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TRANSPORTATION RESEARCH

Opportunities for Improving the Oversight of DOT's Research Programs and User Satisfaction with Transportation Statistics





Highlights of [GAO-06-917](#), a report to congressional committees

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Why GAO Did This Study

The Department of Transportation's (DOT) research, development, and technology (RD&T) budget totaled \$1.1 billion in fiscal year 2005. DOT's Research and Innovative Technology Administration (RITA)—which includes the Bureau of Transportation Statistics (BTS)—oversees DOT's RD&T activities. GAO examined (1) how RITA's responsibilities for overseeing DOT's RD&T activities differ from those of its predecessor, the Research and Special Programs Administration (RSPA); (2) RITA's practices for coordinating, facilitating, and reviewing RD&T activities; (3) the progress DOT has made in implementing GAO's 2003 recommendations on how to improve the coordination and evaluation of RD&T activities; and (4) how BTS identifies and monitors how well it serves its users. To address these issues, GAO reviewed relevant documentation and interviewed officials from RITA, BTS, and three operating administrations.

What GAO Recommends

GAO makes several recommendations to DOT to enhance RITA's ability to manage and ensure the effectiveness of RD&T activities. These include (1) developing performance goals, an implementing strategy, and an evaluation plan for RITA; and (2) developing a systematic process for BTS to identify its primary users and solicit and incorporate feedback from those users. DOT generally agreed with the findings and recommendations in this report.

www.gao.gov/cgi-bin/getrpt?GAO-06-917.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Mathew Scire at (202) 512-2834 or sciremj@gao.gov.

What GAO Found

In 2005, RITA took over RSPA's responsibilities for overseeing DOT's RD&T activities when RSPA was dissolved. While RITA's mission and strategic objectives are similar to those RSPA had, RITA differs from RSPA in a number of ways. For example, RITA proposed a \$2 million increase in its fiscal year 2007 budget request for the oversight of DOT's RD&T activities through its proposed Transportation Futures and Applied Technology Program, which, among other things, would provide access to technical experts to RITA on a contract basis. Additionally, RITA's responsibility for evaluation is less clearly defined than RSPA's. RITA, unlike RSPA, is not required to measure the results or evaluate the effectiveness of RD&T activities. However, RITA is not explicitly prevented from evaluating such activities.

RITA coordinates, facilitates, and reviews DOT's RD&T activities through various practices. For example, RITA has two coordinating bodies—the RD&T Planning Council and the RD&T Planning Team—and conducts budget reviews, among other practices. RITA has not, however, established performance goals, a clear implementing strategy, or an evaluation plan that delineates how its coordination, facilitation, and review practices will further DOT's mission or ensure the effectiveness of its RD&T investment. Without such a strategic approach, it is difficult for RITA to ensure that DOT is making the most of its approximately \$1 billion annual RD&T investment.

RITA has partially implemented four of our recommendations and has not implemented the other. For example, while RITA, through its two coordinating bodies, has taken some action to review RD&T activities for duplication and opportunities for joint efforts, RITA has not established the scope of RD&T activities to be reviewed, the methodology of the review, or how the results will be used to make decisions about future RD&T activities.

BTS does not have a systematic process for identifying its primary users, soliciting ongoing feedback from those users, and determining whether or how that feedback should be incorporated. For example, rather than identify specific users of BTS data products and services, BTS considers its users to be those broad categories of intended users described in federal legislation. Further, rather than routinely soliciting user feedback on all data products and services, such as through a customer satisfaction survey, BTS only solicits limited feedback from some users of specific products through conferences, workshops, or other meetings. Finally, BTS relies on its program managers to evaluate and determine how best to address feedback from its users; however, the managers are not required to—and often do not—report the results of whether or how they considered user feedback. Without a systematic process for identifying its users, soliciting ongoing feedback, and determining whether or how that feedback should be incorporated, BTS is limited in its ability to consider feedback and use it to make improvements to data products.

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Abbreviations

BTS	Bureau of Transportation Statistics
DOT	Department of Transportation
EAS	Essential Air Service
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GPRA	Government Performance and Results Act of 1993
MPO	Metropolitan Planning Organization
NHTS	National Household Travel Survey
NHTSA	National Highway Traffic Safety Administration
OMB	Office of Management and Budget
OST	Office of the Secretary of Transportation
PHMSA	Pipeline and Hazardous Materials Safety Administration
PRA	Paperwork Reduction Act
R&D	research and development
RD&T	research, development, and technology
RITA	Research and Innovative Technology Administration
RSPA	Research and Special Programs Administration
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
TEA-21	Transportation Equity Act for the 21st Century
TSAR	Transportation Statistics Annual Report
UTC	University Transportation Centers

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United States Government Accountability Office
Washington, DC 20548

August 15, 2006

The Honorable Christopher Bond
Chairman
The Honorable Patty Murray
Ranking Minority Member
Subcommittee on Transportation, Treasury, the Judiciary, Housing and
Urban Development, and Related Agencies
Committee on Appropriations
United States Senate

The Honorable Joe Knollenberg
Chairman
The Honorable John W. Olver
Ranking Minority Member
Subcommittee on Transportation, Treasury, Housing and Urban
Development, the Judiciary, the District of Columbia, and Independent
Agencies
Committee on Appropriations
House of Representatives

In fiscal year 2005, the Department of Transportation's (DOT) research, development, and technology¹ (RD&T) budget totaled approximately \$1.1 billion, including projects undertaken by DOT's operating administrations, such as the Federal Highway Administration and the Federal Aviation Administration. RD&T activities are vital to meeting DOT's key transportation priorities, such as increasing transportation safety and enhancing mobility for all Americans. Prior to 2005, DOT's Research and Special Programs Administration (RSPA) was responsible for overseeing DOT's RD&T activities, the Office of Pipeline Safety, and the Office of Hazardous Materials Safety. Over the years, GAO and others have raised concerns about RSPA's capabilities for improving RD&T coordination and

¹OMB Circular No. A-11 (2005) defines research and development activities to include "work undertaken on a systematic basis ... to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications." DOT defines technology to include demonstration projects and other related activities associated with research and development activities.

evaluation across DOT, and, in 2003, GAO made several recommendations to improve those efforts.²

In response to these concerns and to help delineate and clarify roles and responsibilities for overseeing DOT's RD&T activities, the Norman Y. Mineta Research and Special Programs Improvement Act of 2004 (Pub. L. No. 108-426) dissolved RSPA and created two new administrations—the Pipeline and Hazardous Materials Safety Administration³ (PHMSA) and the Research and Innovative Technology Administration (RITA). RITA was created to provide DOT with a more focused research organization and to assist in avoiding DOT-wide research duplication and inefficiency, among other purposes.⁴ The act also transferred the Bureau of Transportation Statistics (BTS) and the Office of Intermodalism to RITA. Through this act, RITA is responsible for coordinating, facilitating, and reviewing DOT's RD&T programs and activities, which include the activities conducted by DOT's operating administrations as well as other RD&T and statistical programs managed by RITA (e.g., BTS, the Office of Intermodalism, and University Transportation Centers).

In Senate Report 109-109, accompanying the DOT and related agencies appropriation bill for fiscal year 2006, the House and Senate Committees on Appropriations directed GAO to assess how RITA is resolving the concerns of its predecessor administration and better coordinating DOT's RD&T and statistical activities. Specifically, this report discusses (1) how RITA's responsibilities for overseeing DOT's RD&T activities differ from RSPA's; (2) RITA's practices for coordinating, facilitating, and reviewing RD&T activities; (3) the progress RITA has made in implementing GAO's 2003 recommendations; and (4) how BTS identifies its users and monitors how well it is serving those users.

To determine how RITA's oversight responsibilities differ from RSPA's, we collected information through legislative histories, document reviews, and interviews with officials within RITA and used it to compare RITA and

²GAO, *Transportation Research: Actions Needed to Improve Coordination and Evaluation of Research*, [GAO-03-500](#) (Washington, D.C.: May 1, 2003). In this report, GAO uses the broad term "research" to refer to DOT's research, development, and technology activities.

³PHMSA includes the Office of Pipeline Safety and the hazardous materials safety activities formerly in RSPA.

⁴H.R. Rep. No. 108-749 (2004).

RSPA with respect to mission, organizational structure, responsibility for overseeing RD&T activities, work activities, budgetary resources, and strategic goals. To determine RITA's practices for coordinating, facilitating, and reviewing DOT's RD&T activities and what progress RITA and RSPA have made in implementing GAO's 2003 recommendations, we reviewed pertinent documentation and conducted semistructured interviews with officials in RITA, the Office of the Secretary of Transportation, and three of nine operating administrations that received RD&T funds in fiscal year 2005. The three operating administrations we selected for interviews—Federal Highway Administration, Federal Aviation Administration, and Federal Transit Administration—are among those with the largest RD&T budgets.⁵ To determine how BTS identifies its users and monitors how well it is serving those users, we (1) identified criteria for monitoring user satisfaction, including federal and other agency requirements and guidelines set by DOT, the National Research Council, and GAO; (2) through document reviews and interviews with BTS and operating administration officials identified above, obtained information on BTS's processes for identifying key users of its data products and for soliciting and incorporating feedback from those users; and (3) compared BTS's processes to the criteria to identify major gaps. We assessed the reliability of the information contained in this report through interviews with knowledgeable officials and reviews of documentation and corroborating information, and we determined that it was sufficiently reliable for our purposes. We conducted our work from November 2005 through August 2006 according to generally accepted government auditing standards. This report summarizes the information we provided to your staff during our May 30, 2006, briefing and, in addition, contains recommendations to the Secretary of Transportation to improve RITA's oversight of the department's RD&T activities and user satisfaction with transportation statistics. The briefing slides are included in appendix I.

⁵Taken together, the RD&T budget authority for these three operating administrations accounted for over 80 percent of DOT's total RD&T budget authority in fiscal year 2005.

Results Summary

RITA Differs from RSPA in Proposed Budgetary Levels, Responsibility for Evaluation, and Extent of Multimodal Focus

Beginning in 2005, RITA took over RSPA's responsibilities for overseeing DOT's RD&T activities. While RITA continues to have a similar mission and strategic objectives as RSPA—and still does not have the authority to direct changes in the operating administrations' RD&T activities—RITA differs from RSPA in several ways. First, RITA intends to focus significantly more resources in fiscal year 2007 on the oversight of DOT's RD&T activities. In DOT's fiscal year 2007 budget request, RITA proposes a new program—the Transportation Futures and Applied Technology Program—to build upon RITA's existing RD&T Coordination Program and provide access to highly skilled, specialized technical experts to RITA on a contract basis. If enacted, funding for these two programs would result in an overall increase of about \$2 million over the enacted fiscal year 2006 budget for the RD&T Coordination Program—from \$536,000 in fiscal year 2006 to about \$2.5 million in fiscal year 2007.⁶ Second, RITA's responsibility for evaluation is less clearly defined than RSPA's had been. RSPA had both legislative and departmental responsibility for measuring the results of DOT's RD&T programs and developing more efficient, effective, and participative ways to evaluate and measure RD&T program effectiveness.⁷ However, RITA does not have the same legislative responsibility for evaluating DOT's RD&T programs because the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)⁸ removed the statutory responsibility for evaluation

⁶In RITA's fiscal year 2007 budget request, the amount RITA requested for its RD&T Coordination Program (\$247,000) is less than half of what was enacted for those activities in fiscal year 2006 (\$536,000). According to the 2007 budget request, this decrease represents the transfer of multimodal RD&T initiatives from the RD&T Coordination Program to the Transportation Futures and Applied Technology Program. DOT's documentation does not provide a clear transfer of all of the multimodal initiatives from one program to the other; however, DOT officials told us that they plan to review all of the department's multimodal initiatives as part of the Transportation Futures and Applied Technology Program. As of June 2006, the House Committee on Appropriations denied RITA's request for \$2.2 million for the Transportation Futures and Applied Technology Program, saying that RITA should develop a more robust level of in-house RD&T expertise before it relies on outside contractors for multimodal research coordination and analysis. The House Committee on Appropriations also provided \$540,000 for RITA's ongoing RD&T Coordination Program.

⁷Transportation Equity Act for the 21st Century (TEA-21), formerly codified in 23 USC 508. Pub. L. No. 105-178, 112 Stat. 107 (1998).

⁸Pub. L. No. 109-59, 119 Stat. 1144 (2005).

activities that had been specifically outlined for DOT, which DOT delegated to RSPA. Under the Norman Y. Mineta Act, RITA is charged with reviewing DOT's RD&T activities, which, according to RITA officials, means that RITA is not required to evaluate RD&T activities to determine whether they are achieving intended goals, although RITA is not explicitly prevented from evaluating such activities. Third, RITA's organizational structure is more multimodally⁹ focused because the Office of Pipeline Safety and Office of Hazardous Materials Safety were moved to the newly created PHMSA, and the remaining offices in RSPA and other program offices—BTS and the Office of Intermodalism—were transferred to the newly created RITA.

RITA Has Several Coordination, Facilitation, and Review Groups and Practices but Lacks Performance Goals and a Plan for Evaluating Its Own Efforts

RITA coordinates, facilitates, and reviews DOT's RD&T activities in a variety of ways, including through its two coordinating bodies—the RD&T Planning Council and the RD&T Planning Team—and budget reviews, among others. The briefing slides in appendix I contain a summary table and detailed descriptions of RITA's activities. RITA officials and officials from the three operating administrations we interviewed provided some examples of the usefulness of RITA's coordination, facilitation, and review practices; for example, RITA officials told us that the budget review process results in a more consistent approach for the operating administrations to show how their RD&T activities support DOT's strategic objectives, secretarial priorities, and multimodal initiatives. Officials from all three operating administrations told us that RITA's Program Review Working Group¹⁰ meetings provide them with opportunities to share best practices relating to program management issues, such as how to apply the Office of Management and Budget's (OMB) R&D Investment Criteria¹¹ to RD&T activities.

While RITA and other DOT officials provided anecdotal examples of the positive effects of RITA's coordination, facilitation, and review practices,

⁹Individual transportation modes include mass transit systems, roads, aviation, maritime, and railroads. RITA and its program offices oversee and conduct RD&T and statistical activities that apply to more than one mode of transportation.

¹⁰The Program Review Working Group reports to the RD&T Planning Team and provides a forum for the operating administrations to share information about areas of research and identify opportunities for coordination.

¹¹OMB developed the R&D Investment Criteria—relevance, quality, and performance—for all types of research and development programs across all agencies to assist in budget allocation decisions and to demonstrate results.

RITA has not established performance goals or an implementing strategy that delineates how the activities and results of its coordination, facilitation, and review practices will further DOT's mission and ensure the effectiveness of the department's RD&T investment; in addition, RITA does not monitor or evaluate the effects of its efforts. Also, RITA has not worked with the operating administrations to develop common performance measures for DOT's RD&T activities. RITA officials told us that they were working with the operating administrations to develop an RD&T strategic plan, which is due to Congress in the fall of 2006, but they did not expect the plan to include goals and measures, as discussed above. Setting meaningful goals for performance, and using performance information to measure performance against those goals, is consistent with requirements in the Government Performance and Results Act of 1993 (GPRA).¹² Developing an evaluation plan and analyzing performance information against set goals for its own coordination, facilitation, and review practices could assist RITA in identifying any problem areas and taking corrective actions.¹³ Without such goals and an evaluation plan, it is difficult for RITA to determine its success in overseeing and ensuring the effectiveness of DOT's RD&T activities. Also, without common performance measures for the RD&T activities of the operating administrations, RITA and the operating administrations lack the means to monitor and evaluate the collective results of those activities and ensure that they are achieving their intended (or other) results and furthering the Secretary's and DOT-wide priorities. Linking performance goals with the planning and budget process, such as DOT's annual budget process, can also help RITA determine where to target its resources to improve performance.¹⁴

¹²Pub. L. No.103-62, 107 Stat. 285 (1993).

¹³Use of performance goals can help ensure that programs are meeting their intended goals, allows programs to assess the efficiency of their processes, and promotes continuous improvement. Where activities may be fragmented or overlap, performance information can also help identify performance variations and redundancies and lay the foundation for improved coordination, program consolidation, or elimination of unneeded programs. GAO, *Managing for Results: Using the Results Act to Address Mission Fragmentation and Program Overlap*, AIMD-97-146 (Washington, D.C.: August 1997).

¹⁴GAO, *Managing for Results: Enhancing Agency Use of Performance Information for Management Decision Making*, GAO-05-927 (Washington, D.C.: Sept. 9, 2005).

RITA Has Made Some Progress in Implementing GAO's 2003 Recommendations

In 2003, GAO made five recommendations to DOT and RSPA to improve the coordination and evaluation of RD&T activities.¹⁵ The recommendations generally remain relevant for RITA. As shown in table 1, RITA has partially implemented four recommendations and has not implemented one recommendation. The briefing slides in appendix I contain more detailed information on RITA's actions with regard to our recommendations.

Table 1: Status of RITA's Implementation of GAO's 2003 Recommendations

Recommendations	Status of implementation
Develop a strategy for reviewing all of DOT's research projects to identify areas of unnecessary research duplication, overlap, and opportunities for joint efforts. <ul style="list-style-type: none"> • Include time frames for implementing this review and discuss the development and implementation of a DOT-wide research tracking system database. • Incorporate the results of this effort into DOT's annual research plan and report to Congress on an annual basis. 	Partially implemented
Develop and apply quantifiable performance measures to assess the effectiveness of research coordination efforts and document the results of these efforts in DOT's annual research plan.	Not implemented
Develop a strategy to ensure that the results of all of DOT's transportation research activities are evaluated according to established best practices. <ul style="list-style-type: none"> • Include estimates of the costs for ensuring that evaluations are completed. • Incorporate the results of these efforts in DOT's annual research plan and report to Congress on an annual basis. 	Partially implemented
Include in DOT's annual research plan a summary of all research program evaluations conducted and a schedule of future evaluations.	Partially implemented
Document RSPA's process for systematically evaluating the results of its own multimodal research programs, and apply this process to any future multimodal research programs that RSPA conducts.	Partially implemented

Source: GAO analysis of RITA information.

RITA has made progress, but much remains to be done for RITA to fully implement the recommendations. The following is a summary, for each recommendation, of the actions taken by RITA (and RSPA) and the type of efforts that are still needed to fully implement the recommendations:

- The first recommendation focuses on developing a strategy for identifying areas of unnecessary research duplication, overlap, and opportunities for joint efforts. While RITA officials have taken some actions to identify areas of unnecessary research duplication and opportunities for joint efforts through meetings of its RD&T Planning Council and Planning Team,

¹⁵ [GAO-03-500](#).

among others, none of these groups have developed a strategy that describes (1) the scope of the RD&T projects or programs that will be reviewed for duplication or joint efforts, (2) the methodology for how all research projects will be reviewed or how duplication or joint efforts will be identified, (3) a timeline and the frequency for reviews to occur, or (4) how the results of reviews—the identification of duplication or an opportunity for joint effort—will be used to make decisions about future RD&T activities.¹⁶ The first recommendation also includes the development of a DOT-wide research tracking system database, which, according to a RITA official, was dropped from DOT's priorities after the creation of RITA. While RITA's proposed Transportation Futures and Applied Technology Program includes the development of a Web-based database for DOT's RD&T programs, it is uncertain whether this proposed program will be funded. RITA has not yet established a catalog of all of the research projects within DOT; as such, DOT officials do not have readily accessible data on research activities throughout DOT. Without such a strategy—supported by a comprehensive database of ongoing RD&T projects—RITA is unable to ensure that areas of research duplication, overlap, and opportunities for joint efforts are systematically identified and managed.

- DOT and RSPA did not concur with the second recommendation in 2003, citing their views that (1) the most useful and effective performance measures focus on results, while coordination is a process and (2) that existing coordination processes have been effective in preventing unnecessary research duplication. While RITA officials told us that they have not developed or applied quantifiable performance measures for coordination because they do not believe that a metric approach is well suited for assessing the effects of the coordination process, they indicated their willingness to develop—in concert with the operating administrations—common performance measures for DOT's RD&T activities.
- The third recommendation calls for developing a strategy for ensuring the evaluation of DOT's RD&T activities. RITA officials told us that they ensure the evaluation of RD&T activities by reviewing the operating administrations' application of OMB's R&D Investment Criteria—relevance, quality, and performance—through its budget review process.

¹⁶Strategies help align an agency's activities, core processes, and resources to support achievement of the agency's strategic goals and mission. GAO, *Results-Oriented Government: GPRA Has Established a Solid Foundation for Achieving Greater Results*, [GAO-04-38](#) (Washington, D.C.: Mar. 10, 2004).

According to RITA officials and OMB documents, the R&D Investment Criteria are rooted in best practices and include peer review as a mechanism for assessing program quality. However, RITA has neither developed nor communicated a strategy for this process that describes (1) the scope of RD&T activities of the operating administrations that RITA will ensure were evaluated according to best practices, (2) the methodology for how RITA will ensure evaluation of RD&T activities took place according to established best practices, (3) a timeline for when the RD&T evaluations should occur, and (4) how the results of the RD&T evaluations will inform future research. Without such a strategy, RITA is less able to ensure the quality and effectiveness of RD&T activities and investments to determine whether they are achieving their intended (or other) goals.

- The fourth recommendation focuses on publishing a summary of research program evaluations and a schedule of future evaluations. RSPA, in its fiscal year 2005 annual RD&T plan, published such a summary, but it consisted only of the results of its reviews of the operating administrations' application of OMB's R&D Investment Criteria. This summary did not include other research program evaluations or a schedule of future evaluations. Since RSPA was dissolved, RITA has not continued to publish the results of these types of reviews because SAFETEA-LU removed the requirement for RITA to submit an annual RD&T plan. Publishing a current inventory of the evaluation of research activities and a schedule for future evaluations on a regular basis could provide information about research results and planned research for future years.
- The fifth recommendation addresses RITA's process for systematically evaluating the results of its own current multimodal research programs, such as the Hydrogen Safety Program, and future multimodal research programs. While RITA officials told us they oversee contracts and evaluate the results of RD&T activities that are conducted under these contracts through a peer review process, RITA has not systematically documented this process and it is not clear whether and how this process would apply to future multimodal research programs. Without a systematic process for evaluating current and future program results, RITA is limited in its ability to determine the extent to which its multimodal RD&T programs are achieving their intended (or other) goals.

BTS's Process for Identifying Its Users and Monitoring How Well It Is Serving Those Users Is Not Systematic

BTS does not have a systematic process in place for identifying its primary users, soliciting ongoing feedback from those users, and determining whether or how that feedback should be incorporated. First, BTS has not established a systematic process for comprehensively identifying its primary users, it does not track specific users, and it does not have information on the overall number of users of its data products. BTS officials told us that their users are primarily identified in SAFETEA-LU, which only defines broad categories of data users, such as the federal and state governments. BTS officials told us they also identify some specific users through other methods, such as direct inquiries received through BTS's Web site and by telephone. One BTS official also commented that it is difficult to track individual users, other than through Web site hits and tracking the number of publications ordered. Also, the official said that BTS is limited in its ability to collect information on individual data users because of privacy concerns. Without a systematic process for comprehensively identifying primary users for each of its products and services, BTS cannot solicit feedback from these users on an ongoing basis to improve those products and services.

Secondly, BTS has not established a systematic process for soliciting feedback from all of its primary users, although it has used a variety of methods to obtain feedback from some users on a case-by-case basis. For example, rather than routinely soliciting user feedback on all data products and services, such as through a customer satisfaction survey, BTS receives feedback from some data users about specific BTS products from an online comment form and meetings and workshops held at conferences and training sessions.¹⁷ Without a systematic process for soliciting feedback on user satisfaction from all of its primary users, BTS cannot ensure it has a full picture of the needs of those users and how well it is meeting those needs, which, in turn, hinders BTS's ability to make improvements to data products that are relevant to users.

Finally, to evaluate the feedback BTS has solicited from its users, BTS officials told us they rely on program managers to determine how best to

¹⁷In the past, BTS systematically solicited feedback on overall customer satisfaction of BTS's data products and services through its Customer Satisfaction Survey. BTS conducted the last such survey in 1998. Also, in the past, BTS solicited feedback via comment cards, inserted in data products. According to BTS officials, the survey and comment cards are no longer used as methods for soliciting feedback as a result of restrictions stemming from the Privacy Act and the Paperwork Reduction Act. BTS officials told us they are working with the Chief Counsel's office at RITA to reinstitute the use of comment cards.

address feedback from its users; however, program managers are not required to—and often do not—report the results of how feedback on user satisfaction was considered. Although BTS measures the number of congressional and governmental agency contacts regarding BTS information and the average number of daily unique visitors to the TranStats data Web site,¹⁸ these indicators are only simple counts, not measures of user satisfaction with BTS information. GAO’s internal control standards suggest that ongoing monitoring take place to determine user satisfaction and that policies and procedures be put in place to ensure that feedback is evaluated so that improvements to products can be made.¹⁹ Without a systematic process for identifying the primary users for each of its data products and services, soliciting feedback on user satisfaction from its users, and incorporating that feedback, BTS is limited in its ability to consider feedback and make improvements to data products based on user input.

Conclusions

Since it became operational in 2005, RITA has taken some positive steps to meet its vision of becoming a departmentwide resource for managing and ensuring the effectiveness of RD&T activities. In particular, RITA established several coordinating bodies and review processes, and it has also proposed additional initiatives, such as the Transportation Futures and Applied Technology Program, to build upon its current coordination, facilitation, and review practices. However, RITA lacks performance goals, a clear implementing strategy, and an evaluation plan that collectively delineates how the activities and results of its coordinating bodies, review processes, and proposed initiatives will further DOT’s mission and ensure the effectiveness of the department’s RD&T investment. Establishing these mechanisms for managing its own performance—and linking them to DOT’s annual budget process—could provide RITA with a clear road map for investing its own limited resources; enhance RITA’s ability to identify areas where its coordination, facilitation, and review efforts are working effectively and where they could be improved; and help RITA provide assurance that the department’s RD&T activities are adequately coordinated, routinely evaluated, and achieve their intended (or other) results. In addition, RITA and the operating administrations have not

¹⁸Required by SAFETEA-LU, the TranStats data Web site contains hundreds of transportation-related databases and is made available to the public on BTS’s Web site.

¹⁹GAO, *Internal Control Management and Evaluation Tool*, [GAO-01-1008G](#) (Washington, D.C.: August 2001).

worked together to develop common performance measures for RD&T activities that are needed to evaluate the RD&T efforts departmentwide. With performance goals, an implementing strategy, and an evaluation plan for RITA—and common performance measures for RD&T activities—RITA and DOT could be in a better position to assure Congress that DOT is making the most of its approximately \$1 billion annual RD&T investment. Additionally, the strategy and performance measures could serve as a communication tool to establish expectations and anticipated results with the operating administrations.

BTS, as part of RITA, has solicited and evaluated some feedback on user satisfaction, but it does not have a systematic process for identifying primary users of its transportation data products and services, soliciting feedback from those users, or incorporating the feedback it solicits. As a result, BTS cannot ensure that it has a comprehensive picture of who uses BTS data products, what their needs are, and how well the agency is meeting those needs with its data products. By establishing more systematic processes for identifying its primary users, soliciting feedback from those users, and evaluating feedback on user satisfaction, BTS could make more informed decisions on how to allocate limited resources to make improvements to its data products. While BTS tracks and reports the number of congressional and government agency contacts and the number of visitors to its TranStats data Web site, developing performance indicators that measure the overall degree to which products and services are useful and responsive to the needs of its users will allow BTS to understand how well it is serving its users over time.

Recommendations for Executive Action

To enhance RITA's ability to manage and ensure the effectiveness of RD&T activities in furthering the department's mission, we recommend that the Secretary direct the RITA Administrator to take the following seven actions:

- Develop and incorporate the following into RITA's fiscal year 2008 budget process, and the annual budget process thereafter:
 - performance goals and an overall implementing strategy that delineate how the activities and results of its coordination, facilitation, and review practices will further DOT's mission and ensure the effectiveness of the department's RD&T investment. The strategy should include an evaluation plan for monitoring and evaluating its performance against set goals to assist RITA in better allocating its resources to improve performance.

-
- common performance measures related to DOT's RD&T activities, which should be developed in consultation with the operating administrations.
 - Develop and incorporate the following into RITA's fiscal year 2008 budget process, the annual budget process thereafter, and the upcoming RD&T strategic plan:²⁰
 - a strategy for identifying and reviewing all of DOT's RD&T projects to determine areas of unnecessary duplication, overlap, and opportunities for joint efforts. The strategy should address (1) the scope of the RD&T projects or programs that will be reviewed for duplication or joint efforts, (2) the methodology for how all RD&T projects will be reviewed or how duplication or joint efforts will be identified, (3) a timeline and the frequency for reviews to occur, and (4) how the results of the reviews—the identification of duplication or an opportunity for joint effort—will be reported and used to make decisions about future RD&T activities.
 - a strategy to ensure that the results of all of DOT's RD&T activities are evaluated according to established best practices. This strategy should include (1) which RD&T activities of the operating administrations RITA will ensure were evaluated according to best practices, (2) the methodology for how RITA will ensure evaluation of RD&T activities took place according to established best practices, (3) a timeline for when the RD&T evaluations should occur, and (4) how the results of the RD&T evaluations will inform future research.
 - a DOT-wide database of all of DOT's RD&T projects that will support RITA's coordination, facilitation, and review efforts and will assist in the implementation of the strategies discussed above. Information on the status of these efforts should be included in the upcoming RD&T strategic plan to be issued in the fall of 2006.
 - a summary of all of DOT's RD&T program evaluations conducted by the department for the past 3 years, including ongoing and completed evaluations, and a schedule of future evaluations.

²⁰The following five recommendations reiterate and expand on four of the five recommendations GAO made to RSPA in 2003, with the exception of the recommendation on quantifiable performance measures for RD&T coordination, which DOT did not concur with, as previously discussed.

-
- a description of RITA's process for systematically evaluating the results of its own multimodal research programs and how this process will be applied to future multimodal research programs that RITA conducts.

To help ensure that BTS's data products meet the needs of its users, we recommend that the Secretary direct the RITA Administrator and BTS Director to take the following action:

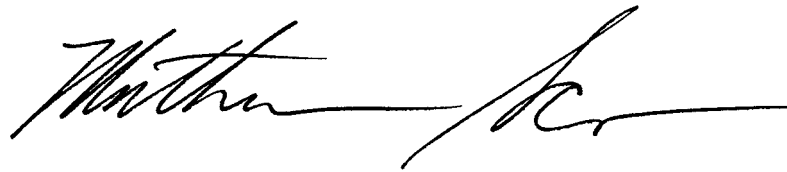
- Develop and implement a systematic process for BTS to identify its primary users, solicit and incorporate feedback from those users, and measure the satisfaction of its users. This process should contain the following elements: (1) that primary users of BTS's data products and services are identified and documented in a comprehensive manner; (2) that feedback on user satisfaction is solicited on a periodic basis from those users; (3) that user feedback is documented and evaluated at BTS's agencywide level and against established criteria, to ensure consistency in decisions about what improvements should be made to data products; and (4) that performance indicators that measure data users' satisfaction are developed and applied.

Agency Comments

We obtained oral comments on a draft of this report from DOT officials, who generally agreed with our findings and recommendations. These officials also provided technical clarifications that we incorporated into the report, as appropriate.

We are sending copies of this report to the appropriate congressional committees and to the Secretary and other appropriate officials in the Department of Transportation. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions regarding this report, please contact me at (202) 512-2834 or sciremj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix II.

A handwritten signature in black ink, appearing to read "Mathew Scire". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Mathew Scire
Acting Director, Physical Infrastructure Issues

Appendix I: Review of DOT's Research and Innovative Technology Administration



Review of the Department of Transportation's Research and Innovative Technology Administration (RITA)

Briefing for the Committees on Appropriations
U.S. Senate and House of Representatives

May 30, 2006



- Introduction and Objectives
- Approach
- Background
- Results of GAO Work



Introduction

- In fiscal year 2005, the Department of Transportation's (DOT) research, development, and technology (RD&T)¹ budget totaled approximately \$1.1 billion. RD&T activities are vital to meeting DOT's key transportation priorities, including safety and mobility.
- Prior to 2005, DOT's Research and Special Program Administration (RSPA) was responsible for overseeing DOT's RD&T activities, the Office of Hazardous Materials Safety, and the Office of Pipeline Safety.
- GAO and others have raised concerns about RSPA—for example, GAO made several recommendations in a 2003 report to improve RSPA's coordination and evaluation of DOT's RD&T activities.
- In November 2004, the Norman Y. Mineta Research and Special Programs Improvement Act (P.L. 108-426) dissolved RSPA and created two new administrations:
 - the Research and Innovative Technology Administration (RITA). The Mineta Act transferred the Bureau of Transportation Statistics (BTS) and the Office of Intermodalism to RITA.
 - the Pipeline and Hazardous Materials Safety Administration, which includes the Office of Pipeline Safety and the hazardous materials safety activities that were formerly in RSPA.

¹ OMB Circular No. A-11 (2005) defines research and development activities to include "work undertaken on a systematic basis ... to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications." DOT defines technology to include demonstration projects and other related activities associated with research and development activities.



Objectives

- In response to a mandate from the Senate and House Appropriations Committees, GAO addressed the following questions:
 1. How, if at all, do RITA's responsibilities for overseeing DOT's RD&T activities differ from RSPA's?
 2. What are RITA's practices for coordinating, facilitating, and reviewing RD&T activities and what progress has RITA made in implementing GAO's 2003 recommendations?
 3. How does BTS identify its users and monitor how well it is serving those users?



Overall Approach

- **Legislative & Document Review** - Reviewed laws and DOT documentation to understand RSPA's and RITA's responsibilities and BTS' legislative requirements for producing certain data.
- **Interviews** - Interviewed DOT officials in: RITA, including the RD&T Office, BTS, and others; three operating administrations that conduct and manage significant research programs, including the Federal Highway Administration (FHWA), Federal Aviation Administration (FAA), and Federal Transit Administration (FTA); and the Office of the Secretary (OST).
- **Recommendation Follow-up** - Reviewed the extent to which RITA (and RSPA) have addressed the recommendations in GAO's 2003 report.²
- **Analysis of selected Bureau of Transportation Statistics' (BTS) processes** - Analyzed BTS' processes for identifying its data users and for monitoring and incorporating feedback on user satisfaction and compared those processes to relevant criteria.
- We conducted our work from November 2005 through May 2006 according to generally accepted government auditing standards.

² GAO, *Transportation Research: Actions Needed to Improve Coordination and Evaluation of Research*, GAO-03-500 (Washington, D.C.: May 1, 2003).



- RITA took over RSPA's responsibilities for overseeing DOT's RD&T activities. While RITA continues to have a similar mission and strategic objectives as RSPA, it still does not have the authority to direct changes in the operating administrations' RD&T activities. RITA differs from RSPA in several ways—RITA intends to focus significantly more resources in fiscal year 2007 on the oversight of DOT's RD&T activities; RITA's authority for evaluation is less clearly defined; and RITA's organizational structure is more multi-modally focused.
- RITA coordinates, facilitates, and reviews DOT's RD&T activities through multiple groups and practices, including its two coordinating bodies—the RD&T Planning Council and the RD&T Planning Team—and budget reviews, among others. Of the five recommendations GAO made in 2003 on how to improve the coordination and evaluation of RD&T activities, RITA has partially implemented four of the recommendations and has not implemented the other.
- BTS does not have a systematic process in place for identifying its users, soliciting on-going feedback from all its major users, and determining whether or how that feedback should be incorporated.



Background: RITA's legislative responsibilities

The Norman Y. Mineta Act lays out five broad responsibilities for RITA:

- Coordination, facilitation, and review of DOT's research and development programs and activities;
- Comprehensive transportation statistics research, analysis, and reporting;
- Advancement, and research and development, of innovative technologies, including intelligent transportation systems;
- Education and training in transportation and transportation-related fields; and
- Activities of the Volpe National Transportation Center, which conducts a range of transportation research and development projects on a fee-for-service basis.



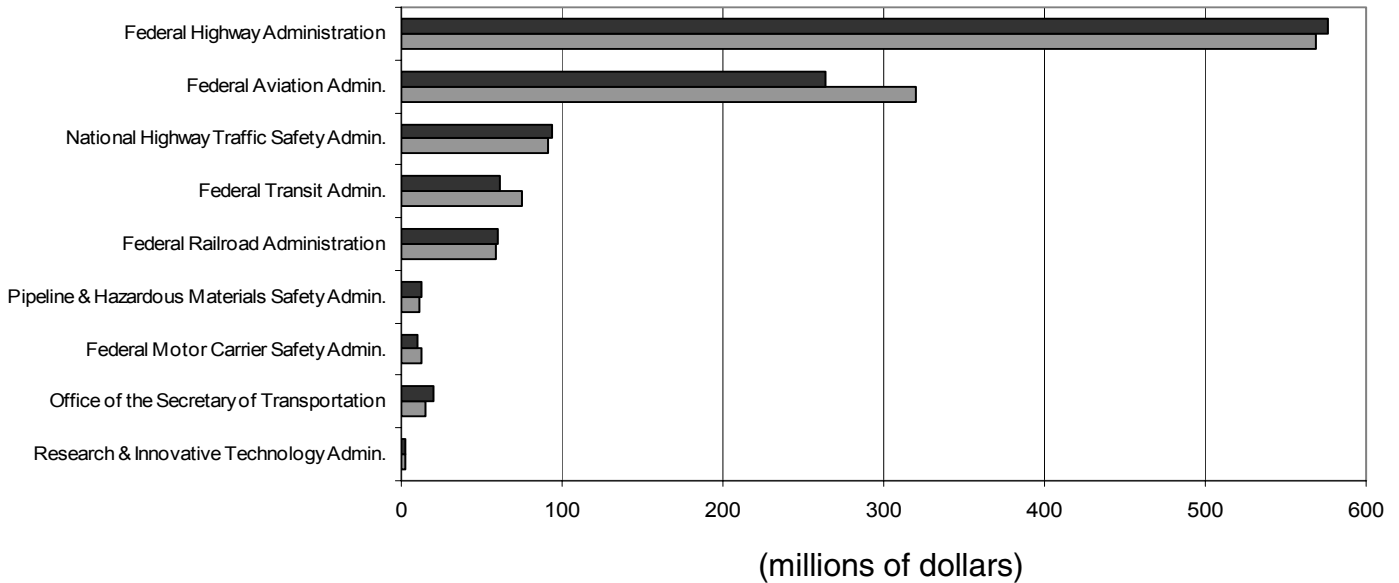
Background: Scope of
RITA's authority

- RITA's Office of RD&T is responsible for “coordinating, facilitating, and reviewing” DOT's RD&T activities.
- According to the Norman Y. Mineta Act, RITA's scope of authority includes coordinating, facilitating, and reviewing all of the Department's RD&T programs and activities, with one exemption—RITA was not given any authority over the research and other programs, activities, standards, or regulations administered by the National Highway Traffic Safety Administration (NHTSA).
 - The exemption does not apply to NHTSA's activities already in effect on November 30, 2004, the date of the Mineta Act's enactment.
 - Officials in RITA's Office of RD&T told us that in spite of the NHTSA exemption in the Mineta Act, NHTSA voluntarily participates in all of RITA's coordination, facilitation, and review activities.



Nearly all RD&T budget authority resides in the operating administrations, such as FHWA and FAA. RITA's RD&T budget in fiscal year 2005 was about \$1.9 million and its enacted budget in fiscal year 2006 is about \$2.5 million.

DOT's RD&T Budget



Source: GAO analysis of DOT budget data.

■ FY 2005 Actual ■ FY 2006 Enacted



Background: BTS' mission and legislative requirements

- The mission of BTS—a principal federal statistical agency established in 1992—is to develop high quality transportation data and information and advance the use of this data and information in both public and private transportation decision-making.
- BTS' legislative requirements in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (P.L. 109-59) include, among others:
 - Coordinating collection of information with the operating administrations within DOT and with other federal agencies;
 - Issuing guidelines for the collection of statistical information by DOT;
 - Reviewing and reporting on the sources and reliability of the statistics proposed by the operating administrations as requested by the Secretary; and
 - Submitting to the President and Congress a Transportation Statistics Annual Report (TSAR).



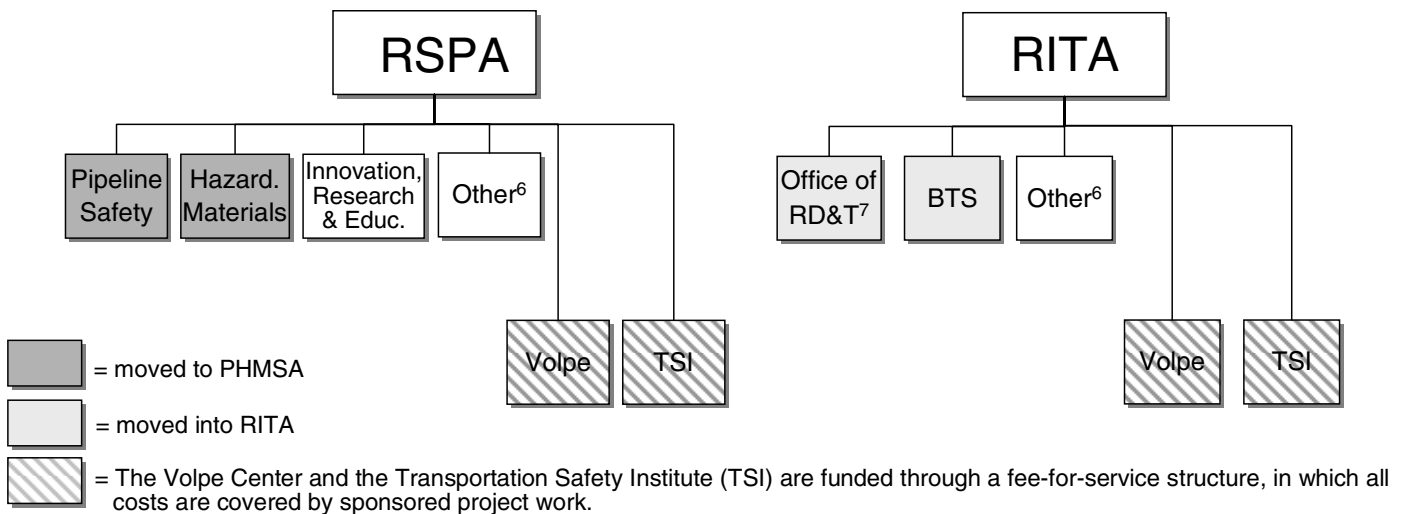
Objective 1: Similarities between RITA and RSPA

- RITA, like RSPA before it, has the responsibility to oversee DOT's RD&T activities but does not have the authority to direct changes in the operating administrations' RD&T activities, including budgetary changes.
- RITA's mission, like RSPA's before it, is focused on using research to meet DOT's goals, including enhancing transportation safety and efficiency.
- Two of RITA's three strategic goals--providing research and analytical capabilities dedicated to furthering DOT's mission and promoting multimodal, cross-cutting transportation technologies and innovations—are similar to RSPA's goals. RITA's third strategic goal is to ensure the effectiveness of the public investment in transportation RD&T.



Differences between RITA and RSPA:
RITA's organizational structure is more multi-modally focused

The organizational structure of RITA is more multi-modally focused because the Office of Pipeline Safety and hazardous materials safety activities were moved to a new administration—the Pipeline and Hazardous Materials Safety Administration (PHMSA)—and the remaining and new program offices—BTS and the Office of Intermodalism—now within RITA, all have a multi-modal focus.



⁶ Other functions include management and administration, General Counsel, Chief Financial Officer, and governmental affairs.

⁷ The Office of Intermodalism is within the Office of RD&T.



Differences between RITA and RSPA:
RITA intends to focus significantly more resources
on its oversight of DOT's RD&T activities

- RITA's fiscal year 2007 budget request proposes a new program—the Transportation Futures and Applied Technology Program—to undertake certain oversight and coordination activities, and also continues RITA's existing RD&T Coordination program. If enacted, funding for these two programs would result in an overall increase of about \$2 million over the enacted fiscal year 2006 budget for RD&T Coordination—from \$536,000 in fiscal year 2006 to about \$2.5 million in fiscal year 2007—although the Transportation Futures and Applied Technology Program also funds activities other than coordination.³
- According to senior DOT officials in OST and RITA, although the Transportation Futures and Applied Technology Program and the RD&T Coordination program were listed as separate programs in DOT's 2007 budget request, DOT views them as one unified program, with the intent that the Transportation Futures and Applied Technology Program will build on and enhance the existing RD&T Coordination program. A significant element of the funding request for the Transportation Futures and Applied Technology Program is to enable RITA to have access to highly skilled, specialized technical experts that RITA views as critical to enhancing its ability to effectively coordinate, facilitate, and review DOT's RD&T activities and enable RITA to more fully participate in strategic planning, priority setting, and decision-making related to those activities. Further, both programs are requesting funding to support intermodal and interagency teams that are working to better leverage research results and advance the collaborative integration and deployment of new technologies.

³ These other activities include conducting technology scans and accelerating the deployment of technologies and innovations to users.



Differences between RITA and RSPA:
RITA intends to focus significantly more resources
on its oversight of DOT's RD&T activities, continued

- The presentation of RITA's fiscal year 2007 budget request does not provide sufficient detail to determine the total amounts of funding that RITA is requesting for the two programs since the budget only shows the amount of proposed contract dollars for the two programs, including \$2.2 million for the Transportation Futures and Applied Technology Program and \$247,000 for the RD&T Coordination program. The 2007 budget request also shows that RITA is requesting about \$5.2 million for salaries and administrative expenses for all research and development activities, but it does not specify what portion of that amount will be dedicated to the two programs.
- The amount that RITA requested for its RD&T Coordination Program in fiscal year 2007 (\$247,000) is less than half of what was enacted for those activities in fiscal year 2006 (\$536,000). According to the 2007 budget request, this decrease represents the transfer of cross-modal RD&T initiatives from the RD&T Coordination program to the Transportation Futures and Applied Technology Program. DOT's documentation does not provide a clear cross-walk showing the transfer of all the cross-modal initiatives from one program to the other. However, a senior official in OST told us that DOT plans to review all of its cross-modal initiatives as part of the Transportation Futures and Applied Technology Program for the purpose of re-focusing them to ensure they are addressing the most important DOT-wide research priorities.



Differences between RITA and RSPA:
RITA's authority for evaluation is less clearly defined

- RSPA had both legislative and departmental responsibility for evaluating DOT's RD&T programs; specifically RSPA was required to:
 - measure the results of federal transportation research activities and how those activities impact the performance of the surface transportation systems of the United States⁴ and
 - oversee DOT's RD&T programs and develop more efficient, effective, and participative ways to evaluate and measure program effectiveness and progress across all operating administrations and other selected projects.⁵
- RITA does not have the same legislative responsibility for evaluating DOT's RD&T programs because SAFETEA-LU removed the statutory responsibility for evaluation activities that had been specifically outlined for DOT, which DOT delegated to RSPA.
- RITA officials told us that their interpretation of "review" authority under the Norman Y. Mineta Act is that RITA is not required to evaluate RD&T activities to determine whether they are achieving intended goals, although RITA is not explicitly prevented from evaluating such activities.

⁴ As stated in the Transportation Equity Act for the 21st Century (TEA-21), formerly codified in 23 USC 508.

⁵ DOT policy delegated this responsibility to RSPA.



Objective 2: RITA's Coordination, Facilitation, and Review Practices

RITA's Office of RD&T coordinates, facilitates, and reviews DOT's RD&T activities through various groups/practices, as summarized below:

Group / Process	Function	Participants
RD&T Planning Council	Advises the DOT Secretary on RD&T policies and priorities necessary to support the <i>DOT Strategic Plan</i> and Administration and Secretarial policy and objectives. Ensures cross-modal collaboration and coordination in RD&T initiatives within DOT and with external entities. Reports to the Secretary.	Operating Administrators, the Undersecretary for Policy, OST; Chair, RITA Administrator
RD&T Planning Team	Assists the RD&T Planning Council and the RITA Administrator in ensuring cross-modal collaboration and coordination in DOT's RD&T initiatives. Assures the application of Administration and Secretarial RD&T priorities and policies and guidance from the RD&T Planning Council.	Associate Operating Administrators for RD&T, OST; Chair, RITA's Associate Administrator for RD&T
Program Review Working Group	Conducts the annual review of modal RD&T programs to ensure they are aligned with DOT strategic goals and implement the Office of Management and Budget's (OMB) Research and Development (R&D) investment criteria. ⁸ Reports to RD&T Planning Team.	Operating Administrations' RD&T managers
Budget Review	RITA's annual assessment of the operating administrations' RD&T budget—first performed on fiscal year 2007 budget submissions—to ensure alignment with DOT's strategic objectives, Secretarial priorities, and cross-modal initiatives and proper application of OMB's R&D Investment Criteria.	RITA, Operating Administrations, OST's Budget Office
University Transportation Centers Program	Advances U.S. technology and expertise in transportation through the mechanisms of education, research and technology transfer at university-based centers of excellence. RITA administers grants (mostly legislatively designated) to universities.	RITA, Operating Administrations
Peer Review Task Force and Steering Committee	Coordinates the implementation of OMB's Information Quality Bulletin on Peer Review for influential and highly influential research (as determined by the agency or OMB) and oversees compliance with these requirements. Prepares annual report to OMB.	RITA, Operating Administrations' RD&T managers, Data Quality experts.
RD&T Strategic Planning Task Force	Develops the details of the RD&T Strategic Plan due to Congress in the fall of 2006. The draft plan will be reviewed by the National Research Council in June 2006.	RITA, Operating Administrations' RD&T managers
Various multi-modal RD&T groups managed by RITA	Examples include: <ul style="list-style-type: none"> <i>Hydrogen Working Group</i> which coordinates, facilitates and informs all RD&T activities related to hydrogen fueled and fuel cell powered vehicles and stationary applications. <i>Center for Climate Change</i> which shares information, builds partnerships, and coordinates activities related to climate change. 	RITA, Operating Administrations' policy and technical staff and other representatives

Source: GAO analysis of RITA information.

⁸ OMB developed the R&D Investment Criteria—quality, relevance, and performance—for all types of R&D programs across all agencies to assist in budget allocation decisions and to demonstrate results. 16



RITA's Coordination, Facilitation, and Review Practices, continued

- RD&T Planning Council

- According to DOT Order 1120.39A, the Planning Council is to meet quarterly. The Planning Council has convened three times, most recently on May 15, 2006. RITA officials told us the Council expects to meet more regularly as it reviews the development of the draft RD&T Strategic Plan before it is submitted to Congress—several meetings have been scheduled for the summer of 2006.
- According to the Planning Council's meeting minutes from May and June, 2005, the Planning Council reviewed and approved the RD&T budget guidance that was distributed to the operating administrations and discussed future strategic directions for DOT research, the fiscal year 2007 RD&T budget submissions, and other topics.

- RD&T Planning Team

- According to DOT Order 1120.39A, the Planning Team is to meet quarterly, which it has done. The Planning Team has convened four times, most recently in February 2006, and another meeting is scheduled for May 24, 2006.
- According to the Planning Team's meeting minutes from June and November, 2005 and February, 2006, the Planning Team discussed results of RITA's budget review for fiscal year 2007, effects of SAFETEA-LU on research programs, and updates on the development of the RD&T strategic plan and the University Transportations Centers program.



RITA's Coordination, Facilitation, and Review Practices, continued

- Program Review Working Group:
 - Established through a DOT Order that allowed the RD&T Planning Team to create ad hoc working groups, this group met nine times during 2005 and 2006 (as of April). The group provides a forum for the operating administrations to share information about areas of research and identify opportunities for coordination. The group also schedules presentations throughout the year which it shares with the RD&T Planning Team. Past presentations have addressed how the operating administrations have applied OMB's R&D Investment Criteria to their RD&T activities and how the operating administrations' RD&T activities support DOT's and the Secretary's strategic priorities.
- Budget Review
 - In preparation for their first budget review, RITA officials developed the 2007 RD&T budget guidance for the operating administrations, advising them to include discussions of how their RD&T activities are linked to the Secretary's priorities and how they have applied OMB's R&D Investment Criteria. This guidance was reviewed by the Planning Team, approved by the Planning Council, and distributed by OST's Budget Office.
 - The results of RITA's budget review were discussed at the June 2005 Planning Council meeting. Also, RITA developed recommendations—to DOT's Assistant Secretary for Budget and Programs/Chief Financial Officer—that RITA continue to work with the operating administrations to improve the Department's RD&T budget submissions and that RITA develop guidance for defining RD&T to ensure consistency in the way that the Department classifies and accounts for its RD&T programs.



RITA's Coordination, Facilitation,
and Review Practices, continued

- Management of the University Transportation Centers (UTC) Program⁹
 - RITA's RD&T Office manages the UTC program, which was significantly expanded by SAFETEA-LU.
 - SAFETEA-LU authorized up to about \$76.7 million per year for UTC grants during the period from fiscal year 2005 to 2009, an increase of about 136 percent compared to the \$32.5 million authorized under TEA-21.
 - Under SAFETEA-LU, the UTC grants provide funding to establish and operate up to 60 UTCs, an increase of about 82 percent compared to the 33 centers authorized under TEA-21. Twenty of the 60 centers are scheduled for competitive selection during 2006, and 40 centers are located at institutions named in the legislation.
 - To foster a closer connection between UTC research and needs of the operating administrations and DOT, RITA hosted a two-day workshop in April 2006 where officials from operating administrations made presentations on their RD&T activities and DOT's priorities to UTC members. RITA officials noted that this is the first of a planned series of program meetings, technical workshops, and other outreach efforts to increase UTC connections to DOT's RD&T priorities and programs. RITA is also working with the operating administrations to increase technical oversight of the individual UTCs' selection and evaluation processes for research.

⁹ The UTC program was initiated in 1987 under the Surface Transportation and Uniform Relocation Assistance Act, which authorized the establishment and operation of transportation centers in each of the ten federal regions. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) reauthorized the UTC program for an additional six years and added four national centers and six University Research Institutes.



Effects of RITA's coordination, facilitation, and review activities

- RITA has not established performance goals for its coordination, facilitation, and review activities, nor does RITA monitor or evaluate the effects of those activities. Also, RITA has not worked with the operating administrations to develop common performance measures for the Department's RD&T activities.
 - Setting meaningful goals for performance, and using performance information to measure performance against those goals, is required by the Government Performance and Results Act of 1993.¹⁰ GAO has also reported on key practices—such as defining common outcomes and developing mechanisms to monitor, evaluate, and report on results—that can enhance and sustain collaboration among organizations that conduct cross-cutting activities.¹¹
 - Establishing performance goals and an evaluation plan for its own coordination, facilitation, and review activities could assist RITA in identifying any problem areas and better allocating its resources to improve performance. Without such goals and an evaluation plan, it is difficult for RITA to determine its success in overseeing and ensuring the effectiveness of DOT's RD&T activities. Also, without common performance measures for the RD&T activities of the operating administrations, RITA and the operating administrations lack the means to monitor and evaluate the collective results of those activities and ensure that they are achieving their intended (or other) results and furthering the Secretary's and DOT-wide priorities.
- The RITA Administrator told us that he was open to developing performance goals and an evaluation plan for RITA's coordination, facilitation, and review activities and to working with the operating administrations to develop common performance measures for DOT's RD&T activities.

¹⁰ Pub. L. No. 103-62, 107 Stat. 285 (1993). Under GPRA, federal agencies are required to develop strategic plans, performance plans, and performance reports that set long-term and annual goals along with the means for accomplishing the goals and report on achieving them.

¹¹ GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, GAO-06-15 (Washington, D.C.: October 21, 2005).



Effects of RITA's coordination, facilitation, and review activities, continued

- Although RITA lacks performance goals and measures, officials from the three operating administrations we interviewed and from RITA noted some positive effects of RITA's efforts:
 - Officials from all three operating administrations told us that RITA's Program Review Working Group meetings provide them with opportunities to share best practices relating to program management issues, such as how to apply the OMB R&D Investment Criteria to RD&T activities. An official from one of the operating administrations said that RITA has been helpful in trying to strengthen the connection between the UTCs and the DOT's RD&T priorities through programs such as the 2-day UTC workshop hosted in April 2006. Officials from another operating administration told us that RITA has helped them to better align their RD&T activities with DOT's and the Secretary's priorities by focusing on how their research activities will support DOT's RD&T Strategic Plan.
 - Officials from RITA's Office of RD&T believe that RITA's budget guidance and review process is helping to ensure that the operating administrations have a more consistent approach to show how their RD&T activities support DOT's strategic objectives, Secretarial priorities, and cross-modal initiatives. One official noted that, over time, this process should give RITA the ability to critically review and make recommendations to OST on how RD&T activities could better support DOT's strategic objectives, Secretarial priorities, and cross-modal initiatives. Also, the Program Review Working Group has identified an opportunity for FHWA and FAA to coordinate pavement research.



Follow-up to GAO
Recommendations

- In 2003, GAO made five recommendations to DOT and RSPA to improve the coordination and evaluation of RD&T activities.
- The recommendations generally remain relevant for RITA.
- RITA has partially implemented four recommendations and has not implemented one recommendation. RITA has made progress, but much remains to be done for RITA to fully implement the recommendations.



Follow-up to GAO
Recommendations, continued

Recommendation 1

Status: Partially Implemented

Develop a strategy for reviewing all DOT research projects to identify areas of unnecessary research duplication overlap, and opportunities for joint efforts.

- Include time frames for implementing this review and discuss the development and implementation of a DOT-wide research tracking system database.
- Incorporate the results of this effort into DOT's annual research plan and report to Congress on an annual basis.

- RITA has not developed a strategy to review all DOT research projects to identify areas of unnecessary research duplication overlap and opportunities for joint efforts, although they have taken some action, as discussed below. RITA officials told us that they expect to identify such areas through the coordination and review activities of the RD&T Planning Council, RD&T Planning Team, and the Program Review Working Group. However, although the DOT Order that created the RD&T Planning Council, Planning Team, and indirectly the Program Review Working Group, lays out as part of its purpose the responsibility to prevent unnecessary duplication of RD&T efforts in DOT, none of these groups has developed a strategy that describes (1) the scope of the RD&T projects or programs that will be reviewed for duplication or joint efforts, (2) the methodology for how all research projects will be reviewed or how duplication or joint efforts will be identified, (3) a time line and frequency for the review to occur, and (4) how the results of the review—the identification of duplication or an opportunity for joint effort—will be used to make decisions about future RD&T activities.
- A RITA official told us that the research tracking system database was dropped from DOT's priorities after the creation of RITA; however, RITA's proposed Transportation Futures and Applied Technology Program includes the development of a Web-based database for DOT's RD&T programs. RITA has not yet established a catalog of all the research activities within DOT. Without such a catalog, DOT officials do not have readily accessible data on research activities throughout DOT.



Follow-up to GAO Recommendations, continued

Recommendation 1

Status: Partially Implemented

Develop a strategy for reviewing all DOT research projects to identify areas of unnecessary research duplication overlap, and opportunities for joint efforts.

- Include time frames for implementing this review and discuss the development and implementation of a DOT-wide research tracking system database.
- Incorporate the results of this effort into DOT's annual research plan and report to Congress on an annual basis.

- While the results of RITA's coordination and review activities are discussed during Planning Team meetings, the results are not reported to Congress because RITA is no longer required to submit an annual RD&T plan to Congress. RITA officials told us that they plan to report these results annually in the DOT Performance Plans and Reports required by SAFETEA-LU. This reporting is expected to begin in Fiscal Year 2008, as the first reporting against the new RD&T Strategic Plan.
- Without such a strategy—supported by a comprehensive database of ongoing RD&T projects—RITA is unable to ensure that areas of unnecessary research duplication, overlap, and opportunities for joint efforts are systematically identified and managed.



Follow-up to GAO
Recommendations, continued

Recommendation 2

Status: Not Implemented

Develop and apply quantifiable performance measures to assess the effectiveness of research coordination efforts and document the results of these efforts in DOT's annual research plan.

- DOT and RSPA did not concur with this recommendation in 2003, citing their views that: (1) the most useful and effective performance measures focus on results, while coordination is a process; (2) there are no performance measures capable of quantifying effective coordination; and (3) existing coordination processes have been effective in preventing unnecessary research duplication.
- RITA officials also told us that they did not develop performance measures to assess the effectiveness of research coordination effort because they do not believe that a metric approach is well suited for assessing the effects of the coordination process.
- While RITA officials told us that they have not developed or applied performance measures for coordination, they indicated their willingness to develop--in concert with the operating administrations--common performance measures for DOT's RD&T activities.



Follow-up to GAO
Recommendations, continued

Recommendation 3

Status: Partially Implemented

Develop a strategy to ensure that the results of all DOT's transportation research activities are evaluated according to established best practices.

- Include estimates of the costs for ensuring that evaluations are completed.
- Incorporate the results of these efforts in DOT's annual research plan and report to Congress on an annual basis.

- RITA officials have not developed a strategy to ensure that the results of all DOT's RD&T activities are evaluated according to established best practices, although they have taken some action.
- RITA officials have told us that they ensure the evaluation of RD&T activities by reviewing the operating administrations' application of OMB's R&D Investment Criteria—relevance, quality, and performance—through its budget review process. According to RITA officials and OMB documents, the R&D Investment Criteria are rooted in best practices and include peer review as a mechanism for assessing program quality.
- GAO has recognized peer review as a best practice for evaluating RD&T activities.¹² However, under RITA's review of the application of the R&D Investment Criteria—which includes information about whether peer reviews occurred—RITA officials do not verify that peer review activities actually took place within the operating administrations.
- RITA has not developed a strategy that describes (1) which RD&T activities of the operating administrations RITA will ensure were evaluated according to best practices, (2) the methodology for how RITA will ensure evaluation of RD&T activities took place according to established best practices, (3) a time line for when the RD&T evaluations should occur, and (4) how the results of the RD&T evaluations will inform future research. Since RITA has not developed this strategy, it has not estimated costs for ensuring that evaluations are completed nor were the results of these evaluations reported in RITA's annual research plan, which it is no longer required to publish.
- Without such a strategy, RITA is unable to ensure the quality and effectiveness of the RD&T activities and investments and determine whether they are achieving their intended (or other) goals.

¹² GAO, *Highway Research: Systematic Selection and Evaluation Processes Needed for Research Program*, GAO-02-573 (Washington, D.C.: May 24, 2002). Peer review includes an independent assessment of technical and scientific merit or quality and is considered appropriate for all RD&T programs.



Follow-up to GAO
Recommendations, continued

Recommendation 4

Status: Partially Implemented

Include in DOT's annual research plan a summary of all research program evaluations conducted and a schedule of future evaluations.

- RSPA, for one year, published a summary of all research program evaluations conducted, in that it published the results of its review of the operating administrations' application of OMB's R&D Investment Criteria in its fiscal year 2005 annual RD&T plan. A schedule of future evaluations was not included in this plan.
- Since RSPA was dissolved, RITA has not continued to publish the results of its reviews of the operating administrations' application of OMB's R&D Investment Criteria because SAFETEA-LU no longer requires RITA to submit an annual research plan.
- Publishing a current inventory of the evaluation of research activities and a schedule for future evaluations on a regular basis could provide continuity and context for the observations about research results and planned research for future years.



Follow-up to GAO
Recommendations, continued

Recommendation 5	Status: Partially Implemented
<p>Document RSPA's process for systematically evaluating the results of its own multi-modal research programs, and apply this process to any future multimodal research programs that RSPA conducts.</p>	<ul style="list-style-type: none">• RITA has not documented its process for systematically evaluating the results of its own multi-modal research programs, or how this process would apply to any future multi-modal research programs that it conducts, although RITA has taken some action, described below.• RITA manages multi-modal RD&T activities, such as the Hydrogen Safety Program and various grant programs in SAFETEA-LU delegated to it by DOT. According to a RITA official, RITA oversees contracts and evaluates the results of RD&T activities that are conducted under these contracts through the peer review process. RITA has not documented its process for conducting these peer reviews and it is unclear whether the peer review process will be applied to future multi-modal RD&T activities.• Without systematically evaluating program results, RITA is limited in its ability to determine the extent to which its multi-modal RD&T programs are achieving their intended (or other) goals.



Objective 3: BTS' process for identifying its users is not systematic

- BTS does not have a systematic process, but uses a variety of methods, for identifying specific users of BTS information.
- BTS officials told us they primarily rely on a Congressional definition of broad categories of data users, contained in SAFETEA-LU. This definition states that users of BTS information include the Federal government, State and local governments, metropolitan planning organizations, transportation-related associations, the private sector (including the freight community), and the public.
- BTS officials told us that they identify specific users through a variety of methods such as:
 - Conferences, focus groups, and training sessions;
 - Meetings of professional associations;
 - Direct inquiries via the BTS Web site, in the form of email, letters, and telephone; and
 - News media citations--tracked by RITA's Office of Governmental, International and Public Affairs--that mention BTS data.
- BTS does not track specific users nor does it have information on the overall number of users of its data products. According to one BTS official, the reason for this is because it is very difficult to track individual users, other than through Web site hits and tracking the number of publications ordered. Also, the official mentioned BTS is limited in its ability to collect information on individual data users due to privacy concerns.
- Without a systematic process for identifying primary users for each of its programs, BTS cannot solicit feedback from these users on an ongoing basis.



Examples of BTS data users

• Examples of users of BTS information

BTS Data Users	Data product used and for what purpose
Department of Transportation	<ul style="list-style-type: none"> • DOT's Office of the Secretary uses BTS airline data to determine eligibility for the Essential Air Service (EAS) program, monitor the impact of airline service on the traveling public, negotiate international air service agreements, and provide oversight of the airline industry. • The Federal Highway Administration uses Commodity Flow Survey data in its Freight Analysis Framework, a departmental planning tool. • DOT's Federal Railroad Administration (FRA) uses data collected by BTS for the Confidential Close Call Reporting System Demonstration Project to help FRA and railroad carriers identify safety issues that require corrective action.
Other Federal agencies	<ul style="list-style-type: none"> • BTS worked with the Commerce Department's Bureau of Economic Analysis to develop a Transportation Satellite Account, which enhanced the measurement of transportation's contribution to the Gross Domestic Product. • The Department of Homeland Security's Transportation Security Administration used BTS' Omnibus Survey Program data on the amount of baggage brought to airports.
Policymakers	<ul style="list-style-type: none"> • BTS is developing capital stock values (a commonly used economic measure of the capacity of the transportation system) for airports, waterways, and transit systems for use by policymakers to better estimate the amount of investment needed to accommodate current or future levels of traffic on those modes.
Planners	<ul style="list-style-type: none"> • States use National Household Travel Survey (NHTS) data for transit planning; Metropolitan Planning Organizations (MPO) use NHTS data for highway planning.

Source: GAO analysis of BTS information.



BTS' methods for soliciting feedback on user satisfaction is not systematic

- BTS' process for soliciting feedback on user satisfaction is not systematic, but BTS officials reported using a variety of methods for soliciting feedback from its users, including:
 - Data users' meetings and workshops held at conferences or training sessions, and focus groups conducted with BTS data users;
 - BTS' Reference Services, which tracks and responds to user feedback; and
 - Independent third party reviews of its programs.
- In the past, BTS systematically solicited feedback on overall customer satisfaction of BTS' products and services through its Customer Satisfaction Survey. BTS conducted the last such survey in 1998.
- Also, in the past, BTS solicited feedback via comment cards, inserted in data products. According to BTS officials, the survey and comment cards are no longer used as methods for soliciting feedback as a result of restrictions stemming from the Privacy Act and Paperwork Reduction Act (PRA). BTS officials told us they are working with RITA's Chief Counsel's office to reinstitute the use of comment cards.
- Without a systematic process for soliciting feedback on user satisfaction from its users, BTS cannot ensure that it has a full picture of the needs of those users and how well it is meeting those needs, which, in turn, hinders BTS' ability to make improvements to data programs that are relevant to users.



Examples of how BTS has solicited feedback from users

- Examples of how BTS has solicited feedback from users.

How BTS solicited user feedback on user satisfaction	Examples of how feedback on user solicitation was solicited for specific BTS programs
Data users' meetings and workshops held at conferences or training sessions	<ul style="list-style-type: none"> • In 2005, BTS engaged freight data users at a Commodity Flow Survey Conference for input on changes needed in BTS' freight data collection. • In 2004, BTS engaged users of travel data for their input into current uses of existing data and future data needs. The results of this data user's meeting were published in <i>Data for Understanding Our Nation's Travel: National Household Travel Survey Conference</i>.
BTS Reference Services	<ul style="list-style-type: none"> • BTS' National Transportation Library Reference Services Desk tracks and responds to inquiries received by email via BTS' Web site or by telephone.
Independent third party reviews	<ul style="list-style-type: none"> • In 2003, BTS asked the Transportation Research Board and Committee on National Statistics of the National Academies to conduct a review of its major survey programs, including the (1) National Household Travel Survey, (2) Omnibus Survey Program, and (3) Commodity Flow Survey. • In 1999, BTS contracted with an external group to conduct focus groups with congressional staffers, DOT employees, transportation statistics experts, and employees of non-profits or associations in the transportation field to (1) gain feedback on BTS' publications and services and (2) gather insight about how to improve these tools for the end user.

Source: GAO analysis of BTS information.



BTS' method for incorporating feedback on user satisfaction is not systematic

- BTS relies on its program managers, who are responsible for managing a data collection program and its associated data products, to determine how best to address feedback from users in identifying areas of improvement and taking steps to address product weaknesses.
- According to BTS officials, program managers use their professional judgment and consider such factors as time and resource constraints when deciding whether to incorporate feedback from users in taking steps to improve their data products. BTS officials told us that program managers are not required—and often do not—report the results of how feedback on user satisfaction was considered and whether improvements to the data product were made.
- GAO's Internal Control standards suggest that on-going monitoring should take place to ensure that users are satisfied and that policies and procedures should be in place to ensure that feedback is evaluated so that improvements can be made.
- Without policies and procedures in place for incorporating feedback on user satisfaction, BTS cannot systematically consider feedback and use it to make improvements to data products.



BTS' performance measures

- BTS reports that it measures the overall degree to which products and services are useful and responsive to the needs of users by tracking two performance indicators—the number of congressional and governmental agency contacts regarding BTS information and the average number of daily unique visitors to the TranStats data Web site:¹³
 - BTS reports that the number of congressional and governmental agency contacts has increased each year, from 84 requests in 2002, to 287 in 2005. BTS officials attribute this increase to their responsiveness to inquiries and they told us that the increase indicates that BTS is providing Congress and agencies with information that they need, and that they find BTS to be a reliable source.
 - BTS reports the average number of daily unique visits to the TranStats data site has increased from 565 in 2003, to 813 in 2005. According to BTS officials, this indicates that the information is useful and that awareness among current and potential new BTS data users is increasing.
- We note, however, that these indicators are simple counts and not measures of user satisfaction with BTS information.

¹³ Required by SAFETEA-LU, the TranStats data web site contains hundreds of transportation-related databases and is made available to the public via BTS' Web site.



DOT's Perspective on Key Issues Related to RITA

- We met with senior DOT officials—including the Department's Chief of Staff, the Assistant Secretary for Budget and Programs and Chief Financial Officer, the RITA Administrator, and other officials—to discuss the factual information presented in these slides. These officials agreed with the information, providing clarifications, which we incorporated as appropriate.
- These officials said that their vision is for RITA to play a key role—in concert with the operating administrations—in shaping the future of DOT's RD&T activities, although they believe that RITA will need significant additional resources, especially technical experts, to achieve this vision. They said that OST will rely heavily on input from RITA's Planning Council in making its decisions related to the RD&T budget requests from the operating administrations. They also said that OST will look to RITA to play a lead role in helping realign the Department's RD&T activities to focus more closely on key cross-modal transportation issues facing the nation, including congestion, alternative fuels, freight capacity, and other issues.



Next Steps

- Prepare final slides, with a short summary of results, for publication as a GAO report.
- Determine if committee staff want any additional work on RITA.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

Mathew Scire, (202) 512-2834 or sciremj@gao.gov

Staff Acknowledgments

In addition to the contact named above, key contributors to this report were Rita Grieco, Assistant Director; Ashley Alley; Carl Barden; Christine Bonham; Elizabeth Curda; Michelle Dresben; Colin Fallon; Richard Hung; Sara Ann Moessbauer; Susan Ragland; April Thompson; Deborah Winters; and Dorothy Yee.

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