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December 2017

TRANSPORTATION SECURITY ADMINISTRATION

Surface Transportation Inspector Activities Should Align More Closely With Identified Risks

GAO-18-180

GAO Highlights

Highlights of GAO-18-180, a report to congressional requesters

December 2017

TRANSPORTATION SECURITY ADMINISTRATION

Surface Transportation Inspector Activities Should Align More Closely With Identified Risks

Why GAO Did This Study

The global terrorist threat to surface transportation – freight and passenger rail, mass transit, highway, maritime and pipeline systems – has increased in recent years, as demonstrated by the 2017 London vehicle attacks and a 2016 thwarted attack on mass transit in the New York area. TSA is the primary federal agency responsible for securing surface transportation in the United States.

GAO was asked to review TSA surface inspector activities. This report addresses (1) how TSA surface inspectors implement the agency's surface transportation security mission, and (2) the extent to which TSA has used a risk-based approach to prioritize and implement surface inspector activities. GAO analyzed TSA data on surface inspector activities from fiscal year 2013 through March 24, 2017, reviewed TSA program and risk documents and guidance, and observed surface inspectors conducting multiple activities. GAO also interviewed TSA officials in 17 of 49 surface field offices and 15 industry stakeholders.

What GAO Recommends

GAO recommends that TSA (1) address limitations in its data system to collect complete information, (2) ensure inspector activities more closely align with the results of risk assessments, (3) identify and prioritize entities and locations for its risk mitigation program, and (4) define measurable and clear objectives for the program. TSA concurred with these recommendations.

View GAO-18-180. For more information, contact Jennifer Grover at (202) 512-7141 or groverj@gao.gov.

What GAO Found

Transportation Security Administration (TSA) surface transportation security inspectors—known as surface inspectors—conduct a variety of activities to implement the agency's surface security mission, including:

- **Regulatory Inspections:** Surface inspectors enforce freight rail, passenger rail, and maritime security regulations. GAO found that, according to TSA data, surface inspectors reported spending approximately 20 percent of their time on these activities from fiscal years 2013 to 2017.
- **Non-regulatory assessments and assistance:** Surface inspectors conduct voluntary assessments and provide training to surface transportation entities, among other things. GAO found that, according to TSA data, inspectors reported spending approximately 80 percent of their time on these activities.

In addition to mission-related activities, surface inspectors can assist with aviation-related activities. However, GAO found that TSA has incomplete information on the total time surface inspectors spend on these activities because of limitations in TSA's data system. Addressing these limitations would provide TSA with complete information when making decisions about inspector activities.

GAO also found that TSA prioritized inspector activities in the surface transportation mode with the lowest risk because TSA did not incorporate risk assessment results when planning and monitoring activities. Specifically, in fiscal year 2016, the last full year for which data on inspectors' activities in the surface modes was available, surface inspectors reported spending more than twice as much time on the lowest risk surface transportation mode according to TSA risk assessments than on the highest risk surface transportation mode. Incorporating risk assessment results when prioritizing inspector activities would help TSA ensure that its surface security resources address the highest risks.

In fiscal year 2017, TSA fully implemented a new risk mitigation program—Risk Mitigation Activities for Surface Transportation (RMAST)—intended to focus time and resources on high-risk surface transportation entities and locations. However, GAO found that TSA has not identified or prioritized these high-risk entities and locations, or defined the RMAST program's objectives and associated activities in a measurable and clear way. According to TSA officials, they have not done so because there are too many potential entities to list them all for prioritization and TSA has not identified an approach for determining the effectiveness of activities under the program. However, prioritizing high-risk entities, such as by type, characteristics, or location does not require a complete list of entities. By identifying and prioritizing high-risk entities and locations for RMAST, and clearly defining the program's activities and objectives, TSA would be better able to implement RMAST activities in a risk-based manner and measure their effectiveness.

This is a public version of a sensitive report that GAO issued in October 2017. Information that TSA deemed sensitive has been omitted.

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Abbreviations

AFSD-I	Assistant Federal Security Director for Inspections
BASE	Baseline Assessment for Security Enhancement
DHS	U.S. Department of Homeland Security
EXIS	Exercise Information System
FSD	Federal Security Director
HTUA	High Threat Urban Area
MTSA	Maritime Transportation Security Act
NIPP	National Infrastructure Protection Plan
PARIS	Performance and Results Information System
RMAST	Risk Mitigation Activities for Surface Transportation
RRS	Risk Reduction Surveys
RSI	Regional Security Inspector
SAI	Security Action Items
TIH	Toxic Inhalation Hazardous materials
TSA	Transportation Security Administration
TSSRA	Transportation Sector Security Risk Assessment
TWIC	Transportation Worker Identification Credential
UASI	Urban Area Security Initiative
USCG	U.S. Coast Guard

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December 14, 2017

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

The Honorable John Katko
Chairman
The Honorable Bonnie Watson Coleman
Ranking Member
Subcommittee on Transportation and Protective Security
Committee on Homeland Security
House of Representatives

The Honorable Kathleen Rice
House of Representatives

Mass transit bombings and vehicle attacks in cities such as Brussels, London and St. Petersburg, as well as planned attacks in the New York area and other U.S. cities demonstrate terrorist persistence in targeting surface transportation.[1] The surface transportation network includes passenger rail, mass transit, freight rail, highway, pipeline, and maritime modes. Surface transportation systems generally rely on an open infrastructure that is difficult to monitor and secure due to its multiple access points, hubs serving multiple carriers, and in some cases, lack of access barriers. Securing these systems is further complicated by the number of private and public stakeholders involved in operating and protecting the system and the need to balance security with the expeditious flow of people and goods. According to the Mineta Institute for Transportation, terrorist attacks against surface transportation are becoming more frequent and the overall risk for a surface transportation

[1]A mass transit bombing occurred in Brussels, Belgium on March 22, 2016, and in St. Petersburg, Russia on April 3, 2017. Vehicle attacks occurred in London, England in the United Kingdom on March 22 and June 3, 2017. There have been multiple thwarted attacks against New York mass transit, including undetonated explosives that were found in a trash receptacle near a mass transit station in Elizabeth, New Jersey on September 18, 2016. Other foiled attacks occurred in Washington, D.C., and other U.S. cities.

attack has increased over the past 40 years.[2] According to the Transportation Security Administration (TSA), an attack on a surface transportation system in the United States could potentially lead to significant casualties and economic damage and disruption worth billions of dollars.

TSA, within the U.S. Department of Homeland Security (DHS), is the primary U.S. federal agency responsible for securing all four general modes of land-based transportation – mass transit and passenger rail, freight rail, highway and motor carrier, and pipeline – and supports maritime security efforts by deploying 222 surface transportation security inspectors, known as surface inspectors, in 49 locations throughout the country.[3] TSA's surface domain includes nearly 140,000 miles of railroad track, over 2.5 million miles of pipeline, and 4 million miles of roads, that facilitate 10 billion annual passenger trips on mass transit systems, school bus transport for 24 million students riding school buses each day, and nearly 800,000 daily shipments of hazardous material. TSA has an annual surface security operating budget of around $111 million, which represents approximately 3 percent of TSA's total budget, while the remainder of the budget is dedicated primarily to aviation operations, according to TSA. TSA's role in surface transportation security varies by mode. For example, TSA plays a regulatory role in freight rail, passenger rail, and maritime facility security. TSA also provides guidance and encourages voluntary implementation of security best practices to surface transportation entities, and relies on cooperation from system operators, and local, state, and federal security partners.

DHS and TSA officials have stated that they use risk-based security to deliver the most effective security in the most efficient manner.[4] We have previously reviewed TSA surface transportation initiatives, and in March 2009 reported that TSA had not conducted a comprehensive risk

[2]The Norman Y. Mineta International Institute for Surface Transportation Policy Studies was established by the Intermodal Surface Transportation Efficiency Act of 1991. Pub. L. No. 102-240, § 6024, 105 Stat. 1914, 2188 (1991). The Institute tracks and analyzes the number of terrorist attacks against transportation systems worldwide.

[3]The U.S. Coast Guard is the lead federal agency responsible for maritime transportation security.

[4]According to TSA, risk-based security occurs when risk is the primary driver in the decision making process whereas risk-informed security may consider some aspects of risk but it does not have to be central to the decision making process.

assessment for securing mass transit and passenger rail.[5] We recommended that TSA conduct a risk assessment that included all elements of risk, and TSA took actions to implement the recommendation, including developing the Transportation Sector Security Risk Assessment (TSSRA) in 2010, which examines and assesses the terrorism risk for all transportation modes for which TSA is responsible.

You asked us to review the activities that TSA surface inspectors perform in support of TSA's surface security mission. This report examines (1) how TSA surface inspectors implement the agency's surface transportation security mission and (2) the extent to which TSA has used a risk-based approach to prioritize and implement surface inspector activities.

This report is a public version of a prior sensitive report that we issued in October 2017.[6] TSA deemed some of the information in the prior report sensitive security information, which must be protected from public disclosure.[7] Therefore, this report omits sensitive information regarding the specific risks facing particular surface transportation modes as determined by TSA. However, the report addresses the same questions as the sensitive report and the overall methodology used for both reports is the same.

To collectively address these objectives, we reviewed relevant statutes, regulations, and strategic documents, such as provisions in the Implementing Recommendations of the 9/11 Commission Act of 2007 (9/11 Commission Act), TSA surface security and related regulations, and

[5]A comprehensive risk assessment includes all three elements of risk: (1) threat (2) vulnerability, and (3) consequence. GAO, *Transportation Security: Key Actions Have Been Taken to Enhance Mass Transit and Passenger Rail Security, but Opportunities Exist to Strengthen Federal Strategy and Programs*, GAO-09-678 (Washington, D.C.: June 24, 2009); GAO, *Passenger Rail Security: Consistent Incident Reporting and Analysis Needed to Achieve Program Objectives*, GAO-13-20 (Washington, D.C.: Dec. 19, 2012) and GAO, *Transportation Security: Comprehensive Risk Assessments and Stronger Internal Controls Needed to Help Inform TSA Resource Allocation*, GAO-09-492 (Washington, D.C.: Mar. 27, 2009).

[6]*Transportation Security Administration: Surface Transportation Inspector Activities Should Align More Closely With Identified Risk*s, GAO-18-17SU (Washington, D.C.: Oct. 16, 2017).

[7]See 49 C.F.R. pt. 1520.

TSA's *National Strategy for Transportation Security 2016*, among others.[8] We also analyzed TSA data from the surface module of TSA's Performance and Results Information System (PARIS) from fiscal years 2013 through March 24, 2017, the most recent data available, to identify the time surface inspectors reported spending on regulatory and non-regulatory activities and in each transportation mode. We analyzed data from fiscal years 2013 through March 2017 to compare multiple years of data for purposes of identifying any trends or variances in the data over time, as well as to capture data after program reorganizations.

We assessed the reliability of data from the surface module of PARIS by, for example, interviewing TSA officials responsible for entering, reviewing, or using PARIS data and electronically testing the data, among other steps. We determined that PARIS surface module data on inspector activities were sufficiently reliable for our purposes – to describe how surface inspectors reported spending their time using summary-level data – with some limitations. Specifically, the aviation data we report from the surface module represents the minimum aviation activities surface inspectors conducted, and the inspection counts and compliance rates we report for fiscal year 2013 represent partial year data. See appendix I for more information on how we assessed the reliability of these data and the limitations we identified.

Additionally, we conducted interviews with TSA officials in 17 of 49 surface field offices, selected based on a variety of factors including their unique surface transportation environments; all 6 TSA Regional Security Inspectors (RSIs) and 15 industry stakeholders in the freight rail, passenger rail/mass transit, highway, and maritime modes. For more information on how we selected field offices and industry stakeholders for our interviews, see appendix I. Our interviews with TSA officials and industry stakeholders are not generalizable, but provided us with important insights into the implementation of TSA surface transportation security programs, the challenges surface inspectors may face, and the transportation industry's interaction with TSA surface inspectors.

To further address our first objective and describe how TSA surface inspectors implemented the agency's surface transportation security mission, we examined TSA strategic and program documents. We also

[8]Pub. L. No. 110-53, 121 Stat. 266 (2007); 49 C.F.R. pts. 1580, 1570, 1503. TSA, *2016 Biennial National Strategy for Transportation Security* (Washington, D.C.: Aug. 11, 2016).

observed inspectors conducting program activities including a Baseline Assessment for Security Enhancement (BASE) review, a regional Intermodal – Security Training and Exercise Program (I-STEP) exercise, and an Exercise Information System (EXIS) exercise. We used the results of our analysis of PARIS data to describe the number of each type of regulatory inspection surface inspectors conducted from fiscal years 2013 to 2017, regulatory compliance rates for those inspections, and how surface inspectors reported spending their time on all activities in the surface module of PARIS. To evaluate the effects of this limitation on TSA's implementation of its surface activities, we compared the results of our data analysis and our interviews with TSA officials to *Standards for Internal Control in the Federal Government*.[9]

To further address our second objective, we analyzed TSA risk guidance and examined TSA's cross-modal risk assessments in the TSSRA from fiscal years 2013 to 2016.[10] To evaluate the extent to which TSA considered risk when it staffed TSA surface inspectors, we reviewed TSA's fiscal year 2017 surface inspector staffing model—the only model TSA used during the period we examined—and interviewed TSA officials responsible for developing and executing staffing, and compared that process to TSA risk guidance. To determine the extent to which TSA prioritized surface inspector activities based on risk we compared surface inspector work plan requirements and the work plan development process, as described by TSA officials, to risk information, including results from the TSSRA and TSA risk guidance. See appendix I for more information on the risk information we used to assess the surface inspector work plans. To determine the extent to which TSA's implementation of surface inspector activities aligned with risk, we compared the results of our analysis of PARIS surface module data on the time surface inspectors spent in each surface mode to the results of the TSSRA cross-modal risk assessments from fiscal years 2013 to 2017. We also identified the types of information TSA used in its fiscal year

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

[10]Department of Homeland Security, *NIPP 2013: Partnering for Critical Infrastructure Security and Resilience* (2013). Department of Homeland Security, Risk Steering Committee, *DHS Risk Lexicon 2010 Edition* (September 2010); and Department of Homeland Security, *Risk Management Fundamentals: Homeland Security Risk Management Doctrine* (April 2011). We reviewed TSSRA cross-modal risk assessments published in May 2013, July 2014, and July 2016. TSA officials told us that the TSSRA is published approximately every 2 years.

2015 analysis of surface inspector time and activities to determine what TSA considered when it monitored how surface inspector activities were implemented. Furthermore, to evaluate the extent to which TSA's Risk Mitigation Activities for Surface Transportation (RMAST) program was risk-based and TSA had established measurable goals for the program, we compared the results of our analysis of PARIS surface module data, program descriptions, and interviews with TSA officials responsible for planning and implementing the program to TSA's risk guidance and *Standards for Internal Control in the Federal Government*.[11]

The performance audit upon which this report is based was conducted from April 2016 to October 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We subsequently worked with TSA from September 2017 to December 2017 to prepare this nonsensitive version of the original report for public release. This public version was also prepared in accordance with these standards. More details about the scope and methodology of our work are contained in appendix I.

Background

TSA Roles and Responsibilities

The Aviation and Transportation Security Act designated TSA as the primary federal agency responsible for securing all modes of transportation.[12] In fiscal year 2005, Congress appropriated funds for surface transportation security, and the accompanying conference report directed that some of those funds go to rail compliance inspectors, the predecessors to today's surface transportation security inspectors—referred to as surface inspectors.[13]

[11]GAO-14-704G.

[12]Pub. L. No. 107-71, § 101(a), 115 Stat. 597 (2001) (codified at 49 U.S.C. § 114(d)).

[13]H.R. Rep. No. 108-774, at 53 (2004) (Conf. Rep.).

Public and private transportation entities have the principal responsibility to carry out safety and security measures for their services. As such, TSA coordinates with public and private transportation entities to identify vulnerabilities, share intelligence information, and work to mitigate security risks to the system. See table 1 for examples of the entities TSA works with to secure the various surface transportation modes.

Table 1: Surface Transportation Modes and Select Entities that Partner with the Transportation Security Administration

Surface Transportation Modes	Examples of Types of Entities
Passenger Rail/Mass Transit	Amtrak Commuter rail systems Subway systems Mass transit bus companies
Freight Rail	Class I railroads and other smaller freight railroads
Highway	Over-the-Road Motor Coach companies School bus companies Trucking companies
Pipeline	Natural gas and petroleum pipeline companies
Maritime	Maritime Transportation Security Act-regulated facilities, which participate in the Transportation Worker Identification Credential program[a]

Source: GAO Analysis of Transportation Security Administration Documents. | GAO-18-180

Note: Passenger Rail/Mass Transit includes commuter rail, heavy rail, inter-city rail and light rail; Class I railroad is defined by the U.S. Surface Transportation Board as a railroad company that earns adjusted annual revenue of $319.3 million or more. An Over-the-Road Motor Coach is defined as a motor vehicle with an elevated passenger deck designed to seat more than 30 passengers atop a separate baggage area engaged in the transportation of passengers for inter-city, tour, and commuter services. An Over-the-Road Motor Coach excludes school and urban mass transit buses.

[a]The Transportation Worker Identification Credential (TWIC) program requires maritime workers to complete background checks and obtain biometric identification cards to gain unescorted access to secure areas of Maritime Transportation Security Act of 2002 (MTSA)-regulated facilities. See U.S.C. § 70105.

TSA Surface Security Budget and Regulations

In fiscal year 2005, $10 million of TSA's surface transportation security appropriation was to hire and deploy up to 100 rail compliance inspectors. TSA assigned inspectors to oversee security and provide oversight and assistance to railroads, and subsequently, other surface transportation modes, including mass transit and passenger rail, freight rail, highway, and pipeline sectors.[14] TSA has since increased the number of surface

[14]TSA surface inspectors are sometimes used to conduct aviation related tasks, according to TSA officials.

inspectors, and since 2013 has maintained more than 200 Full Time Equivalent (FTE) positions. See table 2 for additional details on the number of TSA surface inspector FTEs from fiscal years 2013 through 2017.

Table 2: Number of Surface Inspector Full Time Equivalent Positions at the Transportation Security Administration (TSA)

Fiscal Year	Surface Inspector Full Time Equivalent
2013	263
2014	235
2015	237
2016	216
2017	222

Source: TSA. | GAO-18-180

In August 2007, the 9/11 Commission Act was signed into law and required TSA to issue security regulations for freight and passenger rail, among other requirements.[15] TSA also issued regulations governing surface transportation security on its own initiative.[16] As of July 2017, TSA has issued the following regulations related to surface transportation:

- **Rail Inspections:** Issued in November 2008, 49 C.F.R. part 1580 requires certain freight railroad carriers and passenger rail operations (passenger railroad carriers and rail transit systems) to designate a rail security coordinator, notify the Transportation Security Operations Center regarding any significant security concerns, and, if applicable, ensure a secure chain of custody of rail cars containing certain hazardous materials, and be able to provide location and shipping

[15]Pub. L. No. 110-53, 121 Stat. 266 (2007). We previously reported that TSA had not yet fulfilled all requirements of the 9/11 Commission Act, and recommended that it develop a plan with milestones for implementing these provisions. See GAO-09-678. In June 2011, TSA developed this plan, but as of July 2017, TSA had not yet met all of the 9/11 Commission Act requirements. TSA has taken initial steps to fulfill the remaining provisions by (1) issuing an Advanced Notice of Proposed Rulemaking seeking public comment on several topics related to the development of surface transportation vulnerability assessment and security plan regulations, and (2) issuing a proposed rule that would require that front line employees of some freight rail, passenger rail, and mass transit entities receive security training. 81 Fed. Reg. 91,401 (Dec. 16, 2016); 81 Fed. Reg. 91,336 (Dec. 16, 2016).

[16]See 49 C.F.R. pt. 1580.

information for certain rail cars, among other things.[17] The hazardous materials subject to this regulation include certain explosives, toxic inhalation hazardous materials (TIH), and radioactive materials.[18] See appendix II for additional details.

- **Maritime Inspections:** TSA also partners with the U.S. Coast Guard (USCG) in securing maritime ports, facilities and vessels. TSA's responsibilities include enrolling Transportation Worker Identification Credential (TWIC) applicants, conducting background checks to assess the individual's security threat, and issuing TWICs.[19] In addition, TSA is authorized to conduct inspections of persons using TWIC to access the secured area of a regulated maritime facility.[20]

TSA Organizational Structure for Managing Its Surface Inspectors

Surface inspectors work under the direct command authority of the Federal Security Director (FSD) in the field. As of fiscal year 2017, TSA used a staffing model to allocate surface inspector staff to 49 different field offices, separated into seven geographic regions around the country. According to TSA, all but one surface field office locations are at or near major airports. Figure 1 depicts surface field office locations by region.

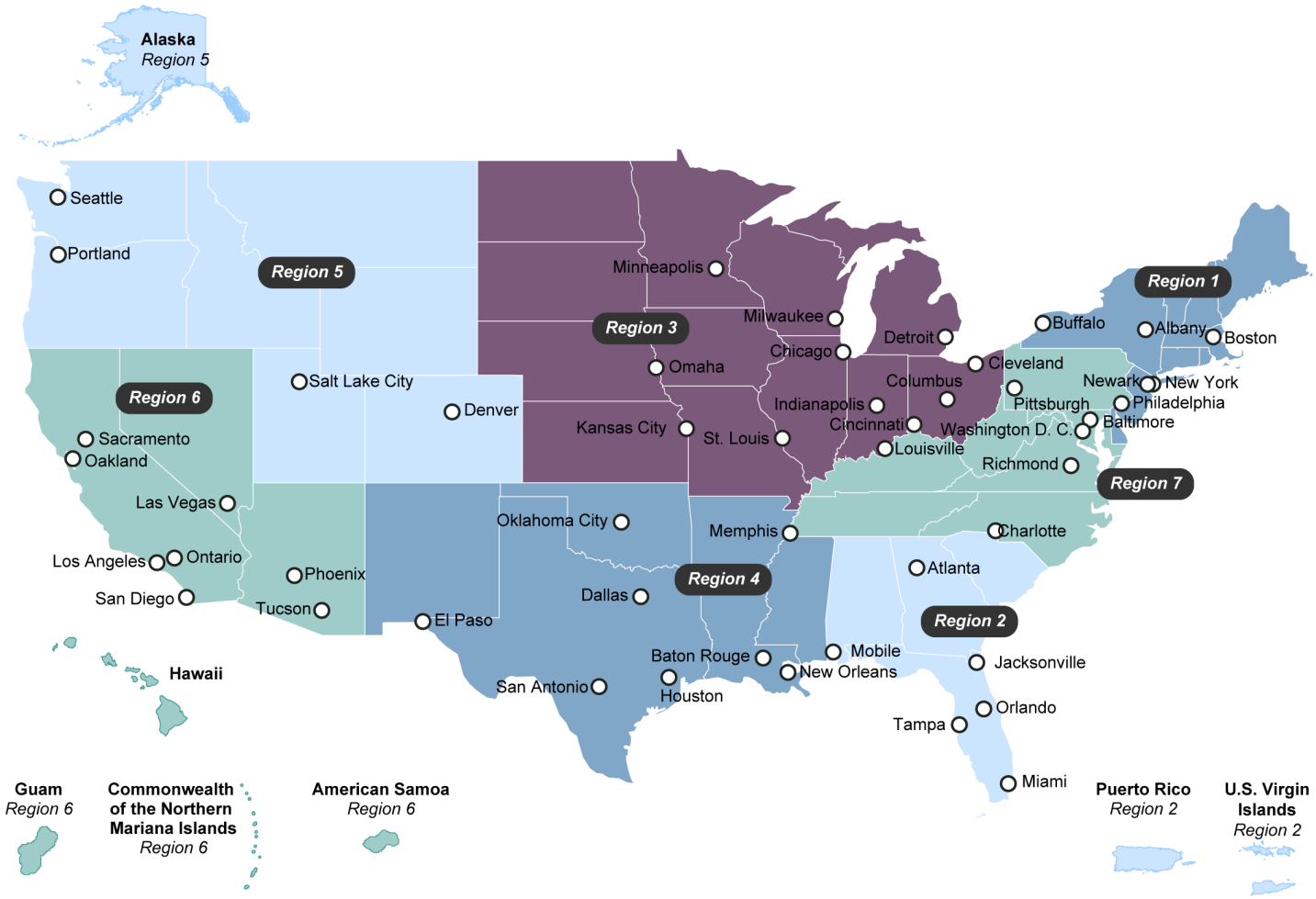
[17]This also applies to rail hazardous materials shippers that ship certain categories and quantities of hazardous materials, and rail hazardous materials receivers that receive certain categories and quantities of hazardous materials and are located within high-threat urban areas. TSOC is a 24/7 operations center that serves as TSA's main point of contact for monitoring security-related incidents or crises in all modes of transportation.

[18]Toxic Inhalation Hazardous (TIH) materials include chlorine (used in water treatment) and anhydrous ammonia (used in agriculture). In addition, shipments of TIH, especially chlorine, frequently move through densely populated areas to reach, for example, water treatment facilities that use these products. If released from a railcar in large quantities under certain atmospheric conditions, TIH materials could result in fatalities to the surrounding population.

[19]TWIC requires maritime workers to complete background checks and obtain biometric identification cards to gain unescorted access to secure areas of Maritime Transportation Security Act of 2002 (MTSA)-regulated facilities. See 46 U.S.C. § 70105.

[20]49 C.F.R. § 1570.9.

Figure 1: Transportation Security Administration Geographic Regions and Surface Inspector Field Office Locations



Source: Transportation Security Administration; Map Resources (map). | GAO-18-180

Surface inspector policies and procedures, and operational oversight are managed separately.

- **Program Guidance:** Within TSA's Office of Security Operations, the Surface Compliance Branch plans surface transportation security activities and programs, and develops an annual work plan that lays out the minimum required activities to be completed for surface inspectors in the field. The Office of Security Policy and Industry Engagement (OSPIE) collects and analyzes data on certain surface inspector activities such as the Baseline Assessment for Security

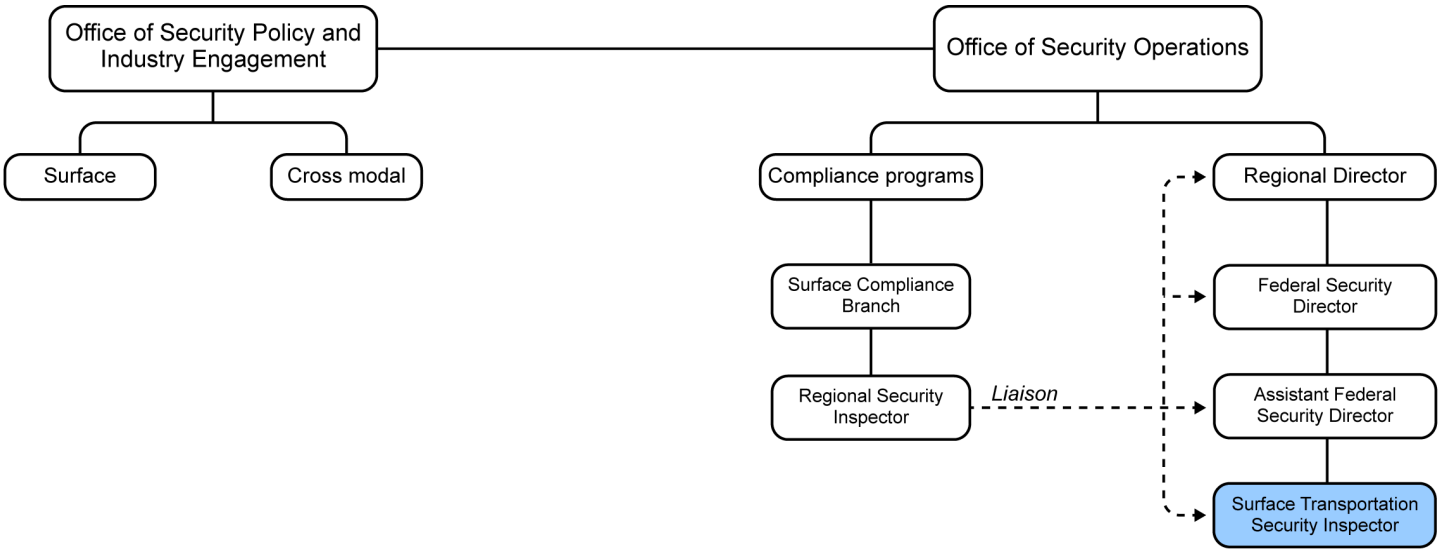
Enhancement (BASE) program, TIH attendance rates, and freight rail compliance rates; coordinates with industry stakeholders, and; develops strategic plans, among other things.

- **Operational oversight:** The Assistant Federal Security Director for Inspections (ASFD-I) in each field office manages surface inspectors on a day-to-day basis, oversees the scheduling of surface inspector work plan activities, and reviews inspectors' documentation of activities in PARIS, TSA's system of record. FSDs are ultimately responsible for ensuring that surface inspectors complete their annual work plan requirements.

In 2010, TSA created the Regional Security Inspector (RSI) position in an effort to improve oversight of surface inspectors in the field and standardize inspections across field offices. One RSI is assigned to each of the seven geographic regions and serves as a liaison between TSA headquarters staff and surface inspectors in the field. Each RSI is also assigned to be the lead liaison between TSA and the Class I railroads within their assigned geographic region.[21] See figure 2 for surface inspectors' command structure as of 2017.

[21]Class I railroads are defined as those with operating revenue over $457.9 million as of 2015. According to the Association for American Railroads, the seven Class I railroads in the United States operated about 69 percent of the total track miles as of 2012.

Figure 2: Command Structure for Transportation Security Administration (TSA) Surface Inspectors



Source: Transportation Security Administration. | GAO-18-180

Note: According to TSA, the Regional Security Inspector does not have any direct authority over the surface transportation inspectors in the field but may serve as a liaison to the local Federal Security Director (FSD), the Assistant Federal Security Director for Inspections (AFSD-I) and surface inspectors in planning and coordinating surface activities.

TSA Risk-Based Security for Surface Transportation

TSA documents state that it employs a risk-based approach for securing transportation modes and identifies managing risk as one of its strategic goals to help identify and plan security priorities and activities. According to TSA officials, TSA uses the *National Infrastructure Protection Plan (NIPP)* risk management framework and the *DHS Risk Management Fundamentals* as its primary risk guidance.[22] In June 2006, DHS issued the NIPP which established a six-step risk management framework to establish national priorities, goals and requirements. Most recently updated in 2013, the NIPP defines risk as a function of three elements: threat, vulnerability and consequence. Threat is an indication of the likelihood that a specific type of attack will be initiated against a specific target or class of targets. Vulnerability is the probability that a particular

[22]Department of Homeland Security, *NIPP 2013: Partnering for Critical Infrastructure Security and Resilience* (2013); Department of Homeland Security, *Risk Management Fundamentals: Homeland Security Risk Management Doctrine* (April 2011).

attempted attack will succeed against a particular target or class of targets. Consequence is the effect of a successful attack. TSA uses the TSSRA, a bi-annual risk assessment that considers the three elements of risk to measure the risk of various terrorist attack scenarios, evaluate transportation modes, and identify surface security priorities.

Surface Inspectors Conduct Regulatory Inspections and Voluntary Security Assessments but TSA Has Incomplete Information on Their Activities

Surface Inspectors Enforce Regulations through Inspections and Assist Surface Transportation Entities on a Voluntary Basis

Surface inspectors conduct a variety of activities to implement TSA's surface transportation security mission, including (1) regulatory inspections for freight and passenger rail systems, (2) regulatory TWIC inspections, and (3) non-regulatory security assessments and training which surface transportation entities participate in on a voluntary basis. Surface inspector activities are, in part, determined by an annual surface work plan that lays out the minimum required number of surface inspector activities to be completed by each field office. Specifically, the work plan requirements are designed to take up about one-third of inspectors' available working hours, with the expectation that the other two-thirds of inspectors' time will be used for related activities, such as documentation and follow-up, or other tasks as determined by local AFSD-Is and FSDs in the field.

To develop the annual surface work plan, officials from Office of Security Operation's Surface Compliance Branch and OSPIE meet with each of the RSIs once a year to determine the requirements for each office. According to TSA officials, they rely on the previous year's requirements as well as data on surface inspectors' past activities as logged in PARIS as a starting point to develop the requirements, and adjust the work plan based on their professional judgment of the unique environment in each field office's area of responsibility. TSA officials stated that they consider variables such as the compliance rates for inspections, the amount of TIH

materials being shipped through an area, and any other relevant risk-related information when they develop the work plan.

Regulatory Rail Inspections

Surface inspectors conduct inspections to enforce several freight and passenger rail security requirements. Table 3 provides descriptions of these inspections and appendix II provides a complete listing of TSA's regulatory activities.

Table 3: Freight and Passenger Rail Regulatory Activities Performed by Transportation Security Administration (TSA) Surface Inspectors

Regulation	Applicability	Description
Rail Security Coordinator	Freight railroad carriers, passenger rail carriers, rail hazardous material shippers, and rail hazardous materials receivers within High Threat Urban Areas (HTUA).[a]	Surface inspectors verify twice per year that each regulated entity for passenger and freight rail has assigned a Rail Security Coordinator who is responsible for overseeing the carrier's security policies and procedures and ensures that TSA has obtained that person's contact information.
Location and Shipping Information	Freight railroad carriers transporting hazardous materials, rail hazardous material shippers, and rail hazardous materials receivers within HTUAs.	Surface inspectors check twice per year that each regulated entity can identify which rail cars contain hazardous materials and provide geographic location and other information for the car. Class 1 railroads must be able to provide this information within 5 minutes for one rail car and 30 minutes if the request concerns two or more rail cars.[b] All other railroads must be able to provide the information within 30 minutes.
Reporting Significant Security Concerns	Freight railroad carriers, passenger rail carriers, rail hazardous material shippers, and rail hazardous materials receivers within HTUAs.	Surface inspectors ensure that all regulated passenger and freight rail entities report any significant security incidents or concerns to TSA's Transportation Security Operations Center, by visiting regulated entities twice per year to determine if incidents were reported correctly.
Witnessed Transfer of Custody and Control	Freight railroad carriers transporting hazardous materials, rail hazardous material shippers, and rail hazardous materials receivers within HTUAs.	Surface inspectors witness the transfer of custody of rail cars containing hazardous materials by observing whether the transportation entity physically secures the cars, checks for tampering, and ensures that both parties transferring the material complete the appropriate paperwork.

Source: GAO Analysis of 49 C.F.R. pt. 1580 and TSA Documents. | GAO-18-180

Note: In this table the term hazardous materials refers to one or more of the categories and quantities of materials specified in 49 C.F.R. §1580.100(b), including rail cars containing specified quantities of explosive materials, toxic inhalation hazardous materials (TIH), and radioactive materials.

[a]HTUAs are defined as "an area comprising one or more cities and surrounding areas including a 10-mile buffer zone." See 49 C.F.R. § 1580.3; 49 C.F.R. pt. 1580 app. A. This table presents how TSA enforces the regulation. Appendix II contains a table describing the contents of the regulation as written.

[b]A Class I railroad is defined by the U.S. Surface Transportation Board as a railroad company that earns adjusted annual revenue of $319.3 million or more.

TSA also tracks the rate at which the inspected entities comply with the regulations discussed in table 3. According to TSA data, on average, overall compliance rates for inspections have remained relatively high, and the compliance rates have generally improved over the years as entities have become more familiar with the processes and expectations of each type of inspection.[23]

Regulatory Maritime Inspections

Surface inspectors work with the USCG to conduct inspections of TWIC card holders attempting to access the secured area of maritime facilities regulated by the Maritime Transportation Security Act of 2002 (MTSA). TSA first issued the TWIC regulation in 2007 in cooperation with the USCG, and according to TSA officials, began nationwide implementation of TSA inspection of TWICs at maritime facilities in fiscal year 2017.[24] Surface inspectors scan cards using a TWIC card reader to verify that the card presented is valid and belongs to the card holder. TSA may pursue civil enforcement and can refer violators for criminal proceedings through the USCG. TSA officials stated they set the total minimum required TWIC inspections at 1,315 combined across all surface inspector field offices for fiscal year 2017 as a starting point, and would modify the requirements in subsequent years, as discussed below. According to TSA, it is too soon to determine compliance rates for TWIC inspections.

Non-regulatory Security Activities

Surface inspectors perform a variety of non-regulatory surface-related activities, such as various types of assessments, which require surface entities' voluntary participation. Table 4 provides a list of key non-regulatory activities surface inspectors perform. For a full list of activities surface inspectors perform see appendix II.

[23]TSA deemed the number of freight and passenger rail inspections conducted each year and the compliance rates of those inspections to be sensitive security information. Therefore they are not reproduced in this report.

[24]TSA conducted a TWIC inspection pilot in Houston and San Diego starting in fiscal year 2014.

Table 4: Key Non-Regulatory Activities Performed by Transportation Security Administration (TSA) Surface Inspectors

Surface Inspector Activities	Start Date (fiscal year)	Description
Baseline Assessment for Security Enhancement (BASE)	2006	A voluntary review in which surface inspectors evaluate the security programs of transportation entities, offer technical assistance, and share best practices.[a] TSA uses BASE to, among other things, determine priorities for allocating mass transit and passenger rail security grants, such as those provided through the Transit Security Grant Program.[b]
Risk Reduction Surveys (RRS)	2007	Inspectors verify that Toxic Inhalation Hazard (TIH) rail cars at rail yards within high-threat urban areas (HTUA) that transport TIH on a regular and recurring basis are being attended by railroad personnel. Inspectors also conduct "wildcard" RRS, which are designed to document TIH railcar storage within the HTUA that do not normally handle TIH on a regular and recurring basis to determine if these railcars are being attended by railroad personnel.
Risk Mitigation Activities for Surface Transportation (RMAST)	2017[c]	A program intended to focus time and resources on high-risk and critical assets, facilities and other infrastructure through the following activities: (1) public observation to identify suspicious activities, security vulnerabilities or suspicious behaviors that could be indicative of pre-operational planning related to terrorism; (2) site security observation to determine if the physical security measures and operational deterrence components are in place to effectively mitigate risk, and; (3) stakeholder engagement including TSA's public security awareness programs and improvised explosive device (IED) and intelligence briefings.

Source: GAO Analysis of TSA Information. | GAO-18-180

[a]The BASE consists of 17 Security Action Items (SAIs) developed by TSA and the Federal Transit Administration that address, among other best practices, security training and awareness programs, cybersecurity, and access control.

[b]The Transit Security Grant Program is a Department of Homeland Security grant program that provides funds to owners and operators of transit systems (which include intra-city bus, commuter bus, ferries, and all forms of passenger rail) to protect critical surface transportation infrastructure and the traveling public from acts of terrorism and to increase the resilience of transit infrastructure.

[c]The RMAST program was developed in fiscal year 2012, but was not fully implemented until fiscal year 2017.

TSA Has Taken Steps to Expand the BASE Review Program and Address Implementation Challenges

Since 2006, TSA has made adjustments to the BASE program to expand its use to more surface modes and address implementation challenges. To conduct a BASE review, surface inspectors use a standardized checklist to evaluate and score an entity's security policies and procedures for areas such as employee security training, cybersecurity, and facility access control, among other items. According to TSA officials, the results of the BASE reviews are intended to help track the entity's progress in implementing specific security measures over time and improve overall security posture among surface transportation entities, as

well as inform transportation security grant funding.[25] Surface inspectors also use entities' BASE review scores to help inform Exercise Information System (EXIS) training programs inspectors facilitate for transportation entities.[26]

Initially, the BASE program was designed to assess large mass transit entities in major metropolitan areas that transported 60,000 riders or more daily. TSA officials stated in 2017 that TSA has completed initial and follow up BASE reviews for the top 100 mass transit agencies in the country which comprise approximately 80 percent of the ridership in the United States. In 2012, TSA expanded the BASE reviews to the highway mode to include trucking, motor coach, and school bus operators.[27]

Additionally, TSA has taken steps to address challenges related to the implementation of the BASE reviews, including an initial lack of training and guidance for surface inspectors in conducting and evaluating the BASE reviews and difficulty applying the BASE template for smaller mass transit entities and highway entities. For example, surface inspectors we interviewed at six field offices indicated that they received limited to no training to conduct the initial BASE reviews. Office of Security Operations officials acknowledged that the BASE program initially lacked scoring guidance to allow surface inspectors to make objective evaluations. Additionally, two industry entities we spoke with stated that some BASE questions, as initially developed, seemed inappropriate or irrelevant given the scope of their operation, and that their scores reflected areas that they were not able to modify based on their limited size and resources. Further, in 2010, the DHS Office of Inspector General reported that TSA

[25]The Transportation Security Grant Program (TSGP) provides funds to eligible publicly owned operators of public transportation systems (which include intra-city bus, commuter bus, ferries, and all forms of passenger rail) to protect critical surface transportation infrastructure and the traveling public from acts of terrorism and to increase the resilience of transit infrastructure. In order to be eligible for the TSGP, transit agencies must have developed or updated their security plan, which must be based on a security assessment such as the Baseline Assessment for Security Enhancement (BASE) performed by TSA surface inspectors.

[26]During EXIS exercises, surface inspectors present a terrorist event scenario specific to the entity's system and procedures as documented in the BASE review, to test how transportation entities, along with other emergency management partners, carry out their security procedures and practices to respond to the scenario. TSA has received positive feedback from transportation entity partners on the helpfulness of the EXIS program.

[27]According to TSA, they do not maintain information on the percentage of these entities that participated in BASE reviews.

needed to provide increased training and guidance for inspectors to ensure that BASE assessments gather effective, objective data.[28]

In response, officials from TSA's Surface Compliance Branch stated that they established a BASE Advisory Panel and held a series of training workshops throughout the country on how to conduct BASE assessments. Specifically, in fiscal year 2014, TSA established a panel comprised of mass transit experts to adjust the BASE tool by modifying topics and removing outdated questions in an effort to improve the quality and applicability of the assessments for the industry stakeholders. TSA has also modified the BASE template over time to include areas such as cybersecurity and active shooter training, among others. TSA reported that it held a series of 16 workshops in 2015 around the country where headquarters officials met with inspectors to train them on how to conduct BASE assessments and correctly apply scoring guidance to help ensure inspectors applied the BASE criteria consistently. Moreover, in fiscal year 2016, TSA developed a targeted BASE that focuses only on an entity's areas of concern as identified by surface inspectors in a previous BASE review. Further, TSA is piloting a modified BASE template in fiscal year 2017 that eliminates questions that may not apply for smaller mass transit and highway entities. According to Surface Compliance Branch and OSPIE officials, these changes have led to more consistent and more reliable results in the BASE scores. We believe that TSA efforts to improve training and guidance as well as establishing the BASE Advisory Panel will help address the agency's previous concerns related to the implementation of the BASE review.

[28]The DHS Office of Inspector General found in 2010 that TSA needed to provide increased training and guidance to ensure that surface inspectors gather objective baseline data. See: Department of Homeland Security Office of Inspector General, *TSA's Preparedness for Mass Transit and Passenger Rail Emergencies*, OIG-10-68 (Washington, D.C.: Mar. 15, 2010).

TSA Has Incomplete Data on Surface Inspector Activities because It Cannot Account for All Aviation-related Activities

According to TSA headquarters and field officials, in addition to surface inspection activities, surface inspectors are tasked, to varying degrees, with aviation activities. However, TSA officials told us that they are unable to identify the total time surface inspectors spend on aviation activities because of data limitations. For example, surface inspectors may perform aviation activities on a regular basis as a "duty agent," or on an as-needed basis as determined by their local manager—their AFSD-I.[29] TSA guidance directs surface inspectors to report the time they spend on all activities into TSA's PARIS database. TSA officials responsible for managing PARIS told us that it has two independent modules – aviation and surface – and that surface inspectors enter aviation-related activities in both the aviation and surface modules. Specifically, TSA guidance directs surface inspectors to document their time serving as "duty agent" in the surface module of PARIS, but to document time spent on aviation inspections, incidents, or investigations – including those that take place during an inspector's time serving as the duty agent – into the aviation module of PARIS. See table 5 for examples of the types of aviation activities surface inspectors record in each separate PARIS module.

Table 5: Transportation Security Administration (TSA) Surface Inspector Guidance for Recording Aviation Activities in the Performance and Results Information System (PARIS)

Surface Module	Aviation Module
• Duty Agent	• Aviation Inspections
• Covert testing	• Aviation-related incidents
• Passenger Screening	• Aviation investigations[a]
• Aviation, cargo or Canine High Visibility Activities	• Aviation-related Visible Intermodal Prevention and Response (VIPR) support

Source: GAO Analysis of TSA Guidance. | GAO-18-180

[a]Inspectors responding to a violation, such as a passenger bringing a firearm through screening checkpoint, are required to produce a notice of violation report that must be completed within 5 days, and if there is an investigation of the incident, the inspectors develop an Enforcement Investigation Report.

TSA officials told us that it is not possible to identify the time surface inspectors document in the aviation module of PARIS because there is no

[29]According to TSA's work plan implementation guidance, "a duty agent is defined as a surface inspector assigned or scheduled to a duty desk or on-call in support of the airport, aviation, cargo, canine, or other non-surface related activities."

efficient, reliable way to distinguish surface inspectors from aviation or cargo inspectors in the data.[30]

Since TSA cannot reliably identify activities surface inspectors have entered into the aviation module of PARIS, TSA is only aware of the portion of time surface inspectors spent on aviation activities that was logged in the surface module. As a result, TSA does not have complete information on how surface inspector resources are being used or the extent to which surface inspectors are being used to perform aviation activities. According to some surface inspectors we spoke to, these resources can be substantial. Surface inspectors we interviewed at 16 of the 17 TSA field offices contacted stated that they perform aviation duties. One inspector stated she had received calls to respond to 12 different aviation incidents in one shift as duty inspector, and other inspectors stated that each incident report could subsequently take between 2 and 12 hours to complete. Surface inspectors from another office located near a major airport told us they have to work overtime to complete aviation incident reports and still meet their required surface activities. Further, we met with surface inspectors stationed at four different major airports who each estimated spending 20 percent, 25 percent, 30 percent, and 50 percent of their total working hours on aviation tasks, respectively.

Standards for Internal Control in the Federal Government states that agencies should use complete information to make informed decisions and evaluate the agency's performance in achieving key objectives.[31] As stated previously, one of TSA's key objectives is to employ a risk-based approach to all operations to identify, manage, and mitigate risk. *Standards for Internal Control in the Federal Government* also states that agencies should clearly document all activities in a manner that allows the documentation to be readily available for examination. Without having access to complete information on all inspector activities, including aviation activities, TSA cannot monitor how frequently surface inspectors are being used to support aviation. In addition, by not using complete information on how much time surface inspectors spend working in support of aviation, TSA is limited in its ability to make informed future decisions on annual resource needs for surface inspectors, which will be

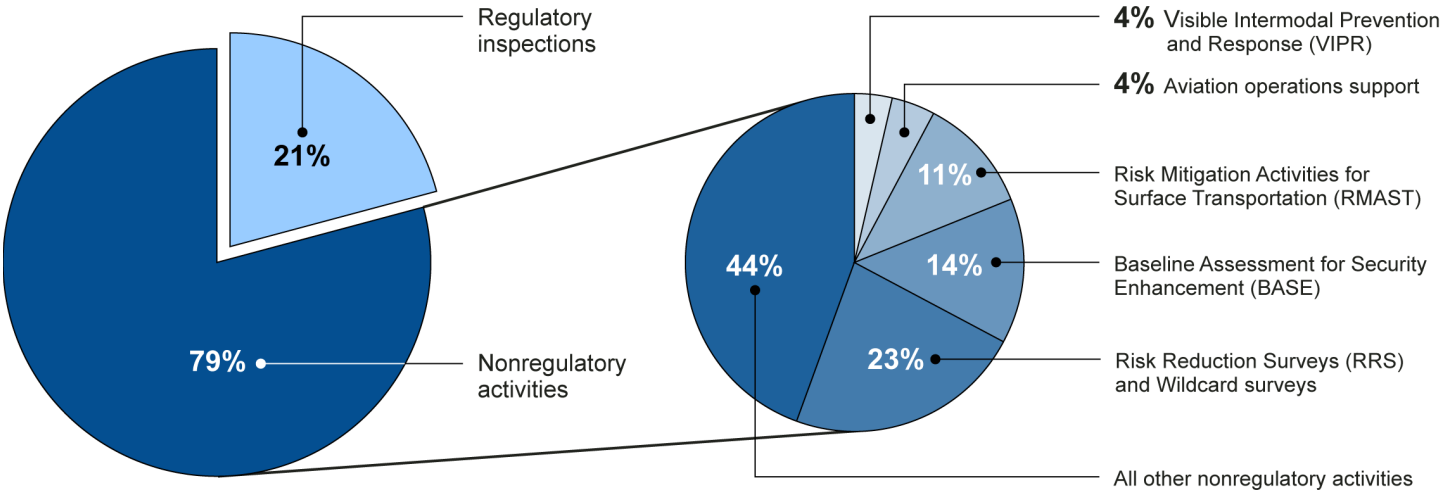
[30]The officials said that while it may be possible to identify surface inspectors at the individual level by name in the aviation module, such an approach would be too time-consuming and may not be a reliable method of identifying the time surface inspectors spend on aviation activities.

[31]GAO-14-704G.

especially important as TSA takes steps to expand its inspection activities with the promulgation of new surface security regulations. By addressing the limitations in the aviation module of PARIS, TSA would be able to more reliably access complete information on all inspector activities. Also, it would have the information it needs to make fully informed decisions about surface inspector resources and activities, and to evaluate surface inspectors' performance in achieving key surface security objectives.

Since there is no way to identify surface inspectors in the aviation module of PARIS at the aggregate level, we were unable to conduct our own analysis of all surface inspector activities. However, we were able to analyze data on how surface inspectors reported spending their time in the surface module of PARIS, including time spent on aviation activities as documented in this particular module. Our analysis showed that from fiscal years 2013 to 2017, surface inspectors reported spending approximately 80 percent of their time on non-regulatory activities, while spending approximately 20 percent on regulatory inspections. Figure 3 shows a breakdown of the time surface inspectors recorded spending in the surface module of PARIS for fiscal year 2016, the most recent complete year of data available. See appendix III for similar breakdowns for each fiscal year from 2013 to 2017.

Figure 3: Surface Inspector Time Spent on Activities Reported in the Surface Module of Performance and Results Information System (PARIS) for Fiscal Year 2016



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: These numbers reflect 100 percent of the hours inspectors recorded in the surface portal of PARIS. Time inspectors reported for aviation activities within the aviation portal is not represented in the figure because the data is not available.

TSA Used a Risk-Informed Process to Allocate Surface Inspector Staff, But Inspector Activities Did Not Align With Risk

TSA Used a Risk-Informed Model to Allocate Surface Inspectors to Field Offices

In fiscal year 2017, TSA's Surface Compliance Branch implemented an updated staffing model to redistribute 222 surface-funded positions across its 49 surface field offices based on the factors described in table 6 below.[32]

Table 6: Factors Considered to Reallocate Surface Inspectors to Transportation Security Administration (TSA) Field Offices for Fiscal Year 2017

Factor	Percent of Staff Allocated	Description
Work Plan Requirements	65.80	Projected staff needed in each field office based on the number of freight and passenger rail inspections and Risk Reduction Surveys (RRS) each office was required to complete in the fiscal year 2016 work plan, and the average time required to complete them. Also considered the average number of Baseline Assessment for Security Enhancement (BASE) reviews each office actually completed in the previous 3 years and the average time required to complete them.
High-Threat Urban Area (HTUA)/ Urban Area Security Initiative (UASI)	13.68	Considered whether the area a field office is responsible for includes an HTUA and the UASI funding those HTUAs received in 2015. TSA derived its list of HTUAs based on risk assessments conducted under the UASI program.[a]
Mass Transit	8.55	Considered the size and number of mass transit systems in each office's area.
Transportation Worker Identification Credential (TWIC)	6.84	Considered the number of Maritime Transportation Security Act-regulated ports and Universal Enrollment Centers in an office's area.[b]

[32]TSA's model distributed a smaller number of staff than the total surface-funded positions in fiscal year 2017 because the model did not distribute staff in the following positions: Supervisory Surface Inspectors, surface-funded AFSD-Is or Multi-Modal Supervisors, and designated Visible Intermodal Prevention and Response personnel.

Factor	Percent of Staff Allocated	Description
Advisor/ Panel Facilitator	3.42	Considered the number of personnel in each office trained to facilitate Exercise Information System (EXIS) tabletop exercises or designated to sit on the BASE Advisory Panel or the TWIC Advisory Panel.[c]
Toxic Inhalation Hazard (TIH)	1.71	Considered the tonnage of TIH moving through an office's area and the number of points at which TIH is exchanged, known as interchanges.

Source: GAO analysis of TSA documents . | GAO-18-180

[a]TSA defines and identifies HTUAs in 49 C.F.R. § 1580.3 and 49 C.F.R. part 1580 appendix A. UASI is a Department of Homeland Security (DHS) grant program designed to provide funding to enhance urban areas' overall security and preparedness levels to prevent, respond to, and recover from acts of terrorism.

[b]These centers provide services for TWIC as well as TSA Pre✓™ and Hazardous Material Endorsement (HME) programs. Surface inspectors conduct Quality Assurance assessments of the centers. According to TSA's fiscal year 2016 budget justification, surface inspectors conduct approximately 240 assessments each year.

[c]Members of the TWIC Advisory Panel act as a resource on best practices for surface inspectors as they begin to conduct TWIC civil enforcement activities.

TSA considered four of these factors – HTUA/Urban Area Security Initiative (UASI), Mass Transit, TWIC, and TIH – to be related to risk. For example, TSA derived its list of HTUAs based on risk assessments conducted under the UASI program. We have previously reported that the UASI methodology for determining risk scores and distributing grant funds is reasonable, and that UASI grant allocations are strongly associated with a city's current relative risk score.[33] Additionally, according to TSA, inspectors focus on entities within surface transportation modes or shipments of certain hazardous materials the agency determines could pose the greatest security vulnerability and which could potentially be more likely to be targeted by terrorists.

The *DHS Risk Lexicon 2010* and the 2013 *NIPP* risk management framework, which are TSA's primary risk guidance, define risk-informed decision-making as the determination of a course of action predicated on the assessment of risk, the expected impact of that course of action on that risk, as well as other relevant factors.[34] The *DHS Risk Lexicon 2010*

[33]GAO, *Critical Infrastructure Protection: DHS List of Priority Assets Needs to Be Validated and Reported to Congress*, GAO-13-296 (Washington, D.C.: Mar. 25, 2013); and GAO, *Homeland Security: DHS Risk-Based Grant Methodology is Reasonable, But Current Version's Measure of Vulnerability is Limited*, GAO-08-852 (Washington, D.C.: June 27, 2008).

[34]Department of Homeland Security, Risk Steering Committee, *DHS Risk Lexicon 2010 Edition* (September 2010).

further states that risk-informed decision-making may also take into account multiple sources of information not included specifically in the assessment of risk. Because TSA considered multiple risk factors in addition to other information, such as the number of regulated entities in an area and the number of required activities, in its staffing model, we determined that TSA used a risk-informed model to allocate surface inspector staff to its 49 offices.[35]

Between Fiscal Years 2013 and 2017 Surface Inspector Activities Did Not Align With Identified Risks for Surface Transportation Modes

TSA surface inspectors perform a wide range of regulatory and non-regulatory activities to fulfill the agency's objective of employing risk-based security, but we found that between fiscal years 2013 and 2017 surface inspector activities did not align with the risks TSA identified for surface transportation. To inform its security strategy, TSA assesses risk within and across the aviation, freight rail, passenger rail/mass transit, highway, and pipeline modes approximately every 2 years using the TSSRA.[36] According to the TSSRA's cross-modal risk assessments between fiscal years 2013 and 2017, one particular surface mode consistently posed the highest risk, and another consistently posed the lowest risk out of all surface transportation modes.[37] For example, in fiscal year 2016, TSA found that the lowest risk mode posed approximately 6 percent of domestic total risk while the highest risk mode posed 27

[35]The fiscal year 2017 staffing model does not explicitly assess the cost or effectiveness of staffing alternatives, which is part of conducting a risk-informed process under the *NIPP* risk management framework.

[36]According to the 2016 TSSRA, the U.S. Coast Guard and TSA jointly elected not to include maritime transportation security risk in the TSSRA series because the U.S. Coast Guard is the lead federal agency for maritime security and uses the Maritime Security Risk Analysis Model (MSRAM) to assess maritime risk. According to TSA, the TSSRA and the MSRAM employ different analytic approaches, which significantly inhibits the ability to perform a meaningful cross-modal comparative analysis. We did not assess the MSRAM because it was not within the scope of our analysis, but we have previously reported that the MSRAM meets DHS risk criteria. GAO, *Coast Guard: Security Risk Model Meets DHS Criteria, but More Training Could Enhance Its Use for Managing Programs and Operations*, GAO-12-14 (Washington, D.C.: Nov. 17, 2011).

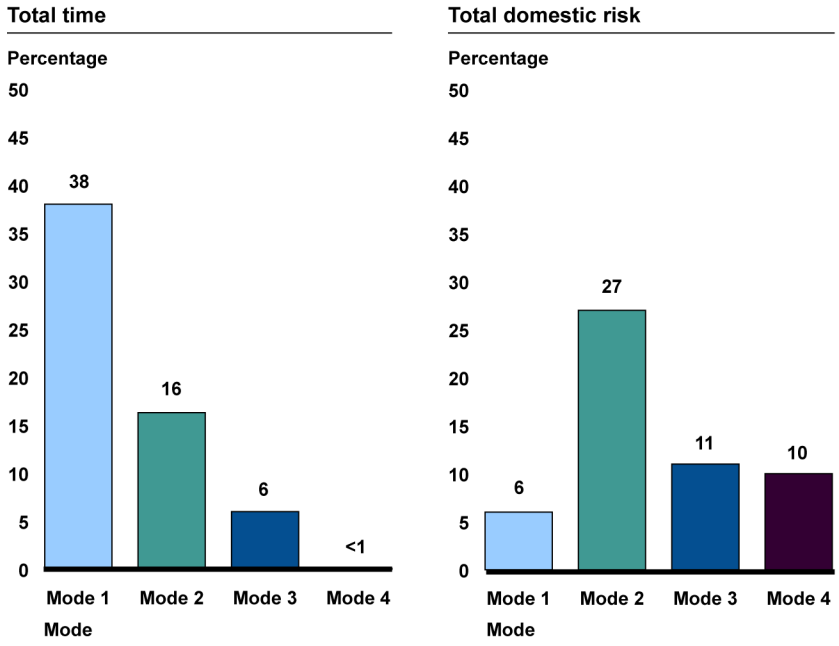
[37]The surface modal risk rankings as determined by the TSSRA are sensitive security information. Therefore, we have removed mention of the specific modes in this section of the publicly releasable version of the report.

percent of domestic total risk.[38] However, our analysis of data from the surface module of PARIS showed that inspectors reported spending between 35 and 45 percent of their time on the lowest risk mode between fiscal year 2013 and fiscal year 2016 – the most time spent on any surface mode.[39] Of the time reported in the surface module of PARIS in fiscal year 2016, surface inspectors reported spending 38 percent of their time on the lowest risk transportation mode while they reported spending approximately 16 percent of their time on the highest risk surface mode according to the TSSRA. See figure 4 for a comparison between the percent of time inspectors recorded spending on each mode and the percent of risk identified in the TSSRA.

[38]The TSSRA analyzes both global risk and domestic risk, which excludes international aviation. International aviation includes aircraft taking off from a foreign airport that have a last point of departure to the United States. We analyzed the domestic risk view because, according to the TSSRA, this view focuses on the modes over which TSA has the greatest direct influence and informs resource allocation and policy decisions. Total risk considers threat, vulnerability, and both the direct and indirect consequences of a potential terrorist attack in the transportation sector. Domestic total risk considers the total risk of all transportation modes except international aviation.

[39]Our analysis includes the time surface inspectors reported *in the surface module of PARIS only* on the following modes and types of activities: (1) freight rail, (2) passenger rail/mass transit, (3) highway, (4) maritime, (5) pipeline, (6) aviation support, (7) multimodal, and (8) non-operational activities. We considered multimodal activities to include activities such as high visibility activities or special events that can be conducted in several different modes, as well as time spent handling incidents like vandalism, which could happen in several different modes. We considered non-operational activities to include administrative and training tasks. As previously discussed, because inspectors recorded some aviation activities in the aviation module of PARIS, which cannot reliably be accessed, these percentages do not represent the complete time surface inspectors spent on aviation activities.

Figure 4: Percent of Transportation Security Administration (TSA) Surface Inspector Time Reported in the Surface Module of the Performance and Results Information System (PARIS) and Percent of Total Domestic Risk for Surface Modes, Fiscal Year 2016



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: The percentages depicted in figure 4 do not sum to 100 for either the percent of time inspectors spent or the percent of risk in the Transportation Sector Security Risk Assessment (TSSRA) because the figure does not include the percent of time inspectors spent on the aviation mode or non-operational activities, among others. The specific surface transportation modes are not labeled in the figure because TSA deemed the TSSRA risk rankings of specific transportation modes to be sensitive security information.

We found that TSA did not use the results of risk assessments that measure threat, vulnerability, and consequence, like the TSSRA, when it developed surface inspector work plans, or when it monitored activities inspectors conducted, including those in addition to the minimum work plan requirements. While TSA officials told us that they considered the results of the TSSRA, TSA officials could not provide evidence that they incorporated the results of the TSSRA or other risk assessments when developing the work plan and monitoring inspector activities, as required by DHS risk management guidance. For example, TSA officials could not provide documentation of how and why they selected certain work plan activities to address lower risk modes, or how they monitored the extent to which implemented activities aligned with or addressed risks.

Monitoring Activity Implementation

We found that TSA did not incorporate the results of the TSSRA or other risk assessments when it monitored how surface inspector activities were implemented beyond the minimum requirements laid out in the work plan. Specifically, we found that between fiscal years 2013 and 2017, inspectors spent about half their working hours fulfilling work plan requirements. Surface Compliance Branch officials told us that they reviewed PARIS data on all surface inspector activities, as reported in the surface module of PARIS, annually to inform staffing decisions and conducted detailed analysis of surface inspector time starting in fiscal year 2015.[40] However, this analysis did not evaluate the extent to which surface inspector time beyond the work plan requirements corresponded to surface transportation risks as identified by the TSSRA or other risk assessments. Further, TSA officials told us that they did not think surface inspector time should be compared to risks identified in cross-modal risk assessments like the TSSRA because required regulatory inspections are unpredictable and can take a significant amount of time. However, as previously discussed, we found that, of the time reported in the surface module of PARIS, inspectors reported spending approximately 20 percent of their time on regulatory inspections, with the remaining 80 percent spent on non-regulatory activities.

More than half of the industry representatives we spoke to (9 of 15) identified benefits from inspectors' activities in surface transportation modes other than freight rail.[41] For example, two of the three representatives of MTSA-regulated companies we spoke to said that TSA's TWIC inspections had significant benefits for the security of their facilities, and stated that they wanted more TWIC inspections and civil enforcement activities from inspectors because these activities discourage misuse of TWICs at their facilities. Representatives from two maritime companies, one highway company, and three public transportation systems told us that they wanted TSA surface inspectors to do more. Additionally, a representative for one national industry organization stated that his organization was concerned that TSA is mainly focused on freight rail when the principal threat resides in the

[40]The fiscal year 2015 analysis, known as the *Field Performance Metrics Report*, was conducted by a surface inspector in one field office with the support of the Surface Compliance Branch. This analysis identified how surface inspectors spent their time in fiscal year 2015, including the top regulatory and non-regulatory activities, among other things. TSA officials stated that this analysis was also conducted for fiscal year 2016.

[41]We spoke to representatives of companies or industry associations in all surface transportation modes except pipeline.

passenger and mass transit modes, and suggested that TSA deploy inspection resources from the freight rail mode to support more non-regulatory initiatives in the passenger rail/mass transit mode.

According to TSA, the agency employs a risk-based approach – which the *DHS Risk Lexicon* defines as using the assessment of risk as the *primary* decision driver – to all operations to identify, manage, and mitigate risk in all TSA lines of business. One TSA risk strategy document specifically emphasizes the importance of linking the TSSRA, among other risk assessments, to the identification of risk-reduction activities as part of a risk-based approach to security. Moreover, the *NIPP* risk management framework and the *DHS Risk Management Fundamentals Doctrine*, which TSA officials told us are TSA's primary risk management guidance documents, also state that entities should systematically prioritize and implement activities and resources to mitigate and manage risks identified in risk assessments. These documents also state that monitoring implemented decisions and comparing observed and expected effects to influence subsequent risk management decisions are key steps in the homeland security risk management process. The *DHS Risk Management Fundamentals Doctrine* further states that agencies should document the development and selection of alternative risk management actions, including assumptions and risk strategies such as the decision to not take action and accept risk, in order to provide decision-makers with a clear picture of the benefits of each action. It also explains that the risk management process allows organizations to clearly explain the rationale behind resource decisions.[42]

TSA did not use the results of risk assessments – such as the TSSRA – or other risk information when it developed its surface inspector work plan requirements. Instead, TSA prioritized the lowest-risk surface transportation mode, reducing the amount of surface security resources available to address identified risks in other, higher-risk surface transportation modes. As a result, TSA's limited surface transportation security resources were not used in a risk-based way. By incorporating

[42]The *DHS Risk Management Fundamentals Doctrine* identifies four strategies to manage risk: risk acceptance, risk avoidance, risk control, and risk transfer. Risk acceptance involves a decision, after thoughtful analysis and careful consideration of alternative courses of action, to not take action because, for example, the cost outweighs potential risk reduction. Risk avoidance is a strategy which removes exposure of an organization to risk. Risk control consists of deliberate actions taken to reduce a risk's potential for harm or maintain the risk at an acceptable level, while risk transfer involves shifting some or all of the risk to another entity, asset, system, network, or area.

the results of its risk assessments when it plans and monitors surface inspector activities, including those not required by the work plan, TSA would be better able to ensure that its limited surface transportation security resources are being used to effectively and efficiently address the highest risks to surface transportation, especially as risks evolve. Incorporating risk assessment results in planning and monitoring surface inspector activities will also allow TSA to ensure that its surface inspectors are making progress toward achieving TSA's objective of risk-based security. Additionally, by documenting its risk mitigation decisions and strategies, TSA would be able to more clearly explain the rationale for its resource decisions, including when TSA decides to accept risk or prioritize lower-risk activities for any reason.

TSA Cannot Ensure That New Risk Mitigation Efforts Address High-Risk Entities and Locations

In fiscal year 2012, TSA began developing the Risk Mitigation Activities for Surface Transportation (RMAST) program in support of TSA's risk-based security initiative. According to TSA's fiscal year 2017 work plan, the RMAST program incorporates specific risk reduction measures and focuses time and resources on high-risk locations through (1) public observation, (2) site security observations, and (3) stakeholder engagement activities. Though TSA field officials told us that inspectors have been conducting these activities in some format in the past, TSA began piloting this particular program in fiscal year 2014 and made RMAST a work plan requirement for each office starting in fiscal year 2017.

In addition to TSA demonstrating its commitment to the RMAST program by adding it as a required work plan activity, we found that inspectors reported spending an increasing amount of time conducting RMASTs since fiscal year 2014, and that RMASTs now comprise a larger percentage of inspector time (see table 7).

Table 7: Percent of Transportation Security Administration Surface Inspector Time Spent on Risk Mitigation Activities for Surface Transportation (RMASTs), as Reported in the Surface Module of the Performance and Results Information System (PARIS), Fiscal Years 2014 Through March 2017

Fiscal Year	Percent of Surface Inspector Time Spent on RMASTs in Surface Module of PARIS
2014	3.7
2015	4.3
2016	8.8
2017 (as of March 24, 2017)	16.6

Source: GAO Analysis of Transportation Security Administration (TSA) Data. | GAO-18-180

Note: Although the RMAST program was developed in fiscal year 2012, surface inspectors did not begin conducting RMASTs until fiscal year 2014, according to our analysis of TSA data.

Prioritizing High-Risk Entities and Locations

Although surface inspectors reported spending an increasing amount of time on RMAST activities, we found that TSA has not identified or prioritized the high-risk entities and locations on which the RMAST program is intended to focus time and resources. For example, the fiscal year 2017 surface inspector work plan states that the required number of RMASTs each office should conduct was developed based on the presence of applicable stakeholders in each office's area, but we found that TSA did not identify any such stakeholders in its work plan. Specifically, while the work plan guidance directed surface inspectors to conduct RMASTs with entities that fit "listed" criteria, this list consisted of all surface modes of transportation for which TSA has authority and did not include any criteria surface inspectors could use to identify the highest-risk and most critical locations, such as by type, characteristics, or location of high-risk entities. TSA officials told us that they have not identified high-risk entities for RMAST because there are too many potential entities and stated that there is no way to provide a full list of all entities in each office's area. However, the intent of the RMAST program is to focus time and resources on high-risk entities and locations, which precludes the need to provide a complete list of all surface transportation entities in each area. Further, TSA officials told us that TSA has not provided any guidance to the field beyond the work plan on how to identify appropriate entities for RMASTs, but that they rely on surface field offices to identify the highest-risk entities in their own areas. Officials from three field offices told us that inspectors try to conduct RMASTs based on threat information or previous BASE scores, but inspectors in one of those offices said that the intelligence information they receive from TSA is insufficient to help them identify threats and conduct outreach for

RMASTs. As previously discussed, the NIPP risk management framework and the DHS Risk Management Fundamentals Doctrine both state that entities should identify and assess risks and prioritize resources to mitigate those risks. If TSA identified and prioritized the types of high-risk entities and locations it intends the RMAST program to reach, surface inspectors would have information that would enable them to implement these activities in a more risk-based manner.

Defining Measurable and Clear Objectives

While TSA has identified broad objectives for the RMAST program, it has not defined these objectives – and associated program activities – in a measurable and clear way. Specifically, in its description of RMAST in the fiscal year 2017 work plan implementation guidance, TSA stated that the RMAST program will be risk-based, intelligence-driven, and mitigate current threats and vulnerabilities, but did not provide further information that would allow TSA to measure progress toward achieving these objectives. Similarly, in its budget justifications for fiscal years 2014, 2015, and 2016 TSA stated that RMAST is intended to improve security and reduce the need for stakeholders to stretch limited resources to harden security at their most critical and high-risk locations, but TSA did not describe how it would measure whether security had improved, or if stakeholders' resource needs were reduced. While our review of the fiscal year 2017 work plan guidance showed that TSA identified general categories of activities – public observation, site security observation, and stakeholder engagement – TSA did not identify what specific activities within each of these categories constitute an RMAST, or describe how those activities would help TSA achieve its objectives for the RMAST program. Some inspectors told us that the purpose of RMAST was unclear, that they had not been given the tools to perform RMAST in an effective and efficient way, or that the observation component of RMAST was not a valuable activity. TSA has not defined the RMAST program's objectives and associated activities in a measurable and clear way because, according to TSA officials, TSA has not identified an approach for determining the effectiveness of activities conducted under the program.

Standards for Internal Control in the Federal Government states that management should establish proper controls – including the establishment and review of clearly defined objectives and performance measures – so that program objectives and processes are understood at

all levels and progress toward achieving objectives can be assessed.[43] By defining the program's objectives and associated activities in a measurable and clear way, TSA would be better positioned to measure progress toward achieving the program's goal of mitigating current threats and vulnerabilities, and surface inspectors may better understand how to effectively carry out the program.

Conclusions

TSA has employed surface inspectors for a variety of regulatory and non-regulatory activities intended to mitigate risks to surface transportation and enhance the security of the United States' surface transportation systems and networks. Working with surface transportation entities, who have the primary responsibility for securing their respective entities, TSA surface inspectors enforce security regulations for the freight and passenger rail modes, but spend the majority of their time conducting non-regulatory activities such as security assessments, exercises, and observations. While TSA uses information on some surface inspector activities to monitor and make decisions on these activities, limitations in the PARIS data system prevent TSA from readily accessing complete information on how much time inspectors spend working in support of aviation. Without addressing these limitations TSA is limited in its ability to make informed future decisions on annual resource needs for surface inspectors, which will be especially important as TSA take steps to expand its inspection activities with the promulgation of new surface security regulations. Given that TSA spends only about 3 percent of its budget on surface activities, it is crucial that the agency have complete information on how resources are being used in order to best allocate these limited federal surface transportation security resources.

According to TSA, the agency implements risk-based security – security activities that are driven primarily by the assessment of risk – to deliver the most effective security in the most efficient manner. While TSA has implemented a risk-informed process to allocate surface inspectors to its field offices, it has not taken steps to ensure that surface inspector activities align more closely to the risks TSA has identified in its risk assessments. As a result TSA could continue to prioritize its limited resources to lower risk surface modes, leaving fewer resources available for higher risk modes. By using the results of risk assessments like the

[43]GAO-14-704G. Clearly defined objectives use easily understood and measurable terms to describe what is to be achieved, who is to achieve it, how it will be achieved, and the time frames for achievement.

TSSRA when it plans and monitors surface inspector activities, TSA would be better able to ensure that limited surface transportation security resources are used to effectively and efficiently address the highest surface transportation security risks. Additionally, by documenting its risk mitigation decisions and strategies, TSA would be able to more clearly explain the rationale for its resource decisions, including when TSA decides to accept risk or prioritize lower-risk activities for any reason.

Furthermore, by identifying and prioritizing highest risk entities and locations for its new RMAST program, surface inspectors would have information that would enable them to implement risk mitigation activities in more of a risk-based way. In addition, by clearly defining the program's goals and activities, TSA would be better able to measure whether RMAST activities are achieving the program's goal of increasing surface transportation security.

Recommendations for Executive Action

We are making the following four recommendations to TSA:

The Administrator of TSA should address limitations in TSA's data system, such as by adding a data element that identifies individuals as surface inspectors, to facilitate ready access to information on all surface inspector activities. (Recommendation 1)

The Administrator of TSA should ensure that surface inspector activities align more closely with higher-risk modes by incorporating the results of surface transportation risk assessments, such as the TSSRA, when it plans and monitors surface inspector activities, and that TSA documents its rationale for decisions to prioritize activities in lower-risk modes over higher-risk ones, as applicable. (Recommendation 2)

The Administrator of TSA should identify and prioritize high-risk entities and locations for TSA's Risk Mitigation Activities for Surface Transportation (RMASTs). (Recommendation 3)

The Administrator of TSA should define clear and measurable objectives for the RMAST program. (Recommendation 4)

Agency Comments and Our Evaluation

We provided a draft of this report to DHS for their review and comment. DHS provided written comments, which are noted below and reproduced in full in appendix IV, and technical comments, which we incorporated as appropriate.

DHS concurred with all four recommendations in the report and described actions underway or planned to address them. With regard to the first recommendation that TSA address limitations in its data system to facilitate ready access to information on all surface inspector activities, DHS concurred and stated TSA's Compliance Division will maintain a staffing tool that identifies the modal assignments of transportation security inspectors that can be used to more effectively analyze all surface inspector activities. If fully implemented, such that data on all activities surface inspectors perform are readily accessible, this system should address the intent of the recommendation.

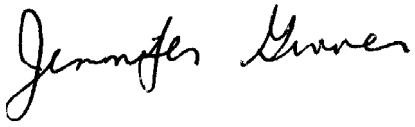
With regard to the second recommendation that TSA align surface inspector activities more closely with higher-risk modes by incorporating the results of surface transportation risk assessments, such as the TSSRA, when it plans inspector activities, and document its rationale for decisions to prioritize activities in lower-risk modes, TSA concurred and stated relevant risk information would be more clearly incorporated into the Surface Work Plan development process. Further, TSA plans to explain decisions and rationale for deviating surface inspector planned activities from mirroring the TSSRA in its program guidance documentation. TSA estimates it will complete this process by January 31, 2018. If TSA is able to fully incorporate risk assessment results, such as the TSSRA, into its decisions for assigning surface inspector tasks across surface transportation modes, and document its rationale if planned inspector activities do not align with risk assessment results, TSA's planned actions would address the intent of the recommendation.

With regard to the third recommendation to identify and prioritize high-risk entities and locations for TSA's Risk Mitigation Activities for Surface Transportation (RMAST), TSA concurred and stated the Surface Compliance Branch will prioritize entities for RMAST activities within the Surface Work Plan or other applicable program guidance documents using results from the TSSRA and using high threat urban area designations. TSA estimates this process will be completed by January 31, 2018 and if fully implemented, this process should address the intent of the recommendation.

With regard to the fourth recommendation that TSA define clear and measurable objectives for the RMAST program, TSA concurred and stated the Surface Compliance Branch has clarified in program guidance documents how to apply and measure certain security outcomes resulting from RMAST activities to security vulnerabilities identified from a previous BASE assessment or other security assessment program. Documentation corroborating these actions was not provided to GAO before the issuance of this report. However, if TSA is able to clearly state the purpose and objectives of RMAST activities, and track the extent to which these objectives have been met, this additional program guidance should address the intent of the recommendation.

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

If you or your staff have any questions about this report, please contact me at (202) 512-7141 or groverj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.



Jennifer Grover
Director
Homeland Security and Justice Issues

Appendix I: Objectives, Scope, and Methodology

Our objectives were to examine (1) how Transportation Security Administration (TSA) surface inspectors implement the agency's surface transportation security mission, and (2) the extent to which TSA has used a risk-based approach to prioritize and implement surface inspector activities.

This report is a public version of a prior sensitive report that we issued in October 2017.[1] TSA deemed some of the information in the prior report sensitive security information, which must be protected from public disclosure.[2] Therefore, this report omits sensitive information regarding the specific risks facing particular surface transportation modes as determined by TSA. However, the report addresses the same questions as the sensitive report and the overall methodology used for both reports is the same.

To obtain background information and answer both questions we (1) reviewed background documents, including TSA strategic documents and previous GAO and Department of Homeland Security (DHS) Inspector General reports, (2) analyzed TSA data on surface inspector activities, and (3) conducted non-generalizable interviews of surface inspectors, their supervisors, and industry stakeholders.

To understand TSA's roles and responsibilities for surface security, as well as its mission, we examined statutes and regulations, including the Aviation and Transportation Security Act, the Implementing Recommendations of the 9/11 Commission Act of 2007, and TSA surface security and related regulations.[3] We also reviewed DHS and TSA strategic documents including TSA's *National Strategy for Transportation Security 2016*, the DHS *National Infrastructure Protection Plan (NIPP)* 2013, and the fiscal years 2016 to 2018 strategic plans for TSA's Office of Security Operations and the Office of Security Policy and Industry

[1] *Transportation Security Administration: Surface Transportation Inspector Activities Should Align More Closely With Identified Risk*s, GAO-18-17SU (Washington, D.C.: Oct. 16, 2017).

[2] See 49 C.F.R. pt. 1520.

[3] Pub L. No. 107-71, 115 Stat. 597 (2001); Pub. L. No. 110-53, 121 Stat. 266 (2007); 49 C.F.R. pts. 1580, 1570, 1503.

Engagement.[4] Additionally, we reviewed previous GAO and DHS Office of Inspector General reports on TSA's surface security efforts and surface inspector programs.[5]

To evaluate how surface inspectors implemented TSA's surface security mission and the extent to which this implementation was based on risk, we analyzed data from the surface module of the Performance and Results Information System (PARIS) on the activities of surface inspectors from fiscal year 2013 through March 24, 2017, the most recent data available. Based on TSA documents, regulations, and interviews with TSA data and program officials, we categorized surface inspector activities according to regulatory and non-regulatory activities and by mode, and calculated the total time surface inspectors reported spending for each category.[6] We analyzed data from fiscal years 2013 through 2017 to ensure that we could compare several years of data and analyze data obtained after reorganizations of the surface inspector command

[4]TSA, *2016 Biennial National Strategy for Transportation Security* (Aug. 11, 2016). DHS, *NIPP 2013: Partnering for Critical Infrastructure Security and Resilience* (2013). TSA Office of Security Operations, *Fiscal Year 2016-2018 Strategic Plan*. TSA, *Office of Security Policy and Industry Engagement Strategic Plan Fiscal Years 2016-2018* (Dec. 15, 2015).

[5]GAO, *Transportation Security: Key Actions Have Been Taken to Enhance Mass Transit and Passenger Rail Security, but Opportunities Exist to Strengthen Federal Strategy and Programs*, GAO-09-678 (Washington, D.C.: June 24, 2009); GAO, *Passenger Rail Security: Consistent Incident Reporting and Analysis Needed to Achieve Program Objectives*, GAO-13-20 (Washington, D.C.: Dec. 19, 2012); GAO, *Transportation Security: Comprehensive Risk Assessments and Stronger Internal Controls Needed to Help Inform TSA Resource Allocation*, GAO-09-492 (Washington, D.C.: Mar. 27, 2009); GAO, *Critical Infrastructure Protection: DHS List of Priority Assets Needs to Be Validated and Reported to Congress*, GAO-13-296 (Washington, D.C.: Mar. 25, 2013); GAO, *Homeland Security: DHS Risk-Based Grant Methodology Is Reasonable, But Current Version's Measure of Vulnerability is Limited*, GAO-08-852 (Washington, D.C.: June 27, 2008). DHS Office of Inspector General, *TSA's Preparedness for Mass Transit and Passenger Rail Emergencies*, OIG-10-68 (Washington, D.C.: Mar. 15, 2010).

[6]For the modal analysis, we categorized all inspector activities into the following modes: freight rail, passenger rail/mass transit, highway, maritime, pipeline, aviation, multimodal/other activities, and non-operational activities, such as administrative tasks or training. While we included an aviation category in our modal analysis, we analyzed data from only the surface module of PARIS, and so this category does not contain the complete time surface inspectors spent in the aviation mode during this time period because inspectors recorded some of that time in the aviation module of PARIS, which we did not analyze. Total time includes time spent in transit and the time recorded by all inspectors that participated in an activity.

structure in fiscal year 2010 and offices in mid-fiscal year 2013.[7] We did not review data from the aviation module of PARIS because, as discussed below, it was not feasible to identify the data surface inspectors entered into this module, and, based on our interviews with TSA data officials and our review of related documentation, we determined that all other surface inspector activities were documented in the surface module of PARIS.

To determine the reliability of data from the surface module of PARIS we (1) reviewed related documentation such as data dictionaries, schema, PARIS reliability assessments from previous GAO audits, TSA analyses of PARIS data, and data entry guidance, (2) interviewed TSA officials responsible for entering, reviewing, or using PARIS data, including headquarters officials, field office supervisors, and surface inspectors, (3) electronically and manually tested the data for completeness and obvious errors, such as duplicates and consistency with secondary sources, and (4) conducted internal logic tests on certain time-related fields in the data. Through these steps, we identified some inconsistencies in the data including incomplete data on surface inspectors' aviation activities and non-specific data elements for inspection activities in fiscal year 2013, among others. However, we determined that for our purposes – to describe how surface inspectors reported spending their time at the summary-level – these inconsistencies did not affect the reliability of the PARIS surface module data and these data were reliable with some limitations.

Specifically, based on interviews with TSA data officials and our review of TSA data entry guidance, we determined that the data in the surface module of PARIS did not represent the complete activities conducted by surface inspectors because they enter some aviation activities separately in the aviation module of PARIS. Further, we determined that it was not feasible to distinguish aviation activities documented by surface inspectors in the aviation module from aviation activities documented by cargo or aviation inspectors in this module at the aggregate level. However, based on our testing, review of related documentation, and

[7]In 2010, TSA created the Regional Security Inspector (RSI) position and reorganized the chain of command for surface inspectors by eliminating the Assistant Federal Security Director for Surface and requiring surface inspectors to report to the Assistant Federal Security Director for Inspections and the Federal Security Director in each office. In mid-fiscal year 2013, TSA issued a memo calling for the closure of 17 surface offices and merger of others that were operating within the same high-threat urban area. Office closures were to be completed by the end of fiscal year 2013.

interviews with TSA data officials, we determined that the data surface inspectors entered into the surface module of PARIS, including data on some aviation activities, were reliable for our purposes. As a result, we reported data on surface inspectors' aviation activities as documented in the surface module of PARIS, with the limitation that these data represent the minimum aviation activities surface inspectors actually conducted.

Additionally, through our analysis of PARIS data on regulatory inspections surface inspectors conducted in fiscal year 2013 and interviews with TSA data officials, we found that 25 percent of the total inspections in fiscal year 2013 (1,990 of 8,083) were documented under data elements that did not specify the type of inspection conducted. According to TSA officials, there are no additional data elements that would allow us to identify the specific type of inspection surface inspectors conducted for these 1,990 inspections. As a result, we determined that this portion of the fiscal year 2013 data was not reliable for our purposes of identifying the number of specific inspection types surface inspectors conducted. However, we found that the remaining 78 percent of inspection data for fiscal year 2013 was reliable for our purposes. As a result, the inspection counts and compliance rates we reported for fiscal year 2013 represent partial year data.

To obtain the perspectives of a wide sample of TSA officials on both surface inspector activities and TSA's use of risk, we conducted semi-structured interviews with surface inspectors and/or their supervisors in 17 of 49 field offices. We also interviewed the 6 Regional Security Inspectors (RSIs), who cover all seven TSA regions. We interviewed inspectors and supervisors from at least 2 offices in each region and selected the offices based on a variety of factors including geographic dispersion, staff level, surface transportation environment, and whether the office was co-located with a major airport. We physically visited 6 offices and conducted the remainder of our interviews remotely. We selected the offices we traveled to based on the location of GAO staff, the availability of industry representatives in the area, and the opportunity to observe surface inspector assessments, tabletop exercises, and other activities. The results of our interviews are not generalizable, but provide insight into how surface inspectors and their supervisors implement TSA surface programs and the challenges they may face, if any.

To gain insight into the experience surface transportation industry stakeholders have had with TSA surface inspectors, we interviewed 15 industry stakeholders in four surface modes including 3 freight rail stakeholders, 3 maritime stakeholders, 3 highway stakeholders, and 6

passenger rail/mass transit stakeholders. We selected industry stakeholders based on their involvement and familiarity with TSA surface inspectors, the surface mode in which they operate, their ridership, and TSA recommendation. Three of these stakeholders consisted of national trade associations representing the highway, freight rail, and mass transit modes of transportation. As with our interviews with TSA surface inspectors and supervisors, our interviews with industry stakeholders are not generalizable but provided us with valuable information on the transportation industry's interaction with TSA surface inspectors.

To further address our first objective and describe how TSA surface inspectors implemented the agency's surface transportation security mission, we examined TSA strategic and program documents including surface inspector work plans and implementation guidance from fiscal years 2013 to 2017, the *TSA Inspector Compliance Manual*, and TSA surface security regulations, and reviewed public testimony by TSA leadership. To understand how TSA has implemented the Baseline Assessment for Security Enhancement (BASE) program in particular, we reviewed TSA program documents and guidance for the BASE program, including the BASE workbook, and observed a BASE review on a mass transit entity. We also observed a regional Intermodal – Security Training Exercise Program (I-STEP) exercise and an Exercise Information System (EXIS) exercise, and interviewed TSA officials in headquarters, and inspectors and supervisors in the field.

We used the results of our analysis of PARIS surface module data, specifically the number of each type of regulatory inspection TSA inspectors conducted from fiscal years 2013 to 2017, and PARIS data on the violations found during those inspections, to calculate regulatory compliance rates. We also used the results of our analysis of PARIS surface module data to describe how surface inspectors reported spending their time. As previously stated, we found the PARIS surface module data to be reliable for this purpose, with the limitation that TSA data on the time surface inspectors reported spending on aviation activities was incomplete because we could not identify surface inspector activities entered into the aviation module of PARIS. To evaluate the effects of this limitation, we compared the results of our data analysis, our reviews of PARIS documentation, and our interviews with TSA officials to *Standards for Internal Control in the Federal Government*.[8]

[8]GAO-14-704G.

To further address our second objective, the extent to which TSA has used a risk-based approach to prioritize and implement surface inspector activities, we analyzed TSA's risk guidance as contained in the *NIPP* risk management guidance, the *DHS 2010 Risk Lexicon*, and the *DHS Risk Management Fundamentals* to understand how TSA should assess and use risk information.[9] To understand the risks TSA has identified for surface transportation modes during the time period we examined, we analyzed TSA's cross-modal risk assessments in three Transportation Security Sector Risk Assessments (TSSRA) published between May 2013 and July 2016.[10]

We reviewed TSA's fiscal year 2017 surface inspector staffing model and supporting documents and data and interviewed TSA officials responsible for developing and executing staffing. We compared that process to TSA risk guidance to evaluate the extent to which TSA considered risk when it staffed TSA surface inspectors for fiscal year 2017. We assessed only the fiscal year 2017 staffing model because TSA's previous staffing model was last used in fiscal year 2011, which is outside our scope.

To determine the extent to which TSA prioritized surface inspector activities based on risk when it planned these activities, we identified, compiled and analyzed activity requirements from surface inspector work plans and associated implementation guidance from fiscal years 2013 to fiscal year 2017. We (1) compared them to each other to identify changes in planned surface inspector activities over time and (2) compared them to results from the TSSRA, as well as other risk information including unattended rates for Toxic Inhalation Hazard (TIH) rail cars and the presence of Maritime Transportation Security Act of 2002-regulated facilities in each office's area. We also interviewed TSA officials in headquarters and the field who were responsible for developing the surface inspector work plan about the process and information they

[9]Department of Homeland Security, *NIPP 2013: Partnering for Critical Infrastructure Security and Resilience* (2013); Department of Homeland Security, Risk Steering Committee, *DHS Risk Lexicon 2010 Edition* (September 2010); Department of Homeland Security, *Risk Management Fundamentals: Homeland Security Risk Management Doctrine* (April 2011).

[10]According to the 2016 TSSRA, threat estimates have a current to one year projected outlook. As a result, the risk assessment we reviewed from July 2016 covers the fiscal year 2017 data on inspector activity that we examined, because we examined partial year data through March 2017. TSA officials told us that the TSSRA is published approximately every two years.

considered during work plan development, and compared this information to TSA risk guidance.

To determine the extent to which TSA's implementation of surface inspector activities aligned with risk, we compared the results of our analysis of PARIS surface module data on the time surface inspectors spent in each surface mode to the results of the TSSRA cross-modal risk assessments from fiscal years 2013 to 2017.[11] As previously discussed, we determined the data to be reliable for our purposes. We also compared the results of our analysis of PARIS surface module data to our analysis of work plan requirements to identify the amount of time surface inspectors reported spending on work plan activities.[12] In addition, we identified the types of information TSA used in its fiscal year 2015 analysis of surface inspector time and activities to determine what TSA considered when it monitored how surface inspector activities were implemented.

Additionally, we used the results of our analysis of PARIS surface module data to determine the percent of total time surface inspectors reported spending on Risk Mitigation Activities for Surface Transportation (RMAST) between fiscal years 2013 and 2017. To understand TSA's objectives for the RMAST program, we analyzed program descriptions in TSA congressional budget justifications and TSA's fiscal year 2017 work plan and work plan implementation guidance. We also conducted interviews with TSA officials in headquarters, and inspectors and supervisors in the field, and observed an RMAST activity to understand how TSA has implemented the program. We compared the results of our analysis and interviews to TSA's risk guidance and *Standards for Internal Control in the Federal Government* to evaluate the extent to which the program was risk-based and to which TSA had established measurable goals for the program.[13]

[11]The fiscal year 2017 PARIS surface module data on surface inspector activities is through March 24, 2017, the most recent data available at the time of our analysis.

[12]For fiscal years 2013 to 2017 work plan activities included 49 C.F.R. §§ 1580.101, 1580.103, 1580.105, 1580.107, 1580.201, and 1580.203 inspections, freight rail risk reduction surveys (RRS), wild card freight rail RRS, and Baseline Assessment for Security Enhancement (BASE) reviews. For fiscal year 2017, Risk Mitigation Activities for Surface Transportation (RMAST) and Transportation Worker Identification Credential (TWIC) inspections were also considered.

[13]GAO-14-704G.

The performance audit upon which this report is based was conducted from April 2016 to October 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We subsequently worked with TSA from September 2017 to December 2017 to prepare this nonsensitive version of the original report for public release. This public version was also prepared in accordance with these standards.

Appendix II: Surface Inspector Activities

Table 8: Non-regulatory Activities Performed by Transportation Security Administration (TSA) Surface Inspectors

Surface Inspector Activities	Start Date (fiscal year)	Description
Visible Intermodal Prevention and Response	2005	High-visibility activities, such as patrols, passenger and baggage screening, and canine activities to introduce unpredictability, increase security, and deter potential terrorist actions on multiple modes of transportation. Managed by the U.S. Federal Air Marshal Service and conducted by TSA personnel, which may include surface inspectors.
Baseline Assessment for Security Enhancement (BASE)	2006	A voluntary review in which surface inspectors evaluate the security programs of transportation entities, offer technical assistance, and share best practices.[a] TSA uses BASE to, among other things, determine priorities for allocating mass transit and passenger rail security grants, such as those provided through the Transportation Security Grant Program.[b]
Station Profiles	2006	Local field assessments of critical infrastructure, station and other facilities for mass transit, passenger rail, and commuter rail and bus systems. Station profiles provide detailed information of specific station-related intelligence, such as the locations of exits, telephones, CCTV, electrical power, station mangers etc.
Risk Reduction Surveys (RRS)	2007	Inspectors verify that Toxic Inhalation Hazard (TIH) rail cars at rail yards within high-threat urban areas that transport TIH on a regular and reoccurring basis are being attended by railroad personnel. Inspectors also conduct “wildcard” RRS, during which they observe locations which do not normally handle TIH on a regular and recurring basis to determine if TIH cars are present, and if they are being attended by railroad personnel.
Freight Rail Corridor Assessment	2008	Detailed assessments that focus on the vulnerabilities of high-population areas where TIH materials are moved by rail in significant quantities, and that provide site-specific mitigation strategies and lessons learned.
Intermodal Security Training and Exercise Program (I-STEP)	2008	I-STEP, which is managed through the Office of Security Policy and Industry Engagement, consists of contractor-facilitated exercises designed to help multimodal surface transportation entities closely examine their security programs and operational efforts. TSA facilitates I-STEP exercises across all surface transportation modes to help operators, law enforcement, first responders, and related entities test and evaluate their security plans, including prevention and preparedness capabilities, ability to respond to threats, and interagency coordination. TSA updates I-STEP scenarios as new threats emerge, helping industry partners prepare to implement the most appropriate countermeasures.
Universal Enrollment Services (UES) Quality Assurance Reviews	2014	Quality assurance assessments of Transportation Worker Identification Credential (TWIC) enrollment centers to, according to TSA officials, review contractor performance.[c]
Exercise Information System (EXIS)	2015	EXIS consists of exercises facilitated by surface inspectors that utilize software developed by TSA for stakeholder use, generally focus on one entity, and are intended to build on the findings of a previously completed BASE assessment.

Surface Inspector Activities	Start Date (fiscal year)	Description
Risk Mitigation Activities for Surface Transportation (RMAST)	2017[d]	A program intended to focus time and resources on high-risk and critical assets, facilities and other infrastructure through the following activities: (1) public observation to identify suspicious activities, security vulnerabilities and/or suspicious behaviors that could be indicative of pre-operational planning related to terrorism; (2) site security observation to determine if the physical security measures and operational deterrence components are in place to effectively mitigate risk, and (3) stakeholder engagement including TSA's public security awareness programs and improvised explosive device (IED) and intelligence briefings.

Source: GAO Analysis of TSA Information. | GAO-18-180

[a]The BASE consists of 17 Security Action Items (SAIs) developed by TSA and the Federal Transit Administration that address, among other best practices, security training, public awareness programs, cybersecurity, and access control.

[b]The Transportation Security Grant Program is a Department of Homeland Security grant program that provides funds to owners and operators of transit systems (which include intra-city bus, commuter bus, ferries, and all forms of passenger rail) to protect critical surface transportation infrastructure and the traveling public from acts of terrorism and to increase the resilience of transit infrastructure.

[c]These centers provide services for TWIC as well as TSA Pre□TM and TSA's Hazardous Material Endorsement (HME) program.Surface inspectors conduct Quality Assurance assessments of the Centers.

[d]The RMAST program was developed in fiscal year 2012, but was not fully implemented until fiscal year 2017.

Table 9: Regulatory Activities Performed by Transportation Security Administration (TSA) Surface Inspectors Under 49 C.F.R. Part 1580

Regulation	Applicability	Description
1580.101 and 1580.201 Rail Security Coordinator	Freight railroad carriers, passenger rail and rail transit systems, rail hazardous materials shippers, and rail hazardous materials receivers in High-Threat Urban Areas (HTUAs).[a]	Entities must designate a rail security coordinator (RSC) and at least one alternate to serve as the primary contact for intelligence and security-related activities and communications, be available to TSA on a 24-hour, 7-day per week basis, and coordinate security practices and procedures. Surface inspectors conduct interviews with the appointed RSC or alternate RSC to verify name, contact information, and to discuss any security-related issues or concerns generally twice per year for each regulated entity.
1580.103 Location and Shipping Information	Freight rail carriers transporting specified hazardous materials, rail hazardous materials shippers, and rail hazardous materials receivers in HTUAs.	Entities must be able to report location and shipping information to TSA upon request for rail cars containing hazardous materials. Surface inspectors contact covered entities by phone to request to be provided with a list of the hazardous materials cars currently under the entity's physical custody or a single rail car in a defined location or in a defined geographic region. Regulated entities provide this information to the Transportation Security Operations Center, and inspectors validate its accuracy based on observations in the field.

Regulation	Applicability	Description
1580.105 and 1580.203 Reporting Significant Security Concerns	Freight railroad carriers, passenger rail and rail transit systems, rail hazardous material shippers and rail hazardous materials receivers in HTUAs.	Entities must report incidents, potential threats, and significant security concerns to TSA's Transportation Security Operations Center. If an inspector becomes aware of an incident, the inspector determines whether it was reported appropriately. Inspectors also visit each regulated entity, generally twice per year, to determine if any incidents occurred and if they were reported correctly.
1580.107 Witnessed Transfer of Custody and Control	Freight rail carriers transporting specified hazardous materials, rail hazardous materials shippers, and rail hazardous materials receivers within an HTUA.	Entities must ensure that there is a secure transfer of physical custody for rail cars containing hazardous materials. Inspectors witness and inspect the physical transfer of custody between two entities and obtain chain of custody documentation.

Source: GAO Analysis of 49 C.F.R. pt. 1580 and TSA Documents. | GAO-18-180

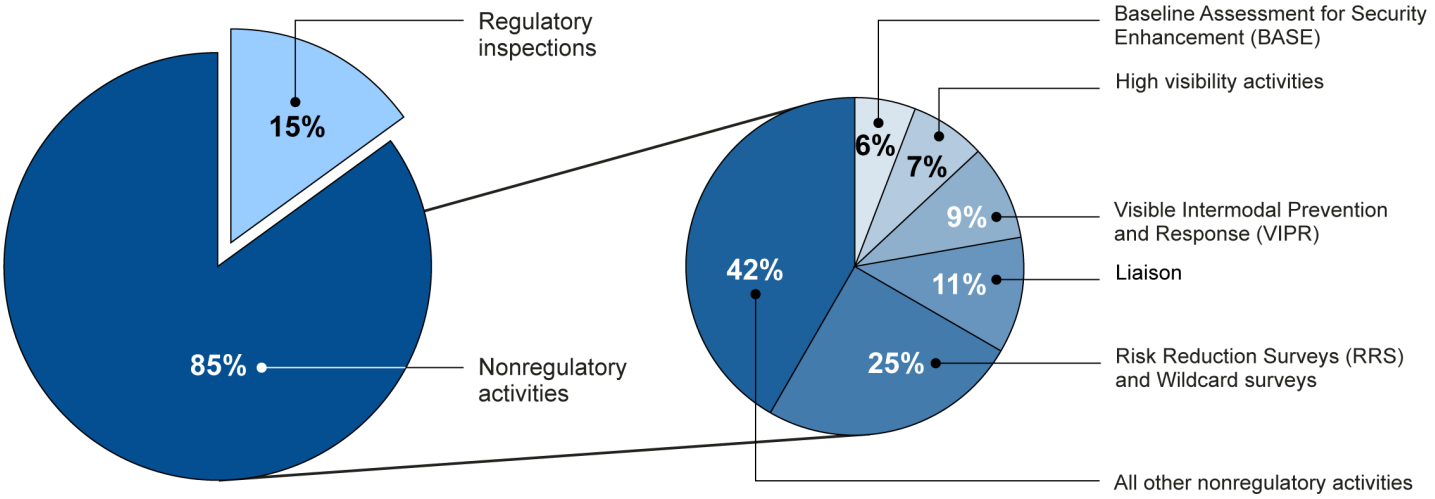
Note: In this table, hazardous materials refers to: (1) a rail car containing more than 2,268 kg (5,000 lbs) of a Division 1.1, 1.2, or 1.3 (explosive) material, as defined in 49 C.F.R. § 173.50; (2) a tank car containing a material poisonous by inhalation as defined in 49 C.F.R. § 171.8, including anhydrous ammonia, Division 2.3 gases poisonous by inhalation as set forth in 49 C.F.R. § 173.115(c), and Division 6.1 liquids meeting the defining criteria in 49 C.F.R. § 173.132(a)(1)(iii) and assigned to hazard zone A or hazard zone B in accordance with 49 C.F.R. § 173.133(a), excluding residue quantities of these materials; and (3) a rail car containing a highway route-controlled quantity of a Class 7 (radioactive) material, as defined in 49 C.F.R. § 173.403. 49 C.F.R. § 1580.100(b).

In this table, passenger rail and rail transit systems consist of: each passenger railroad carrier, including each carrier operating light rail or heavy rail transit service on track that is part of the general railroad system of transportation, each carrier operating or providing intercity passenger train service or commuter or other short-haul railroad passenger service in a metropolitan or suburban area (as described by 49 U.S.C. § 20102), and each public authority operating passenger train service; (b) each passenger railroad carrier hosting an operation described in paragraph (a) of this section; (c) each tourist, scenic, historic, and excursion rail operator, whether operating on or off the general railroad system of transportation; (d) each operator of private cars, including business/office cars and circus trains, on or connected to the general railroad system of transportation, and (e) each operator of a rail transit system that is not operating on track that is part of the general railroad system of transportation, including heavy rail transit, light rail transit, automated guideway, cable car, inclined plane, funicular, and monorail systems. 49 C.F.R. § 1580.200.

[a]High Threat Urban Areas (HTUA) are defined as "an area comprising one or more cities and surrounding areas including a 10-mile buffer zone." See 49 C.F.R. § 1580.3; 49 C.F.R. pt. 1580 app. A.

Appendix III: Surface Inspector Time Spent on Activities Reported in the Surface Module of PARIS for Fiscal Years 2013 to 2017

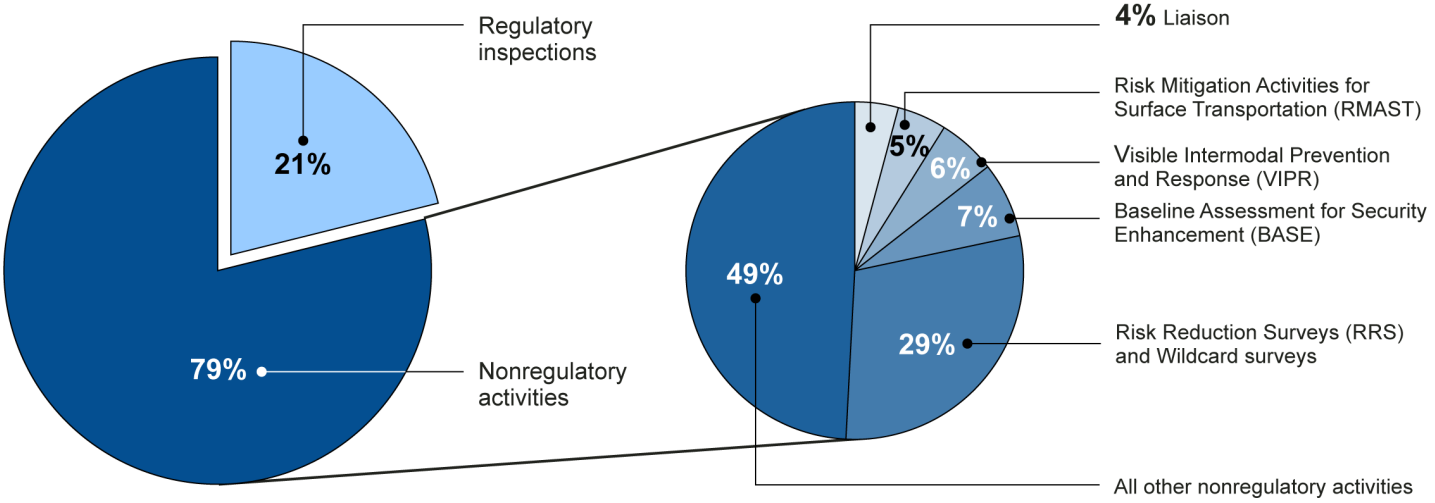
Figure 5: Transportation Security Administration Surface Inspector Time Spent on Activities Reported in the Surface Module of the Performance and Results Information System (PARIS) for Fiscal Year 2013



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: These numbers reflect 100 percent of the hours inspectors recorded in the surface portal of PARIS. Time inspectors reported for aviation activities within the aviation portal is not represented in the figure because the data is not available.

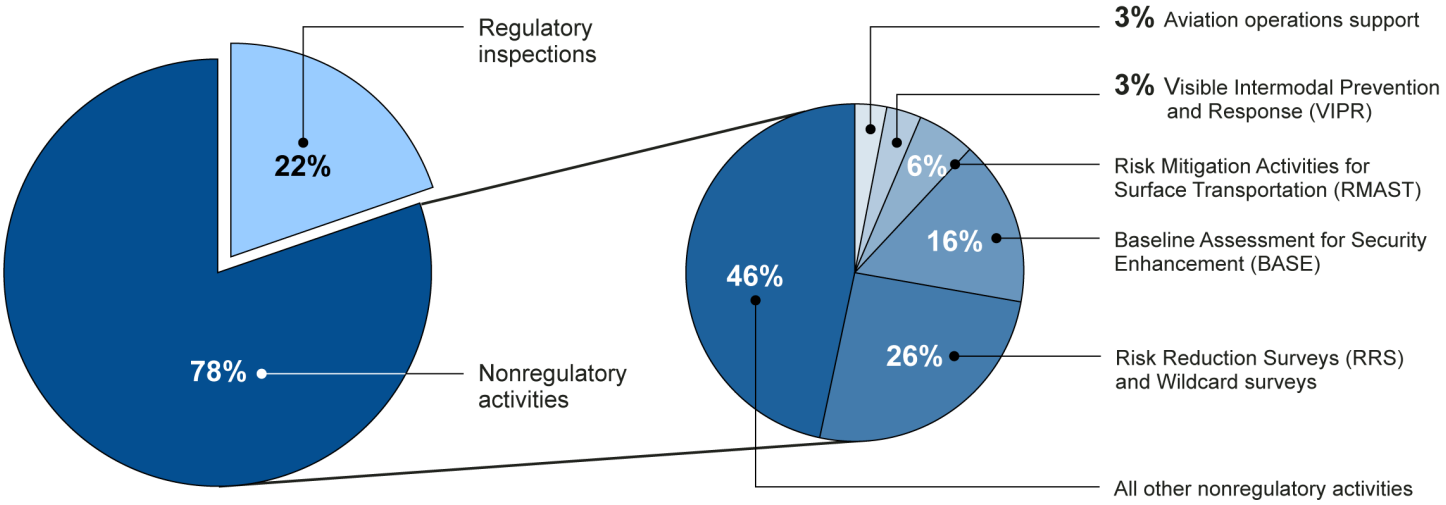
Figure 6: Transportation Security Administration Surface Inspector Time Spent on Activities Reported in the Surface Module of the Performance and Results Information System (PARIS) for Fiscal Year 2014



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: These numbers reflect 100 percent of the hours inspectors recorded in the surface portal of PARIS. Time inspectors reported for aviation activities within the aviation portal is not represented in the figure because the data is not available.

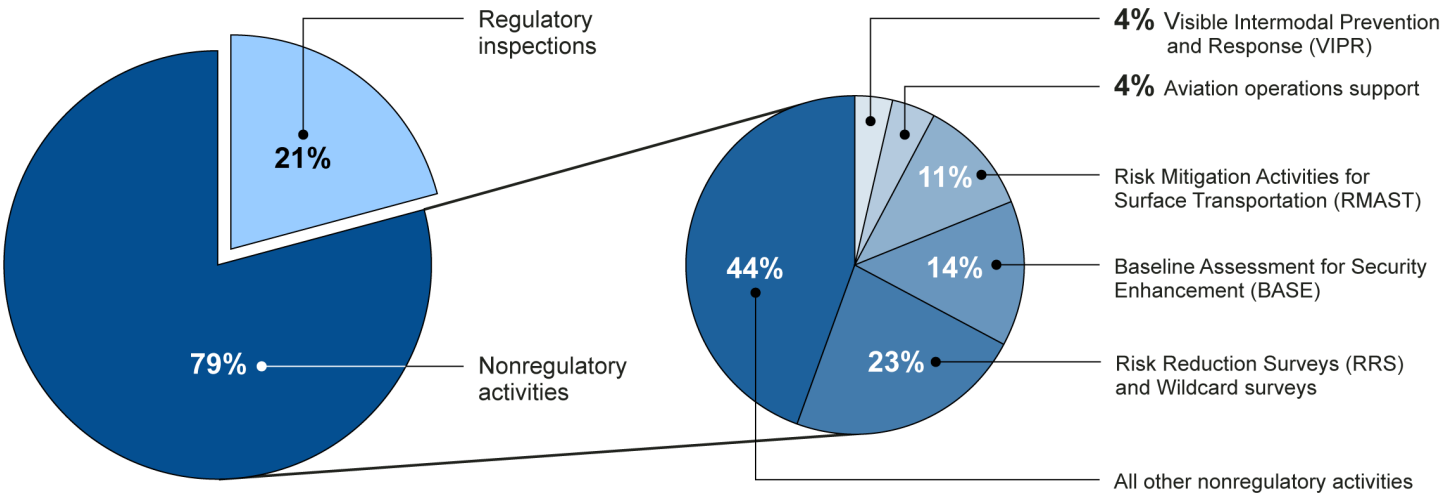
Figure 7: Transportation Security Administration Surface Inspector Time Spent on Activities Reported in the Surface Module of the Performance and Results Information System (PARIS) for Fiscal Year 2015



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: These numbers reflect 100 percent of the hours inspectors recorded in the surface portal of PARIS. Time inspectors reported for aviation activities within the aviation portal is not represented in the figure because the data is not available.

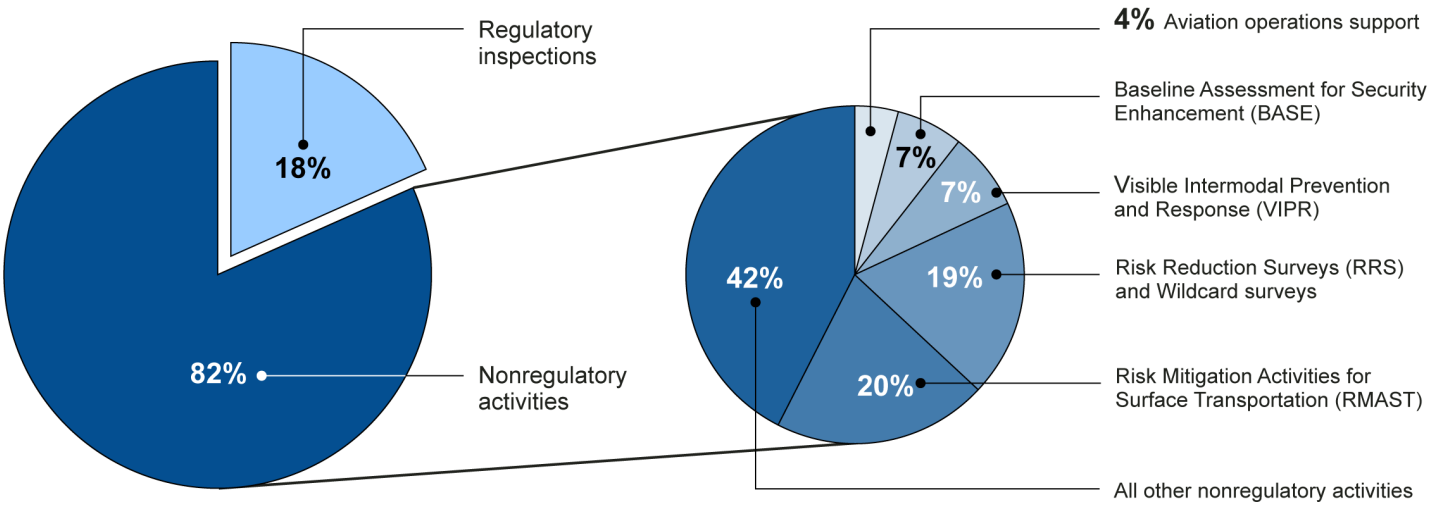
Figure 8: Transportation Security Administration Surface Inspector Time Spent on Activities Reported in the Surface Module of the Performance and Results Information System (PARIS) for Fiscal Year 2016



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: These numbers reflect 100 percent of the hours inspectors recorded in the surface portal of PARIS. Time inspectors reported for aviation activities within the aviation portal is not represented in the figure because the data is not available.

Figure 9: Transportation Security Administration Surface Inspector Time Spent on Activities Reported in the Surface Module of the Performance and Results Information System (PARIS) for Fiscal Year 2017 through March 2017



Source: GAO analysis of Transportation Security Administration data. | GAO-18-180

Note: These numbers reflect 100 percent of the hours inspectors recorded in the surface portal of PARIS. Time inspectors reported for aviation activities within the aviation portal is not represented in the figure because the data is not available. We analyzed fiscal year 2017 data through March 2017, the most recent data available.

Appendix IV: Comments from the U.S Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

December 5, 2017

Ms. Jennifer Grover
Director, Homeland Security and Justice Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Management Response to Draft Report: GAO-18-180, "TRANSPORTATION SECURITY ADMINISTRATION: Surface Inspector Activities Should Align More Closely With Identified Risks"

Dear Ms. Grover:

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

DHS is pleased to note GAO's recognition that while the Transportation Security Administration (TSA) coordinates with public and private transportation entities in areas such as information sharing, identifying vulnerabilities, and mitigating security risks to the surface transportation system, the principal responsibility to carry out safety and security measures lies with public and private transportation entities. Along with other resources and programs, TSA utilizes surface Transportation Security Inspector (TSIs) to conduct both regulatory and voluntary activities and achieve much of its surface transportation security mission. More specifically:

Surface TSI Regulatory Activities

Surface TSIs conduct regulatory compliance inspections in three modes of transportation: passenger rail (which includes passenger railroads and rail mass transit), freight rail (which includes freight railroads and certain shippers and receivers of rail hazardous materials), and maritime. The "Rail Transportation Security Rule," 73 FR 72130 (Nov. 26, 2008), established security requirements for freight railroad carriers, intercity, commuter, and short-haul passenger service providers, rail transit systems, and rail operations at certain fixed-site facilities that ship or receive rail security-sensitive materials (RSSM). RSSM refers to rail cars containing specified categories and quantities of explosive material, materials poisonous or toxic by inhalation, and radioactive materials transported in high threat urban areas (HTUA). This regulation, codified at 49 CFR part 1580, requires covered parties to:

- Designate rail security coordinators;
- Report significant security concerns to TSA;
- Report RSSM car location and shipping information to TSA;
- Implement chain of custody requirements to ensure positive and secure exchange of RSSM shipments between parties; and
- Permit TSA and DHS officials to enter, inspect, and test property, facilities, and conveyances.

49 CFR Subchapter D Maritime and Land Transportation Security Part 1570 General Rules requires individuals who require unescorted access to port secure areas to obtain a Transportation Worker Identification Credential (TWIC) and to use it in accordance with port facility TWIC access control procedures. Persons possessing a TWIC must also present it to TSA for inspection when requested.

Surface TSI Voluntary Activities

Although mentioned in the draft report, it cannot be over emphasized that the majority of TSA Surface TSI responsibilities are associated with voluntary or cooperative security activities. These activities are conducted with both TSA regulated and non-regulated surface transportation entities and include security assessments, tabletop exercises, Visible Intermodal Prevention and Response team operations, freight rail toxic inhalation hazard risk reduction surveys, incident response, and risk mitigation activities for surface transportation (RMAST), among others. Because these are voluntary programs, surface transportation stakeholders are not obligated or required to participate. However, TSA does, via the Surface Work Plan, establish the minimum annual levels Surface TSIs need to achieve within the various categories of voluntary activities.

Surface TSI Priorities and Risk

The draft report notes that TSA prioritized Surface TSI activities toward the lowest risk mode because TSA did not incorporate risk assessment results when planning and monitoring the Surface Work Plan. TSA, in fact, does incorporate Transportation Sector Security Risk Assessment (TSSRA)[1] risk information to inform the Surface Work Plan development each Fiscal Year. The Surface Compliance Branch, which is responsible for developing the Surface Work Plan, recognizes the TSSRA concludes that some areas contain significantly higher risk values than the other surface modal domestic risk values. The TSSRA is not, however, the sole

[1] TSSRA provides a strategic assessment of terrorism risk within the transportation modes for which TSA is responsible: Aviation (Domestic and International), Freight Rail, Highway, Mass Transit, and Pipeline. It is designed to inform TSA risk mitigation strategies and actions such as the development of policy considerations, security countermeasures and programs, and resource allocation decisions.

source of information that determines Surface Work Plan priorities. Surface TSIs exist, first and foremost, to ensure compliance with existing TSA security regulations.

Additionally, the TSA and freight rail industry cooperative security initiative to achieve rail-transported toxic inhalation hazardous (TIH) material risk reduction within high threat urban areas (HTUA) is, and will remain, a significant TSA programmatic emphasis. Each year, TSA Surface Inspectors conduct thousands of observations of rail tank cars containing TIH materials. TIH materials are one of the categories of RSSM transported by rail that present a persistent security concern for TSA. The purpose of the observations made by TSA Surface Inspectors is to ascertain whether or not a TIH car is being "attended" by railroad employees when the car is in an identified HTUA. The observations made by the Inspectors is recorded as a TIH Risk Reduction Survey. The results of these surveys are tallied and reviewed on a regular basis and are reported at the end of each year as part of the "TIH Vulnerability Reduction" performance measure in the National Strategy for Transportation Security (NSTS).

TSA Surface Inspectors have been performing TIH Risk Reduction Surveys since 2007 as part of an agreement with the freight rail industry to institute various measures to reduce the risk associated with the rail transportation of TIH materials through HTUA. From 2007-2013, the risk reduction surveys were part of a multi-part formula that accounted for TIH car attendance, HTUA dwell time, and potential population exposure. The goal during this period of time was to reduce the measured risk of TIH rail transportation. To achieve this goal, the freight railroads implemented procedures and modified their operations, and TSA put systems in place to monitor the actions taken by these railroads and collect data about those actions.

There are three key actions that freight railroads have taken to reduce the overall risk associated with TIH transportation: (1) Reduce vulnerability through the monitoring and observation of loaded TIH cars while they are geographically located in HTUA (the monitoring and observation of TIH cars by railroad employees acts as a deterrent and increases the likelihood of detection of unauthorized access to the TIH cars), (2) Reduce vulnerability by limiting the amount of time that loaded TIH rail cars are in an HTUA, referred to as "HTUA Dwell Time," and (3) Reduce potential consequences by storing loaded TIH cars in locations with lower population density.

From 2007-2013, these three factors were monitored and assessed to create risk scores for each of the HTUA. During this period the measured risk was reduced by more than 96 percent from the baseline year.

In late 2013, as part of the development of the National Strategy for Transportation Security, TSA, in conjunction with the Rail Sector Coordinating Council, agreed to a set of risk-based priorities and supporting activities. TIH Risk Reduction was one of the risk-based priorities identified for freight rail transportation. There are two factors used for the metrics associated with freight rail risk reduction, the TIH car attendance rate and the compliance rate with the transfer of custody and control requirements of 49 CFR 1580.107. The data used to establish both of these rates come from TSA's Surface Inspectors accomplishing the Surface Work Plan each year.

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While the reductions in risk associated with the rail transportation of TIH materials that have been achieved are significant, the work is not finished. There is a continuing need to maintain the practices that brought about these substantial risk reductions. As long as tank cars loaded with TIH continue to be transported by rail through densely populated metropolitan areas, there is a need for the freight railroads and their employees to apply fundamental security measures to reduce the vulnerability of these shipments. To ensure that the freight railroads and their employees continue to apply these measures, TSA must continue to monitor the movement of TIH cars, observe and assess TIH cars in HTUA, and perform inspections to verify railroad compliance with the appropriate regulations.

The draft report contained 4 recommendations with which the Department concurs. Attached find our detailed response to each recommendation.

Again, thank you for the opportunity to review and comment on this draft report. Technical comments were previously provided under separate cover. Please feel free to contact me if you have any questions. We look forward to working with you in the future.

Sincerely,

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

Attachment

4

Attachment: DHS Management Response to Recommendations Contained in GAO-18-180

GAO recommended that the Administrator of TSA:

Recommendation 1: Address limitations in TSA's data system, such as by adding a data element that identifies individuals as surface inspectors, to facilitate ready access to information on all surface inspector activities.

Response: Concur. The TSA Office of Security Operations is currently conducting a Capability Analysis Report (CAR) to document capability gaps, redundancies, and recommended courses of action to address the need for efficient planning, execution, and measurement of frontline missions through Information Technology (IT) systems. The CAR will inform decisions in FY 2018 related to ongoing operations and support of existing IT systems, and their future modernization, consolidation, or replacement. In the meantime, the Compliance Division will maintain a staffing tool that identifies the modal assignments for inspectors that can be used to more effectively analyze all surface inspector activities. Estimated Completion Date (ECD): December 31, 2017.

Recommendation 2: Ensure that surface inspector activities align more closely with higher-risk modes by incorporating the results of surface transportation risk assessments, such as the TSSRA, when it plans and monitors surface inspector activities, and that TSA documents its rationale for decisions to prioritize activities in lower-risk modes over higher-risk ones, as applicable.

Response: Concur. Demand drivers, other than the TSSRA, that require Surface TSI action, such as regulatory requirements, will continue to be incorporated into the Surface Work Plan, as necessary. However, TSA will more clearly incorporate relevant risk information into the Surface Work Plan development process to better focus subsequent Surface TSI activities accordingly. Additionally, decisions or rationale to deviate Surface TSI priorities from mirroring TSSRA surface modal risk determinations will be explained in the appropriate program guidance document. ECD: January 31, 2018.

Recommendation 3: Identify and prioritize high-risk entities and locations for TSA's Risk Mitigation Activities for Surface Transportation (RMAST).

Response: Concur. Utilizing the TSSRA and existing HTUA definitions, the Surface Compliance Branch will prioritize entities for RMAST activities within the Surface Work Plan or other applicable program guidance documents. ECD: January 31, 2018.

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Recommendation 4: Define clear and measurable objectives for the RMAST program.

Response: Concur. The RMAST Fact Sheet has been updated by defining more clearly how to apply and measure certain RMAST activities. The Fact Sheet was made available to Compliance field offices. The Surface Compliance Branch informed all field offices of the updated RMAST guidance during each Surface Regional Security Inspector's regional teleconferences. An additional teleconference was conducted with the TSI personnel on Surface Compliance Branch's BASE Advisory Panel to ensure in-depth understanding and application. TSA's Performance and Results Information System (PARIS) was modified to allow additional RMAST information to be captured. The RMAST Fact Sheet provides the objectives of the program and guidance on how to measure RMAST outcomes related to identified security weakness. Documentation corroborating these actions is being provided to GAO under a separate cover. We request that GAO consider this recommendation closed as implemented.

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Appendix V: GAO Contact and Staff Acknowledgements

GAO Contact

Jennifer Grover (202) 512-7141 or groverj@gao.gov.

Staff Acknowledgments

In addition to the contact named above, Christopher E. Ferencik, Assistant Director; Brendan Kretzschmar, Analyst in Charge; Nanette Barton, and Katherine Blair made key contributions to this report. Also contributing to the report were, Charles Bausell, Katherine Davis, Eric Erdman, Anthony Fernandez, Eric D. Hauswirth, Paul Hobart, Tracey King, Christopher Lee, Mara McMillen, Amanda Miller, Claudia Rodriguez, Christine San, McKenna Storey, Natalie Swabb, Michelle Vaughn, Adam Vogt, Johanna Wong.