="checkbox"/> Check to price this flight	
No image available	02:05PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 09:50PM Arrive MEX - Mexico City, Mex (Juarez IntL. Apt) Flying Time 8h 45min Equipment 763	Lan-Chile 622 Fri 07-Apr-06 10h 45min
	07:30AM Depart MEX - Mexico City, Mex (Juarez IntL. Apt) 09:30AM Arrive SAT - San Antonio, Tx (Usa) Flying Time 2h 00min Equipment 319	Mexicana 830 Sat 08-Apr-06 10h 45min
<input type="checkbox"/> Check to price this flight	<input type="checkbox"/> Check to price this flight	
	09:40PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 06:40AM Arrive DFW - Dallas / Ft. Worth, Tx (Usa) (IntL. Apt) Flying Time 10h 00min Equipment 763	American 940 Fri 07-Apr-06 11h 02min
	09:35AM Depart DFW - Dallas / Ft. Worth, Tx (Usa) (IntL. Apt) 10:37AM Arrive SAT - San Antonio, Tx (Usa) Flying Time 1h 02min Equipment 580	American 535 Sat 08-Apr-06 11h 02min
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No image available	09:40PM Depart SCL - Santiago, Chile (Arturo Merino Benitez Apt) 06:40AM Arrive DFW - Dallas / Ft. Worth, Tx (Usa) (IntL. Apt) Flying Time 10h 00min OPERATED BY AA	Lan-Chile 5630 Fri 07-Apr-06 11h 02min

Source: DTS image from 3/24/2006.

According to DTS program officials, after our discussions relating to the flight displays and compliance with the Fly America Act, they did a “requirements scrub” to define the requirements that should be used to display flights, including those requirements relating to displaying flights that comply with the Fly America Act. The previous requirement stated that “DTS shall examine international trip records for compliance with DOD policy on the use of non-U.S.-flag carriers.” The revised requirement relating to international flights stated that the system should display flights

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that are (1) part of the GSA city pair program or (2) offered by U.S. carriers. If the system cannot find flights that meet these criteria, then the system is expected to instruct the user to contact their CTO to arrange the flight. According to PMO-DTS officials, this change has been incorporated into the production system. We conducted a limited nonstatistical test to determine if the examples of flights not complying with the Fly America Act identified in our earlier tests had been eliminated and found that these flights no longer appeared on the DTS displayed flights. However, as we noted, the DOD policy is compliant with the Fly America Act requirements and this was a DTS requirement in effect when we identified the examples of flight displays not complying with the Fly America Act. In effect, this is another example of (1) inadequate testing by the DTS contractor and (2) DOD's inability to ensure the system is meeting its requirements. Until DOD effectively analyzes and properly documents the functionality it desires, it has little assurance that the proper requirements have been defined.

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### DOD's Planned Corrective Actions Will Not Address Fundamental Requirements Management Problems

While DOD's planned actions, if effectively implemented, should address several of the specific weaknesses we identified related to flight displays and the Fly America Act, they fall short of addressing the fundamental problems that caused those weaknesses—inadequate requirements management. DTS's requirements continue to be ambiguous. For example, a system requirement was changed to “display,” that is, show the fares relating to the full GSA city pair fare only if the GSA city pair fare with capacity limits<sup>46</sup> was not available. Based upon information provided by PMO-DTS officials, after the requirement was supposed to have been implemented, both fare types were shown on the DTS display screen. PMO-DTS officials stated that although both fares were shown, DTS was still expected to book the lower fare and that the requirement was really designed to ensure that the lower fare was booked. This requirement is ambiguous because it is not clear what the word “display” means in this context. Based upon the stated requirement, the most common interpretation would be that the word display implies information that is provided (or shown) to the DOD traveler. However, based on the PMO-DTS official's explanation, the word display, in fact, means the fare that is booked. This type of ambiguity was one cause of problems we noted in the

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<sup>46</sup> Several GSA city pair flights have two contract fares. These fares are commonly referred to as an unrestricted GSA city pair fare and a GSA city pair fare with capacity limits. The latter fare is cheaper than the unrestricted GSA city pair fare and applies to a limited number of seats when available. However, it has no other restrictions.



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past where testing did not identify system defects and DTS did not properly display the proper flight information to the user.

Furthermore, DOD is currently undergoing a technology upgrade of DTS that is scheduled for completion by September 30, 2006. This technology upgrade is expected to provide additional functionality; however, DOD still has not adequately defined the requirements that are needed to define flight displays for DOD travelers. According to DTS program officials and the contractor responsible for the technology upgrade, the upgrade is intended to do the following:

- Replace the current display of up to 25 flights on one page in a predetermined order<sup>47</sup> and separate the 25 flights into three categories—GSA city pair flights, Other Government Fares, and Other Unrestricted Flights—and then sort the flights by additional criteria such as elapsed travel time (rather than the current flight time), time difference from the requested departure time, number of stops, and whether the flight is considered a direct flight. This approach, if effectively implemented, addresses one problem we noted with the current process where flight time<sup>48</sup> rather than elapsed travel time is used as one of the sorting criteria. It will also present flights that have the shortest duration in relation to the requested departure time at the top of the listing.
- Display the prices on all flights returned to the traveler. The current system displays the prices for the GSA city pair flights and allows the traveler to request prices for up to 10 additional flights at a time. This significantly improves the ability of the system to present information to the traveler that can be used to select the best flight for the government and allows the system to help ensure that the lowest cost flights are

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<sup>47</sup> Under the current release, DTS will attempt to display up to 25 flights in two categories—GSA city pairs and other. The flights within GSA city pairs are then displayed according to elapsed travel time.

<sup>48</sup> Flight time is the actual time a plane is in the air while elapsed travel time is the total time from the original departure to the ultimate arrival. For non stop flights, the times are the same. However, in cases of connecting flights, the “layover” time is only included in the elapsed travel time.

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selected by the user.<sup>49</sup> This is especially true when a GSA city pair fare is not available. According to DOD officials, it is cost prohibitive to obtain the pricing information for non-GSA city pair flights using the current technology.<sup>50</sup>

Although these planned improvements should provide the DOD traveler with better travel information, they still fall short of adequately defining the requirements that should be used for displaying flights. For example, DOD has retained a requirement to display 25 flights for each inquiry. However, it has not determined (1) whether the rationale for that requirement is valid and (2) under what conditions flights that are not part of the GSA city pair program should be displayed. For example, we found that several DTS flights displayed to the user “overlap”<sup>51</sup> other flights. Properly validating the requirements would allow DOD to obtain reasonable assurance that its requirements properly define the functionality needed and the business rules necessary to properly implement that functionality. As previously noted, requirements that are unambiguous and consistent are fundamental to providing reasonable assurance that a system will provide the desired functionality. Until DOD improves DTS requirement management practices, it will not have this assurance.

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<sup>49</sup> According to DOD officials, once the display of pricing information is implemented, the system will require a justification when the lowest cost flight is not selected. This edit would be similar to the edit for GSA city pair fares, which requires the user to provide a justification if a GSA city pair flight is available but not selected. When a user does not select the lowest cost fare, unless it is a GSA city pair fare, the user would be required to provide a justification. A justification is not expected when the user selects a GSA city pair fare rather than a lower cost fare, assuming one is available, which is displayed by DTS because of government policy that encourages the use of the GSA city pair program.

<sup>50</sup> DOD estimates that the current technological approach—querying the GDS for the prices of the flights displayed to the user—would cost about \$6 million for the 3 million trips that DTS is expected to book each year. DOD did not provide the estimated fees that will be paid for the technology that will enable these prices to be displayed.

<sup>51</sup> For example, DTS displayed a GSA city pair flight between Washington, D.C., and Atlanta, Ga. that departed at 10:05 a.m. and arrived at 1:50 p.m. This flight “overlapped” two other GSA city pair direct flights that were available and required less travel time. One flight left at 10:05 a.m. and arrived at 12:02 p.m. while another left at 11:05 a.m. and arrived at 12:56 p.m. Furthermore, DTS displayed a non-GSA city pair flight that left at 9:20 a.m. and arrived at 1:05 p.m. This flight did not meet any of the acceptable criteria for not using a GSA city pair flight.

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## Conclusions

Overhauling the department's antiquated travel management practices and systems has been a daunting challenge for DOD. While it was widely recognized that this was a task that needed to be accomplished and savings could result, the underlying assumptions in support of those savings are not based on reliable data and therefore it is questionable whether the anticipated savings will materialize. Even though the overall savings are questionable, the successful implementation of DTS is critical to reducing the number of stovepiped, duplicative travel systems throughout the department. We have reported on numerous occasions that reducing the number of business systems within DOD can translate into savings that can be used for other mission needs. Furthermore, the shift of DTS to BTA, which makes DTS an enterprisewide endeavor, should help in making DTS the standard integrated, end-to-end travel system for business travel. Management oversight is essential for this to become a reality. Equally important, however, will be the department's ability to resolve the long-standing difficulties that DTS has encountered with its requirements management and system testing. Until these issues are resolved, more complete utilization of DTS will be problematic.

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## Recommendations for Executive Action

To improve the department's management and oversight of DTS, which has been declared a DOD enterprise business system, we recommend that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, to jointly take the following four actions:

- Evaluate the cost effectiveness of the Navy continuing with the CTO management fee structure versus adopting the revised CTO fee structure, once the new contracts have been awarded.
- Develop a process by which the military services develop and use quantitative data from DTS and their individual legacy systems to clearly identify the total universe of DTS-eligible transactions on a monthly basis. At a minimum, these data should be used to update the DTS Voucher Analysis Model to report DTS actual utilization rates.
- Require the PMO-DTS to provide a periodic report on the utilization of DTS to the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, once accurate data are available. The report should continue until the department has reasonable assurance that DTS is operating as intended at all 11,000 locations. The report should identify at a minimum (1) the number of defense locations at which DTS has been deployed, (2) the extent of DTS utilization at these

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sites, (3) steps taken or to be taken by the department to improve DTS utilization, and (4) any continuing problems in the implementation and utilization of DTS.

- Resolve inconsistencies in DTS requirements, such as the 25 flight display, by properly defining the (1) functionality needed and (2) business rules necessary to properly implement the needed functionality.

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## Agency Comments and Our Evaluation

We received written comments on a draft of this report from the Under Secretary of Defense (Personnel and Readiness), which are reprinted in appendix II. DOD concurred with three and partially concurred with one of the recommendations. In regard to the recommendations with which the department concurred, it briefly outlined the actions it planned to take in addressing two of the three recommendations. For example, the department noted the difficulties in obtaining accurate utilization data from the existing legacy systems, but stated that the Office of the Under Secretary of Defense (Personnel and Readiness) and BTA will evaluate methods for reporting actual DTS utilization.

Additionally, DOD noted that the Defense Travel Management Office developed and implemented a requirements change management process on May 1, 2006. In commenting on the report, the department stated that this process is intended to define requirements and track the entire life cycle of the requirements development process. As reiterated in this report, and discussed in our September 2005 testimony and January 2006 report,<sup>52</sup> effective requirements management has been an ongoing concern, and we fully support the department's efforts to improve its management oversight of DTS's requirements. In this regard, the department needs to have in place a process that provides DOD reasonable assurance that (1) requirements are properly documented and (2) requirements are adequately tested as recommended in our January 2006 report.<sup>53</sup> This process should apply to all existing requirements as well as any new requirements. As discussed in this report, we reviewed some of the requirements in May 2006, that were to have followed the new requirements management process, and found problems similar to those noted in our January 2006 report. While we did not specifically review the new process, if it does not include an evaluation of existing requirements,

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<sup>52</sup> [GAO-05-998T](#) and [GAO-06-18](#).

<sup>53</sup> [GAO-06-18](#).

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the department may continue to experience problems similar to those we previously identified.

DOD partially concurred with our recommendation to evaluate the cost effectiveness of the Navy continuing with the CTO management fee structure. DOD stated that all military service secretaries should participate in an evaluation to determine the most cost-effective payment method to the CTOs. DOD's response indicated that the Defense Travel Management Office is currently procuring commercial travel services for DOD worldwide in a manner that will ensure evaluation of cost effectiveness for all services. If DOD proceeds with the actions outlined in its comments, it will meet the intent of our recommendation.

Finally, DOD strongly objected to our finding that the personnel savings are unrealistic. In its comments, the department stated that DOD is facing an enormous challenge and the department continues to identify efficiencies and eliminate redundancies to help leverage available funds. We fully recognize that the department is attempting to improve the efficiency and effectiveness of its business operations. In fact, the Comptroller General of the United States testified in August 2006 that increased commitment by the department to address DOD's numerous challenges represents an improvement over past efforts.<sup>54</sup>

The fact remains, however, that the results of an economic analysis are intended to help management decide if future investments in a given endeavor are worthwhile. In order to provide management with this information it is imperative that the underlying assumptions in an economic analysis be supported by valid assumptions. The September 2003 economic analysis noted that personnel savings of \$54.1 million, as shown in table 2 of this report, would be realized by the department annually for fiscal years 2009 through 2016. However, based upon our review and analysis of documentation and discussion with department personnel we found that the underlying assumptions in support of the \$54.1 million were not valid.

Furthermore, as noted in the report Air Force and Navy DTS program officials stated that they did not anticipate a reduction in the number of

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<sup>54</sup> GAO, *Department of Defense: Sustained Leadership Is Critical to Effective Financial and Business Management Transformation*, [GAO-06-1006T](#) (Washington, D.C.: Aug. 3, 2006).

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personnel with the full implementation of DTS. Further, as discussed in the report, the Naval Cost Analysis Division review of the DTS economic analysis noted that approximately 40 percent of the Navy's total costs, including personnel costs, in the DTS life-cycle cost estimates could not be validated because credible supporting documentation was lacking.

The report does note that Air Force and Navy DTS program officials noted that while they did not anticipate a reduction in the number of personnel, there would be a shifting of personnel to other functions. The report further points out that DOD officials responsible for reviewing economic analyses stated that while shifting personnel to other functions is considered a benefit, it should be considered an intangible benefit rather than tangible dollar savings since the shifting of personnel does not result in a reduction of DOD expenditures. Additionally, in its comments the department provided no new data that was counter to our finding.

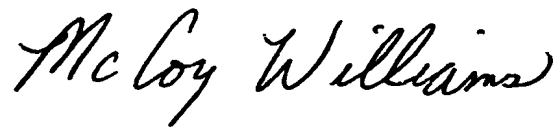
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We are sending copies of this report to the Secretary of Defense; Under Secretary of Defense (Comptroller); the Under Secretary of Defense for Acquisition, Technology, and Logistics; the Under Secretary of Defense (Personnel and Readiness); the Director, Business Transformation Agency; and the Director, Office of Management and Budget. Copies of this report will be made available to others upon request. In addition, the report is available at no charge on the GAO Web site at <http://www.gao.gov>.

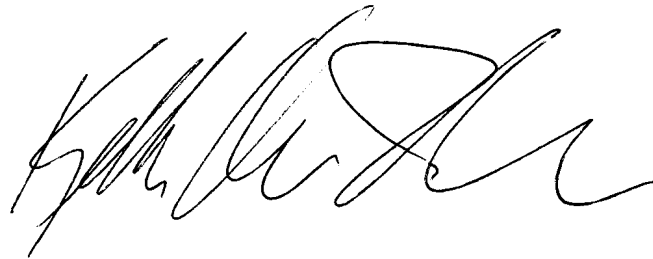
If you or your staff have any questions on matters discussed in this report, please contact McCoy Williams at (202) 512-9095 or [williamsm1@gao.gov](mailto:williamsm1@gao.gov) or Keith A. Rhodes at (202) 512-6412 or [rhodesk@gao.gov](mailto:rhodesk@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found

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on the last page of this report. Key contributors to this report are listed in appendix III.



McCoy Williams  
Director  
Financial Management and Assurance



Keith A. Rhodes  
Chief Technologist  
Applied Research and Methods  
Center for Technology and Engineering

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*List of Congressional Addressees*

The Honorable John Warner  
Chairman  
The Honorable Carl Levin  
Ranking Minority Member  
Committee on Armed Services  
United States Senate

The Honorable Ted Stevens  
Chairman  
The Honorable Daniel K. Inouye  
Ranking Minority Member  
Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Susan M. Collins  
Chairman  
The Honorable Joseph I. Lieberman  
Ranking Minority Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Duncan L. Hunter  
Chairman  
The Honorable Ike Skelton  
Ranking Minority Member  
Committee on Armed Services  
House of Representatives

The Honorable C. W. Bill Young  
Chairman  
The Honorable John P. Murtha  
Ranking Minority Member  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives



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The Honorable Tom Davis  
Chairman  
The Honorable Henry A. Waxman  
Ranking Minority Member  
Committee on Government Reform  
House of Representatives

The Honorable Norm Coleman  
Chairman  
Permanent Subcommittee on Investigations  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Tom Coburn  
Chairman  
Subcommittee on Federal Financial Management, Government  
Information and International Security  
Committee on Homeland Security and Governmental Affairs  
United States Senate

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# Appendix I: Scope and Methodology

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To assess the reasonableness of the key assumptions made by DOD to arrive at the net annual estimated savings of over \$56 million shown in the September 2003 economic analysis addendum, we (1) ascertained if the economic analysis was prepared in accordance with the prescribed standards, (2) analyzed two key assumptions that represent the largest dollar savings for the DTS program, and (3) analyzed the supporting documentation related to these two assumptions to determine whether the assumptions were valid. Furthermore, we met with the military services and DFAS officials to ascertain their specific concerns with the estimated savings. Further, we met with Program Analysis and Evaluation officials to identify any issues they had with the DTS estimated savings. In performing this body of work, we relied heavily upon the expertise of our Applied Research and Method's Center for Economics.

To determine the actions being taken to enhance the utilization of DTS, we met with military services officials to obtain an understanding of the specific actions that were being taken. In addition, we obtained and reviewed various memorandums related to the utilization of DTS. We also obtained an overview of the method and data used by the PMO-DTS to report the rate of DTS utilization for the various DOD components. We also met with the military services to ascertain how they use the PMO-DTS data to monitor their respective utilization and whether they augment these data with any other data and if so, the source of those data.

To ascertain whether DOD has reasonable assurance that the testing of DTS was adequate, and thereby ensure accurate flight information was displayed, we met with Northrop Grumman and the PMO-DTS officials to obtain an explanation of the corrective actions that were to have been implemented. To ascertain if the noted corrective actions have been successfully implemented, we analyzed 246 GSA city pair flights to determine if the information being displayed to the traveler was consistent with DTS's stated requirement.

We did not review the accuracy and reliability of the specific dollar amounts shown in the September 2003 economic analysis. Given the department's previously reported problems related to financial management,<sup>1</sup> we have no assurance that the underlying data supporting the economic analysis were complete. Furthermore, our emphasis was directed more towards the validity of the assumptions that were used to

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<sup>1</sup> GAO, *High-Risk Series: An Update*, [GAO-05-207](#) (Washington, D.C.: Jan. 2005).

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arrive at the net annual estimated savings of over \$56 million. We determined that the data were sufficiently reliable for the purpose of this audit. We performed our audit work from October 2005 through July 2006 in accordance with U.S. generally accepted government auditing standards.

We requested comments on a draft of this report from the Secretary of Defense or his designee. We received written comments from the Under Secretary of Defense (Personnel and Readiness), which are reprinted in appendix II.

# Appendix II: Comments from the Department of Defense



PERSONNEL AND  
READINESS

UNDER SECRETARY OF DEFENSE  
4000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-4000

SEP 01 2006

Mr. McCoy Williams  
Director, Financial Management and Assurance  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Mr. Williams:

This is the Department of Defense response to the Government Accountability Office draft report GAO-06-980, "DEFENSE TRAVEL SYSTEM: Reported Savings Questionable and Implementation Challenges Remain," dated July 28, 2006 (GAO Code 195072). The Department's comments are enclosed.

I strongly object to the study's finding that "personnel savings are unrealistic" merely because savings were applied to compelling, unfunded needs. The Department is facing an enormous challenge and must successfully prosecute today's war while still making investments that safeguard the future. Recognizing fiscal constraints, the Department continues to identify efficiencies and eliminate redundancies to help leverage available funds. For example, we are growing a larger and more capable Special Forces capability -- without a net increase in manpower. This finding, if accepted, would disincentivize the very institutional behavior we should all actively promote.

The Department appreciates the opportunity to comment. For questions concerning this report, please contact Ms. Margaret Hebert, Defense Travel Management Office, at (703) 696-6795.

Sincerely,

A handwritten signature in black ink that reads "David S. C. Chu". The signature is written in a cursive style with a large, sweeping initial "D".

David S. C. Chu

Enclosures:  
As stated

GAO DRAFT REPORT DATED JULY 28, 2006  
GAO-06-980 (GAO CODE 195072)

"DEFENSE TRAVEL SYSTEM REPORTED SAVINGS  
QUESTIONABLE AND IMPLEMENTATION CHALLENGES  
REMAIN"

DEPARTMENT OF DEFENSE COMMENTS  
TO THE GAO RECOMMENDATIONS

**RECOMMENDATION 1:** The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, to evaluate the cost effectiveness of the Navy continuing with the Commercial Travel Office (CTO) management fee structure versus adopting the revised CTO fee structure, once the new contracts have been awarded. (p. 43/GAO Draft Report)

**DOD RESPONSE:** Partially concur. Recommendation should direct the Under Secretary of Defense (Personnel and Readiness), the Director, Business Transformation Agency, and the Service Secretaries to evaluate all methods to determine the most cost effective payment of Commercial Travel Office fees. Evaluation should not be specific to one method and/or one Service.

The Defense Travel Management Office (DTMO) is currently procuring Commercial Travel Services for DoD worldwide. The procurement process will ensure evaluation of cost effectiveness for all Services.

Using an indefinite delivery, indefinite quantity procurement vehicle, vendors will be placed on contract based on evaluation of their management and transaction fees. Vendors placed on contract can then bid on the DoD task orders. During the evaluation for task order award, fees will also be evaluated to determine best value and the appropriate business model for each of the task orders. The DTMO anticipates contract awards in the first quarter FY07 and task order awards beginning the third quarter FY07.

**RECOMMENDATION 2:** The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, develop a process by which the military services develop and use quantitative data from Defense Travel System (DTS) and their individual legacy systems to clearly identify the total universe of DTS-eligible transactions on a monthly basis. At a minimum, these data should be used to update the DTS Voucher Analysis Model to report DTS actual utilization rates. (p. 43/GAO Draft Report)

**DOD RESPONSE: Concur. Updated data should be used in the DTS Voucher Analysis Model when utilization rates are reported. However, obtaining quantitative data for the individual legacy systems involves a labor and manually intensive analysis. Significant additional resources would be required.**

**The Office of the Under Secretary of Defense (Personnel & Readiness) and the Business Transformation Agency will evaluate methods for reporting actual DTS utilization.**

**RECOMMENDATION 3: The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, to require the PMO-DTS to provide a periodic report on the utilization of DTS to the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, once accurate data are available. (p. 43/GAO Draft Report)**

**DOD RESPONSE: Concur.**

**RECOMMENDATION 4: The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) and the Director, Business Transformation Agency, to resolve inconsistencies in DTS requirements, such as the 25 flight display, by properly defining the (1) functionality needed and (2) business rules necessary to properly implement the needed functionality. (p. 43/GAO Draft Report)**

**DOD RESPONSE: Concur. The newly established DTMO has developed and implemented a well-defined requirements change management process. The change management process defines requirements and tracks the entire life cycle of the requirements development to include a follow-on impact study of released functionalities. This change management process was implemented on 1 May 2006.**

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# Appendix III: GAO Contacts and Staff Acknowledgments

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## GAO Contacts

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