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AVIATION SECURITY

TSA Uses Data to Monitor Airport Operations and Respond to Increases in Passenger Wait Times and Throughput

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Chairman Katko, Ranking Member Watson Coleman, and Members of the Subcommittee:

I am pleased to be here today to discuss the Transportation Security Administration's (TSA) efforts to monitor passenger wait times and the number of passengers that are screened at each airport checkpoint, known as throughput, at airports throughout the United States. As you know, the Department of Homeland Security's TSA is responsible for protecting the nation's transportation systems while also ensuring the free movement of people and commerce. TSA employs about 43,000 Transportation Security Officers (TSOs) who screen over 2 million passengers and their accessible and checked baggage each day at nearly 440 airports across the United States.[1] In the spring of 2016, unusually long screening checkpoint lines at certain major U.S. airports raised questions about TSA's process for allocating TSOs to airports and managing passenger wait times.

My testimony today addresses (1) how TSA collects and monitors passenger wait time and throughput data and (2) tools TSA uses to respond to increases in passenger wait times. This statement is based on selected findings from our February 2018 report on staffing allocation and managing wait times.[2] To perform the work from our previous report, we analyzed TSA documentation, reports, and data on wait times and passenger throughput from January 2015 through May 2017 for 28 airports that, according to TSA headquarters officials, represent the majority of passenger throughput nationwide or are operationally significant. We also interviewed headquarters officials responsible for overseeing TSA's collection and use of wait time and throughput data as well as Federal Security Directors (FSD) and their designees at eight selected airports to determine the tools they use to respond to increases

[1]TSOs are screening personnel employed by TSA. In this testimony, references to TSOs do not include screening personnel employed by qualified private-sector companies under contract with TSA to perform screening operations at the 21 airports participating in TSA's Screening Partnership Program (SPP). See 49 U.S.C. § 44920. TSA oversees the performance of screening operations at SPP airports, and the screening personnel at SPP airports must adhere to the same screening requirements applicable to TSOs.

[2]GAO, *Aviation Security: TSA Uses Current Assumptions and Airport-Specific Data for Its Staffing Process and Monitors Passenger Wait Times Using Daily Operations Data*, GAO-18-236 (Washington, D.C.: Feb. 1, 2018).

in passenger wait times and throughput. [3] Further detail on the scope and methodology for the previously issued report is available within the published product. The work upon which this testimony is based was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

TSA Processes for Allocating TSOs across Airports

TSA allocates TSOs to airports using its Resource Allocation Plan, which is intended to provide each airport with the optimum number of TSOs needed to screen passengers for threats to aviation security, such as prohibited and other potentially dangerous items.[4] To implement passenger screening and pursue efficient operations, in addition to relying on TSOs, TSA works with officials from airlines and airports, as well as officials from associations that represent airlines and airports. At airports, FSDs and their designees work with individual airport operators and airlines to, among other things, adjust TSA resources (i.e., TSOs and screening assets such as metal detectors) in response to increases in passenger throughput at each checkpoint, and monitor passenger wait times at checkpoints.

At TSA headquarters, the Office of Security Operations (OSO) has primary responsibility for operation of the Resource Allocation Plan and allocation of TSOs across airports. To allocate staff to the nearly 440

[3]FSDs are TSA officials responsible for overseeing TSA security activities, including passenger and checked baggage screening, at one or more commercial airports. See 49 U.S.C. § 44933. Some FSDs oversee more than one airport within a geographic area; thus, not all FSDs are located at the airports they oversee. Airport operators have direct responsibility for implementing security requirements in accordance with their TSA-approved airport security programs. Airport security programs generally cover the day-to-day aviation operations and implement security requirements for which airports are responsible. See generally 49 C.F.R. pt. 1542.

[4]According to TSA headquarters officials, TSA identifies the number of TSOs for the Resource Allocation Plan based on the number of positions authorized by the agency's budget, which serves as a constraint on the number of TSOs that can be staffed to airports.

TSA-regulated airports in the United States, OSO is to use a combination of computer-based modeling and line-item adjustments based on airport-specific information.[5] First, the agency is to work with a contractor to evaluate the assumptions—such as rates of expedited screening[6]—used by the computer-based staffing allocation model to determine the optimal number of TSOs at each airport based on airport size and configuration, flight schedules, and the time it takes to perform checkpoint and baggage screening tasks.[7] Second, after the model has determined how many TSOs are required for each airport, headquarters-level staff are to make line item adjustments to account for factors such as differences in staff availability and training needs that affect each airport.

In 2007, we reviewed the Resource Allocation Plan (referred to as the Staffing Allocation Model at that time) and recommended, among other things, that TSA establish a mechanism to ensure periodic assessment of the assumptions, such as passenger and checked baggage screening rates, underlying the plan. TSA agreed with the recommendation, and in December 2007 developed and implemented a plan to periodically assess the plan's assumptions.[8]

[5]According to TSA headquarters officials, the agency uses the Resource Allocation Plan to determine how many staff hours are required to adequately staff baggage and passenger screening operations at the 21 SPP airports in the United States operated by private sector companies. TSA allocates staff hours to SPP airports based on what TSA anticipates the cost would be to maintain a staff of TSOs at those airports. The private companies that operate the SPP airports control the hiring, scheduling and allocation of staff at these airports, although they are required to follow the same TSA standard operating procedures applicable to TSOs and other TSA employees.

[6]Expedited screening is a process that TSA uses to assess a passenger's risk to aviation security prior to the passenger arriving at an airport checkpoint.

[7]TSA's computer-based staffing model is a proprietary software application that uses simulations to determine each airport's work requirement based on the airport's unique operating characteristics, such as layout, equipment, and flight data. The software simulates passenger and baggage screening operations to produce required staffing levels.

[8]GAO, *Aviation Security, TSA's Staffing Allocation Model Is Useful for Allocating Staff among Airports, but Its Assumptions Should Be Systematically Reassessed*, GAO-07-299 (Washington, DC: Feb. 28, 2007).

TSA Processes for Collecting Wait Time and Throughput Data at Airports

At each airport, TSA is to collect throughput data on the number of passengers screened under both expedited and standard screening and monitor passenger wait times at screening checkpoints. TSA airport officials are to submit passenger throughput and wait time data on a daily basis to OSO's Performance Management Division at TSA headquarters, which compiles the data through the Performance Measurement Information System, TSA's web-based data collection system. TSA required FSDs and their designees to collect actual wait times from 2002 through 2007 and beginning again in July 2014. From 2008 through June 2014, TSA required that FSDs collect data on wait time ranges, such as between 20 to 29 minutes or greater than 30 minutes.

TSA Information Sharing Efforts with Stakeholders

In February 2018, we reported that TSA headquarters officials have taken steps intended to improve information sharing with stakeholders—officials from airlines and airports, as well as officials from associations that represent airlines and airports—about staffing and related screening procedures at airports. For example, we reported that TSA holds daily conference calls with stakeholders at selected airports intended to ensure timely communication and to help identify and address challenges in airport operations such as increases in passenger wait times. Additionally, we reported that TSA conducted a series of presentations and meetings to discuss the Resource Allocation Plan, security enhancements at airports, and airport screening processes, among other things.

TSA Uses Passenger Wait Time and Throughput Data to Monitor Airport Operations on a Daily Basis

In February 2018, we reported that TSA collects passenger wait time and throughput data and uses those data to monitor daily operations at airports. TSA's Operations Directive (directive), *Reporting Customer Throughput and Wait Times,* provides instructions for collecting and reporting wait time and passenger throughput data for TSA screening lanes.[9] Regarding wait time data, according to the directive, FSDs or their designees at all Category X, I, and II airports[10] must measure wait times every operational hour in all TSA expedited and standard screening lanes. The directive requires wait times to be measured in actual time, using a verifiable system such as wait time cards, closed circuit television monitoring, or another confirmable method. The directive indicates that wait times should be measured from the end of the line in which passengers are waiting to the walk through metal detector or advanced imaging technology units.

According to TSA officials at that time, at the beginning of each hour, wait time cards are handed to passengers at the end of the checkpoint line and are collected when a passenger reaches the metal detector or imaging unit. Closed circuit television is monitored from a location other than the checkpoint, such as at the airport's coordination center. According to TSA headquarters officials, TSA does not require FSDs or their designees to collect wait times from a statistical sample of passengers throughout the hour, but rather requires that one wait time is collected for every operational hour in all screening lanes. If more than one wait time is collected during the hour, the directive indicates that the maximum wait time should be reported. TSA officials at airports we visited for our February 2018 report stated that TSOs return completed wait time cards to supervisors, who then enter the information into a shared spreadsheet and eventually into the Performance Measurement Information System. Each hour's reported wait time is then applied to all of a lane's throughput for that given hour. FSDs or their designees at Category III and IV airports may estimate wait times initially, but the

[9]TSA, Operations Directive, OD-400-50-1-5F: *Reporting Customer Throughput and Wait Times* (December 1, 2016). The wait time and throughput reporting requirements also apply to the 21 airports participating in TSA's SPP.

[10]TSA classifies airports into one of five security risk categories (X, I, II, III, IV) based on various factors, such as the total number of takeoffs and landings annually, and other special security considerations. In general, category X airports have the largest number of passenger boardings and category IV airports have the smallest.

directive requires them to measure actual wait times when wait times are estimated at 10 minutes or greater.

The directive also requires FSDs or their designees to collect passenger throughput data directly from the walkthrough metal detectors and advanced imaging technology units. According to TSA headquarters officials, the machines have sensors that collect the number of passengers who pass through each hour, and TSOs retrieve the data directly from the units. All airports regardless of category are required to enter their wait time and throughput data daily into the information system no later than 3:30 AM Eastern Time of the next calendar day so that the data can be included in the morning's Daily Leadership Report (discussed in more detail below).

To monitor operations for all airports, TSA compiles a daily report utilizing a variety of data points from the information system, including wait time and throughput data.[11] The Office of Security Operations' Performance Management Division disseminates the Daily Leadership Report to TSA officials, including regional directors and FSDs and their designees every morning detailing the previous day's wait times and throughput figures, among other data points. The Performance Management Division includes a quality assurance addendum with each Daily Leadership Report, indicating missing or incorrect data, to include wait time and throughput data, and TSA has procedures in place intended to ensure officials at the airports correct the data in the Performance Measurement Information System within 2 weeks.

In addition to the Daily Leadership Report, we reported that TSA utilizes wait time and throughput data to monitor airport operations at 28 airports in near real time. In May 2016, TSA established the Airport Operations Center partly in response to the long screening checkpoint lines in the spring of 2016 at certain airports. The center conducts near real time monitoring of the operations of 28 airports that, according to TSA headquarters officials, represent the majority of passenger throughput nationwide or are operationally significant.[12] TSA requires the 28 airports

[11]As mentioned above, Category III and IV airports only collect wait time data when they estimate the wait times to be longer than 10 minutes, so although the Daily Leadership Report will list Category III and IV airports, there may be days when no wait time data are reported for these airports.

[12]When TSA established this center in May 2016, they referred to it as the Incident Command Center. TSA changed the name to the Airport Operations Center in October 2016.

monitored by the center to enter passenger wait time data and throughput data hourly (whereas the remaining airports are only required to submit data once daily, by 3:30 AM Eastern Time, as described above) so that officials can monitor the operations in near real time. In addition, TSA officials at airports are required to report to the center when an event occurs—such as equipment malfunctions, weather-related events, or unusually high passenger throughput—that affects airport screening operations and results in wait times that are greater than TSA's standards of 30 minutes in standard screening lanes or greater than 15 minutes in expedited screening lanes.[13]

If an airport is undergoing a period of prolonged wait times, we found that officials at the Airport Operations Center reported coordinating with the Regional Director and the FSD to assist in deploying resources. For example, over the course of the summer of 2016, after certain airports experienced long wait times in the spring of 2016 as confirmed by our analysis, the center assisted in deploying additional passenger screening canines and TSOs to those airports that experienced longer wait times. The center disseminates a morning and evening situational report to TSA airport-level officials and airport stakeholders summarizing nationwide wait times, highlighting wait times at the top airports and any hot spots (unexpected passenger volume or other operational challenges) that may have occurred since the most recent report was issued. In addition to the near real-time monitoring of 28 airports, the center also monitors operations at all other airports and disseminates information to airports and stakeholders as needed.

For our February 2018 report, to determine the extent to which TSA exceeded its wait time standards, we analyzed wait time data for the 28 airports monitored by the Airport Operations Center for the period of January 2015 through May 2017 for both standard and expedited screening. Our analysis showed that TSA met its wait time standard of

[13]In 2007, we reviewed TSA's Staffing Allocation Model and reported that TSA had a 10 minute wait time goal for passenger screening (GAO, *Aviation Security: TSA's Staffing Allocation Model Is Useful for Allocating Staff among Airports, but Its Assumptions Should Be Systematically Reassessed,* GAO-07-299 (Washington, D.C.: February 28, 2007)). According to TSA headquarters officials we interviewed for our February 2018 report and the TSA Administrator's October 2015 testimony before the House Committee on Homeland Security, Subcommittee on Transportation Security, TSA began prioritizing security effectiveness rather than speed in 2015, in response to concerns regarding security effectiveness following the completion of the September 2015 DHS Office of Inspector General Report on covert testing, which used undercover methods to test TSA operations.

less than 30 minutes in standard screening at the 28 airports 99.3 percent of the time for the period of January 2015 through May 2017. For expedited screening for the same time period at the same airports, we found that 100 percent of the time passengers were reported to have waited 19 minutes or less.[14]

Additionally, our analysis confirmed that the percentage of passengers in standard screening who waited over 30 minutes increased in 2016 during the months of March, April, and May as compared to 2015 at all 28 airports. Our analysis also confirmed that reported wait times increased in the spring of 2016 at selected airports, as mentioned in the news media. For example, in May 2016, approximately 22 percent of passengers at Chicago O'Hare International airport and 26 percent of passengers at Chicago Midway International airport waited over 30 minutes in standard screening as opposed to zero percent for both airports in May 2015, which accounted for the longest wait times in the spring of 2016. These two airports were part of the 28 airports for which we analyzed wait time data for the period of January 2015 through May 2017.

TSA Airport Officials Reported Using a Variety of Tools to Respond to Increases in Passenger Wait Times and Throughput

In February 2018, we reported that FSDs and their staff at the airports we visited identified a variety of tools that they utilize to respond to increases in passenger wait times and/or throughput.

- TSOs from the National Deployment Force —teams of additional TSOs—are available for deployment to airports to support screening operations during major events and seasonal increases in passengers.[15] For example, TSA officials at one airport we visited received National Deployment Force officers during busy holiday seasons and officials at another airport received officers during the increase in wait times in the spring and summer of 2016.
- TSA officials at selected airports used passenger screening canines to expedite the screening process and support screening operations

[14]Although the TSA standard for expedited screening is 15 minutes, TSA does not routinely report the data this way. For expedited screening, TSA provided wait time data in increments of 0-4 minutes; 5-9 minutes; 10-19 minutes; and 20 minutes or more and we analyzed the data in these same increments. These are the similar increments that TSA uses to prepare its Daily Leadership Report.

[15]TSA's National Deployment Force officers support airport screening operations during emergencies, seasonal demands, severe weather conditions, or increased passenger activity requiring additional screening personnel above those normally available.

during increased passenger throughput and wait time periods.[16] For example, TSA officials at one airport we visited emphasized the importance of passenger screening canines as a useful tool to minimize wait times and meet passenger screening demands at times when throughput is high. Officials at another airport we visited relied on these canines in busy terminals during peak periods. According to officials at two of the airports we visited, the use of passenger screening canines helped them to reduce wait times due to increased passenger volumes in the spring and summer of 2016.

- TSA officials at selected airports also utilize part-time TSOs and overtime hours to accommodate increases in passenger throughput and wait times. For example, according to officials at all eight of the airports we visited, they used overtime during peak travel times, such as holiday travel seasons, and officials usually planned the use of overtime in advance. Additionally, TSA officials at four of the airports we visited told us they used part-time TSOs to help manage peak throughput times throughout the day.
- According to TSA officials at two of the airports we visited, they moved TSOs between checkpoints to accommodate increases in passenger throughput at certain checkpoints and to expedite screening operations. For example, TSA officials at one airport we visited have a team of TSOs that terminal managers can request on short notice. Officials at the other airport estimated that they move TSOs between terminals about 40 times per day.

[16]Passenger screening canine teams consist of a canine trained to detect explosives on passengers and a handler. Airports at which passenger screening canines are used can achieve a reduction in passenger wait times through broader use of expedited screening. Passenger screening canines are allocated to airports through a risk-based model, with airports with higher passenger throughput rates, among other factors, receiving more canines.

Chairman Katko, Ranking Member Watson Coleman and Members of the Subcommittee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contacts and Staff Acknowledgments

For questions about this statement, please contact William Russell at (202) 512-8777 or russellw@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions to this statement include Ellen Wolfe (Assistant Director), Joel Aldape, Brendan Kretzschmar, and Natalie Swabb. Key contributors for the previous report that this testimony is based on are listed in the product.