



March 2021

TRANSPORTATION SAFETY

DOT Has Taken Steps to Verify and Publicize Drug and Alcohol Testing Data but Should Do More



A Century of Non-Partisan Fact-Based Work

GAO@100 Highlights

Highlights of [GAO-21-296](#), a report to congressional committees

Why GAO Did This Study

Since 1988, DOT has regulated the process by which employers in the different transportation industries (aviation, trucking, rail, transit, pipeline, and maritime) are required to test their employees for drug and alcohol use. Employers must self-report these test results annually to DOT or when requested by DOT. In a 2018 statute, Congress required DOT to publish the aggregate drug and alcohol testing data on DOT's website and included a provision for GAO to review the website and these data.

This report examines: (1) how DOT uses drug and alcohol testing data, (2) how DOT verifies that data are reliable, and (3) whether DOT follows key actions for transparently reporting drug and alcohol testing data. GAO reviewed relevant laws and regulations, among other things. To determine how DOT verifies that data are reliable, GAO reviewed documents, analyzed data in the internal database from calendar years 2003 through 2018, and interviewed DOT officials. GAO also reviewed the public website and compared it to key actions for open government data.

What GAO Recommends

GAO is making several recommendations, including that DOT (1) evaluate the processes the modal administrations use to verify testing data, (2) disclose known limitations in the website's publicly reported testing data, and (3) reach out to the public to promote the website and evaluate the benefits and costs of other possible improvements. DOT concurred with our recommendations.

View [GAO-21-296](#). For more information, contact David Trimble at (202) 512-2834 or trimbled@gao.gov.

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What GAO Found

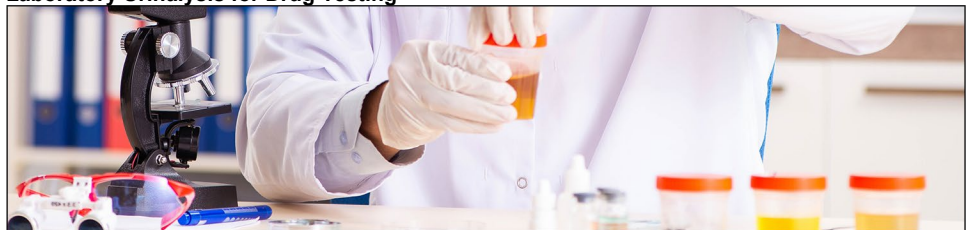
Federal regulations require employers in the different transportation industries to: (1) randomly test their safety-sensitive employees for drugs or alcohol, or both, and (2) certify and report the aggregate data annually or when requested to the Department of Transportation (DOT). The DOT modal administrations and the U.S. Coast Guard (USCG) primarily use these data to determine the annual random testing rate (the specified minimum percentage of these employees that employers use to calculate the minimum number of random tests they must conduct that year). For example, for drugs, if 1 percent or more of employees in an industry randomly test positive, then the following year's random testing rate will be set at 50 percent.

DOT, the modal administrations, and USCG have taken steps to ensure that drug and alcohol testing data reported by employers are reliable:

- DOT incorporated automated checks to alert employers that the data they are submitting are outside of expected ranges and may be inaccurate.
- After data are reported, the modal administrations and USCG use varying processes to verify data, e.g., some compare data employers reported to physical records during routine compliance reviews.

These data verification processes improve the reliability of the data, but are not consistently used by each of the modal administrations and USCG. Officials have the discretion to use different data reliability processes and may have valid reasons for doing so. However, officials have not evaluated the sufficiency of these various processes and therefore do not have adequate assurance the data are reliable for calculating the random testing rates.

Laboratory Urinalysis for Drug Testing



Source: Elnur/stock.adobe.com. | GAO-21-296

In March 2019, DOT published aggregated drug and alcohol testing data on its website, as required. This website, updated annually, follows several key actions for transparently reporting government data, but does not follow other key actions, including:

- DOT has not disclosed known data limitations that exist in the public data that would prevent users from accurately calculating the random testing rate.
- DOT has not engaged with the public to encourage data use.

DOT officials told us there is limited interest in the data based on website traffic. However, because DOT has not taken steps to inform the public of the data, DOT may be missing opportunities to identify additional users and improvements.

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Abbreviations

CDL	commercial driver's license
DHS	Department of Homeland Security
DOT	Department of Transportation
FAA	Federal Aviation Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
MOW	maintenance of way
ODAPC	Office of Drug and Alcohol Policy and Compliance
OPEN Government Data Act	Open, Public, Electronic and Necessary (OPEN) Government Data Act
OTETA	Omnibus Transportation Employee Testing Act
PHMSA	Pipeline and Hazardous Materials Safety Administration
SUPPORT for Patients and Communities Act	Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act
USCG	United States Coast Guard

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March 17, 2020

The Honorable Maria Cantwell
Chair
The Honorable Roger Wicker
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Peter A. DeFazio
Chairman
The Honorable Sam Graves
Ranking Member
Committee on Transportation and Infrastructure
House of Representatives

As the use of marijuana, opioids, and other drugs has increased, concerns have been raised about the potential for injuries and fatalities caused by commercial transportation employees under the influence of drugs or alcohol.¹ Since 1988, the U.S. Department of Transportation (DOT) has regulated the process by which employers in the different transportation industries (aviation, trucking, rail, transit, pipeline, and maritime) must test their employees for drug and alcohol use. Under this process, employers must submit their drug and alcohol testing data annually or when requested either to the relevant DOT modal administration—the Federal Aviation Administration (FAA), Federal Motor Carrier Safety Administration (FMCSA), Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and Pipeline and Hazardous Materials Safety Administration (PHMSA)—or the United States Coast Guard (USCG).²

The Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act required DOT to publish aggregated drug and alcohol testing data for each mode

¹See, e.g., S. REP. NO. 115-286, at 1-2 (2018) (accompanying the Fighting Opioid Abuse in Transportation Act, Pub. L. No. 115-271, tit. VIII, subtit. I, 132 Stat. 3894, 4103-08).

²Although USCG is currently within the Department of Homeland Security (DHS), the USCG collects and submits drug testing data for the maritime industry to DOT. 46 C.F.R. § 16.500(a); 49 C.F.R. § 40.3.

of transportation on its website and update the data annually.³ DOT aggregates drug and alcohol testing data stored in its Drug and Alcohol Management Information System (referred to in this report as the internal database) to populate DOT's website. The Act also included a provision for GAO to review DOT's internal database as well as the data publically available on DOT's website.⁴ For this report, we assess:

- how DOT uses drug and alcohol testing data,
- how DOT verifies that testing data are reliable, and
- whether DOT follows key actions for transparently reporting drug and alcohol testing data.

To determine how DOT uses drug and alcohol testing data, we reviewed relevant laws, regulations, and guidance. We interviewed officials from DOT's Office of Drug and Alcohol Policy and Compliance (ODAPC), who are responsible for maintaining the internal database and publishing the data annually. In addition, we interviewed officials from FMCSA, FRA, FAA, FTA, PHMSA, and USCG. We also reviewed the calculations of the random testing rate for each mode of transportation and USCG.⁵

To determine how DOT verifies that drug and alcohol testing data are reliable, we obtained and analyzed drug and alcohol testing data submitted to the internal database from calendar years 2003 through 2018; data for 2018 were the most recent yearly data available. As a part of this analysis, we reviewed documentation describing the automated validation checks performed when employers submit testing data and analyzed the data to determine whether these checks were performed. Specifically, we identified the number of instances when the data submitted did not meet the parameters of each of the validation checks. We also reviewed DOT's processes for verifying drug and alcohol testing data by:

- observing a demonstration by DOT staff of how data are entered and stored in the internal database,

³Pub. L. No 115-271, § 8103, 132 Stat. 3894, 4104 (2018) (codified at 49 U.S.C. § 329 note).

⁴*Id.* § 8104.

⁵The random testing rate is a specified minimum percentage of safety-sensitive employees that employers use to calculate the number of random tests they must conduct throughout the calendar year. For more information on the calculation of the random drug and alcohol testing rates, please see below.

-
- reviewing guidance published by DOT for submissions of data to the internal database by employers, and
 - interviewing ODAPC, modal administration, and USCG officials to identify processes they have implemented to verify that the data are reliable.

The information and communication component of internal control was also significant to this objective, along with the related principles that agencies should use relevant data from reliable sources and evaluate external sources of data for reliability.⁶ We assessed DOT's efforts to ensure data reliability by reviewing the processes DOT, the modal administrations, and USCG have implemented to:

- prevent errors in data collection, and
- review data received by employers as part of considering the data's quality and completeness.

To determine whether DOT followed key actions for transparently reporting drug and alcohol testing data, we reviewed the DOT website containing the public drug and alcohol testing data, documents describing website traffic, and interviewed officials. Given that the data in DOT's drug and alcohol testing website are open government data—government data that can be freely used, modified, or shared by anyone for any purpose—we compared how DOT reports the data to 16 key actions for open government data previously identified by GAO.⁷ Specifically, GAO has identified several key actions to ensure the transparent reporting of data. These include such actions as allowing users to access the data

⁶GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#), (Washington, D.C.: September 2014).

⁷GAO, *OPEN DATA: Treasury Could Better Align USAspending.Gov Practices with Key Practices and Search Requirements*, [GAO-19-72](#), (Washington, D.C.: Dec. 13, 2018). GAO stated that some key practices and actions may be more relevant than others based on the purpose and characteristics of individual open government data programs. For DOT's website, we considered two key actions and a portion of a third action to be not applicable because of the limited utility and reduced amount of data once they are aggregated for public release. Specifically, the actions considered not applicable were: (1) to provide users with appropriate interpretations of the data, such as visualizations or summaries; (2) to provide a search function that is optimized for easy and efficient use; and (3) to provide accompanying metadata as it relates to the key action of clearly labeling data and providing accompanying metadata.

without charging a fee and disclosing data sources, among others.⁸ We also reviewed requirements for transparently reporting data in the Open, Public, Electronic and Necessary (OPEN) Government Data Act.⁹ To determine if the data collected in the internal database are accurately represented, we compared the data in DOT's internal database to the drug and alcohol data presented on the public website, which includes data for calendar years 2003 through 2018. We also obtained documents, such as outputs from a web analytic tool that tracks the number of downloads, and interviewed DOT officials to determine how frequently the public is viewing the data, how the public is using the website, and how, if at all, the website could be improved.

We conducted this performance audit from October 2019 to March 2021 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

Federal Responsibilities in Drug and Alcohol Testing and Reporting

DOT first published its drug testing program's regulations for the industries it regulates in 1988.¹⁰ The program was established to promote public safety by deterring and detecting the prohibited use of drugs in transportation industries. Congress later passed the Omnibus Transportation Employee Testing Act of 1991.¹¹ This Act required selected modal administrations (FAA, FMCSA, FRA, and FTA) to establish alcohol testing programs for the relevant transportation

⁸The key actions GAO identified were organized into five key practices that managers of open government data programs can consider for publishing government data. For the purposes of this report, our analysis of DOT's website focuses on the key actions. For a full list of key actions, see appendix II.

⁹Pub. L. No. 115-435, tit. II, 132 Stat. 5529, 5534-44 (2019).

¹⁰Procedures for Transportation Workplace Drug Testing Programs, 53 Fed. Reg. 47,002 (Nov. 21, 1988) (Interim Rule). At this time, USCG was a DOT modal administration. *Id.* Although USCG became a part of DHS in 2003, DOT's drug testing program regulations remained an incorporated part of USCG's regulations for the maritime industry. As a result, drug testing required by USCG's regulations must comply with DOT's drug testing program requirements. 46 C.F.R. § 16.113(a).

¹¹Pub. L. No. 102-143, tit. V, 105 Stat. 917, 952-65 (1991).

industries that they regulate and generally codified DOT's regulatory requirements for drug testing programs, among other things.¹² In this Act, Congress found that illegal drug use and alcohol abuse in the transportation industries pose significant dangers to the public and that increased testing, including random testing, is an effective deterrent.¹³

ODAPC, the modal administrations, and USCG are responsible for regulating various aspects of drug and alcohol testing and data collection:

- ODAPC, within the Office of the Secretary of Transportation, issues and interprets part 40 of title 49 of the Code of Federal Regulations, which contain the regulations on drug and alcohol testing generally applicable to all of the modal administrations and partially applicable to USCG.¹⁴ These regulations specify how to conduct tests and describe the evaluation and treatment process necessary for employees to return to duty after testing violations, among other things. ODAPC also maintains the internal database used by USCG and the modal administrations to collect and store modal-specific aggregated drug and alcohol testing data submitted by employers and the public website that contains the test data aggregated for USCG and by mode.
- The modal administrations and USCG also issue regulations and requirements for the drug and alcohol testing programs applicable to the industries they regulate, including requirements for collecting aggregate drug and alcohol testing data from employers. In addition, each year the modal administrations and USCG determine the random testing rate, which is a specified percentage of safety-sensitive employees that employers use to calculate the minimum number of random tests they must conduct throughout the calendar year.

¹²*Id.* The Omnibus Transportation Employee Testing Act (OTETA) of 1991 did not cover PHMSA and USCG and thus did not require them to establish alcohol testing programs. However, USCG already had an alcohol testing requirement prior to OTETA's enactment, and PHMSA later established an alcohol testing program in 1994 under its general authority to regulate pipeline safety. See 49 U.S.C. § 60102.

¹³OTETA § 2. The purpose of DOT's drug and alcohol testing programs—to deter drug and alcohol misuse in the interest of public safety—has not changed. See, e.g., S. Rep. No. 115-286, at 2 (2018).

¹⁴While ODAPC's regulations on drug testing apply to USCG, its regulations on alcohol testing do not. 46 C.F.R. §§ 16.201, 16.500(a)(2).

Employer and Employee Responsibilities in Drug and Alcohol Testing and Reporting

Employers regulated by FAA, FMCSA, FRA, FTA, PHMSA, and USCG are required to collect and report drug or alcohol testing data, or both, for safety-sensitive employees.¹⁵ The categories of employees in safety-sensitive positions vary for USCG and for each modal administration but they generally are individuals who perform duties affecting their own safety and the safety of others. For example, employees who conduct maintenance on aircraft are considered safety-sensitive employees who are subject to DOT drug and alcohol testing requirements, and employers must submit their aggregated testing data annually to FAA. In contrast, ticket counter representatives are not safety-sensitive employees subject to those requirements. DOT collects the data according to employee category, i.e., job type, but not employee-specific data. For more information about drug and alcohol testing requirements, see appendix I.

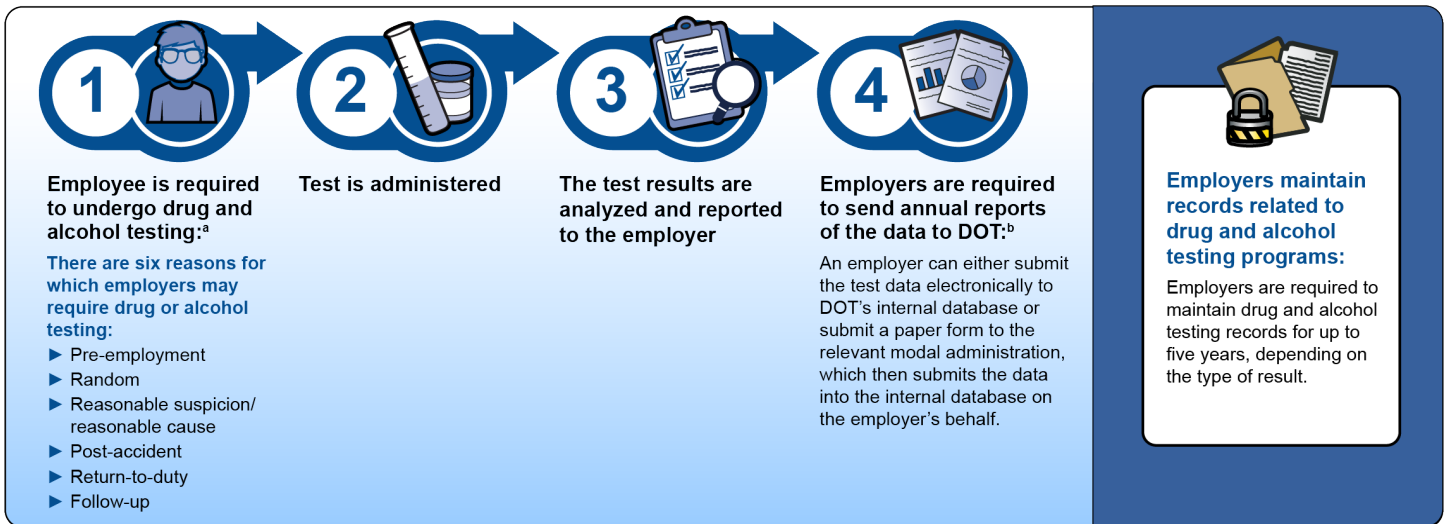
The DOT modal administrations' and USCG's drug and alcohol program regulations specify a range of conditions under which employers may be required to test employees (see fig. 1). Although requirements vary for USCG and each modal administration, in general there are six reasons for employers to conduct drug or alcohol testing: (1) pre-employment, (2) random, (3) reasonable suspicion or reasonable cause, (4) post-accident, (5) return-to-duty, and (6) follow-up.¹⁶ For example, an individual may be required to take a pre-employment drug test before starting a new job in a safety-sensitive function. Employers generally are required to report their drug and alcohol testing data (aggregate verified drug test results, alcohol test results, refusals to test, and test cancellations) to DOT by March 15 of the following calendar year.¹⁷ While submitting the data, which is generally done electronically, the employer must also certify that the data are accurate and complete. Employers are required to maintain drug and alcohol testing records for up to 5 years, depending on the type of result.

¹⁵Reporting requirements vary for USCG and the modal administrations. For example, FMCSA selects a sample of employers each year and requests them to submit drug and alcohol testing data.

¹⁶For example, an employer must require a safety-sensitive employee to undergo testing when it determines that reasonable suspicion or reasonable cause exists to believe that the employee has used drugs or alcohol in violation of DOT regulations. This determination must be based on specific, contemporaneous, and articulable observations of the employee and made by one or more supervisor trained in recognizing signs of alcohol and drug misuse. FAA, PHMSA, and FRA have separate and distinct requirements for reasonable suspicion and reasonable cause determinations, while USCG, FMCSA, and FTA use these terms interchangeably for the same requirements.

¹⁷For example, the deadline for submitting aggregate drug and alcohol testing data collected for calendar year 2019 was March 15, 2020.

Figure 1: Drug and Alcohol Testing Process for Transportation Employees and Employers



Source: GAO analysis of Department of Transportation (DOT) and United States Coast Guard (USCG) guidance and regulations. | GAO-21-296

Note: Employees who perform safety-sensitive functions are generally required to undergo drug and alcohol testing. Each modal administration and the United States Coast Guard (USCG) defines in its regulations what constitutes safety-sensitive functions for the industry that it regulates. For more information about drug and alcohol testing regulations, please see appendix I.

^aThe modal administrations and USCG generally have the same reasons for conducting drug and alcohol tests, but whether the drug or alcohol tests are required to be conducted may differ. For example, the Pipelines and Hazardous Materials Safety Administration and USCG do not authorize employers to conduct random alcohol testing.

^bThe regulations for USCG and each modal administration state which employers are required to annually report drug and alcohol testing data and which employers must do so only upon request of USCG or the modal administration. DOT officials explained that the drug and alcohol testing data that are reported to DOT represent aggregated testing data, not individual test results.

Drug and Alcohol Testing Data Reporting Requirements

In addition to requiring DOT to publish and annually update the drug and alcohol testing data on its website for each modal administration and USCG, the SUPPORT for Patients and Communities Act required that DOT's website include:

- the total number of drug and alcohol tests by type of substance tested;
- the drug and alcohol test results by type of substance tested;
- the reason for the drug or alcohol test; and
- the number of individuals who refused testing.¹⁸

¹⁸SUPPORT for Patients and Communities Act § 8103 (codified at 49 U.S.C. § 329 note).

In March 2019, DOT met this requirement by publishing aggregated data from the internal database on its website for USCG and each mode (i.e., FRA, FAA, FMCSA, FTA, and PHMSA); by substances tested (drugs or alcohol); by reason for testing; and by year (2003 through 2018).¹⁹

We have previously reported on requirements for agencies to transparently report data, including policies and guidance on open government data.²⁰ This report highlighted key actions for transparently reporting government data, such as identifying data users and not charging users to access the data. Because the purpose and characteristics of open government data may vary, some of these key actions may be more relevant than others. More recently, the OPEN Government Data Act required, among other things, that federal agencies report their information as open data using standardized, nonproprietary formats, and make data available to the public open by default, unless otherwise restricted from doing so.²¹

¹⁹To access the public website, see https://www.transportation.gov/odapc/DOT_Agency_MIS_Data. Unlike the modal administrations, USCG does not have complete drug testing data on DOT's website for years 2017 and 2018. Beginning with the 2017 drug testing data, USCG required that employers submit testing data directly to it instead of DOT's internal database. Because the drug testing data for 2017 and 2018 reported to USCG were not submitted to the internal database, DOT could not populate the data on its website. While USCG officials told us they do not plan to require employers to submit testing data directly to the internal database moving forward, officials explained that USCG will collect and provide the data to ODAPC for inclusion on the public website for future years.

²⁰[GAO-19-72](#). See the Office of Management and Budget's (OMB) Memorandum M-17-06, *Policies for Federal Agency Public Websites and Digital Services, 2016*; OMB Memorandum M-13-13, *Open Data Policy—Managing Information as an Asset, 2013*.

²¹OPEN Government Data Act § 202(c)(1). The Act codifies and expands on existing federal open data policy, including OMB's *Memorandum M-13-13, Open Data Policy—Managing Information as an Asset*. The OPEN Government Data Act is one of several government-wide initiatives focused on improving the public's access to government information. GAO, *OPEN DATA: Agencies Need Guidance to Establish Comprehensive Data Inventories; Information on Their Progress is Limited*, [GAO-21-29](#). (Washington, D.C: Oct. 8, 2020).

DOT Uses Drug and Alcohol Testing Data Primarily to Determine Random Testing Rates for the Following Year and Sometimes to Target Educational Outreach

DOT officials told us they primarily use drug and alcohol testing data to determine the random testing rate for safety-sensitive employees in each industry for the following year. Specifically, each modal administration and USCG use the random drug testing positive rate or the random alcohol testing violation rate, as applicable, from prior years to determine the random testing rate—a specified minimum percentage of its safety-sensitive employees that employers use to calculate the number of random tests they must conduct throughout the calendar year—in the following calendar year.²² USCG and the DOT modal administrations generally publish annual notices in the Federal Register that outline the prior years' positive rates or violation rates, as relevant, and state the new random testing rate. For example, if USCG or one of the DOT modal administrations sets the random testing rate at 50 percent, then an employer with 100 safety-sensitive employees must conduct at least 50 random tests during the year, as employers must conduct a number of random tests throughout the calendar year to equal this percentage.²³

The random testing rate differs for drug and alcohol testing:

- **Random drug testing:** All five of the modal administrations and USCG require their regulated employers to conduct random drug tests. Their respective regulations provide that the random drug testing rate for the industry will be either 25 or 50 percent, depending on the industry-wide random drug testing positive rate reported for the previous calendar year or years. For example, if the random drug testing positive rate is at or above 1 percent, then the modal administration or USCG will increase the drug testing rate for the following year to 50 percent or make no adjustment if it is already at 50 percent. If the random drug testing rate is at 50 percent and the positive rate is less than 1 percent for 2 consecutive years, then the modal administration or USCG has the discretion to lower the drug testing rate to 25 percent for the following year. The 2021 random drug testing rate was set at 50 percent for four modal administrations (FMCSA, FTA, PHMSA, and FRA maintenance-of-way (MOW))

²²PHMSA and USCG do not authorize random alcohol testing. Also, FRA currently calculates a separate random testing rate for covered service employees and maintenance-of-way (MOW) employees.

²³However, this does not mean that an employer would necessarily administer random drug tests to 50 different safety-sensitive employees. While all safety-sensitive employees must have an equal chance of being tested when each random draw is conducted, some employees might be randomly selected more than once in a calendar year, and others not at all.

employees) and USCG, and 25 percent for FAA and FRA covered service employees.²⁴

- **Random alcohol testing:** Four of the five modal administrations require random alcohol testing (FRA, FAA, FMCSA, and FTA). Their respective regulations provide that the random alcohol testing rate for the industry will be 10, 25, or 50 percent. The modal administrations adjust this alcohol testing rate for safety-sensitive employees based on the industry-wide random alcohol testing violation rate reported for the previous calendar year or years.²⁵ For example, regardless of whether the random testing rate is 50, 25, or 10 percent, if the violation rate is 1 percent or more for a year, then the modal administration will increase the alcohol testing rate for the next year to 50 percent, or make no adjustment if it is already at 50 percent. The 2021 random alcohol testing rate is 10 percent for all four modal administrations.²⁶

The random testing rate is significant for employers because they pay the costs of conducting drug and alcohol tests, and increasing this rate, and thus increasing the number of tests that employers must conduct, can result in a significant increase in those costs. For example, in 2019, FMCSA reported that increasing the random drug testing rate from 25 percent to 50 percent resulted in an estimated \$50 to \$70 million in additional costs to the trucking industry.

In addition to calculating the random testing rate, some DOT officials stated that they occasionally use drug and alcohol testing data to target their educational outreach to the industry. For example, FTA officials told us that they reached out to employers after a review of drug and alcohol testing data showed that many employees were refusing to undergo pre-employment testing. Refusing to take a pre-employment test would make them ineligible to perform in safety-sensitive functions. FTA officials thought employers might be misunderstanding either the process or the

²⁴FRA has two categories of safety-sensitive employees for which it currently calculates separate random drug and alcohol testing rates: covered service employees and MOW employees, the latter of which became subject to FRA's random drug and alcohol testing by regulation in 2017.

²⁵The violation rate for random alcohol testing is the number of random alcohol confirmation test results (i.e., the second test given to an employee whose screening test result is 0.02 or above) that are 0.04 and above, plus the number of refusals of random alcohol tests, divided by the total number of random alcohol screening tests, which includes refusals.

²⁶This testing rate applies to both FRA covered service and MOW employees.

regulations, and therefore, decided to clarify the requirements by producing an educational article about the drug and alcohol testing process in the quarterly newsletter that they send out to employers. In addition, PHMSA officials told us that they found a steady increase in positive drug tests for marijuana after use became legalized in several states. In response, DOT issued notices clarifying that marijuana remains a Schedule I drug under the Controlled Substances Act, and thus, its drug testing program's regulations do not authorize safety-sensitive employees to use marijuana for any reason, whether recreational or medical, even though these uses may be permitted in some states.

DOT Has Taken Steps to Prevent Errors during Data Collection but Has Not Evaluated the Processes Modal Administrations and USCG Use to Verify Their Data

DOT Has Implemented Validation Checks to Prevent Errors during Data Collection

DOT has incorporated two general types of automated validation checks—which it refers to as data checks and warnings, and data errors—into the data collection process to ensure that employers submit accurate drug and alcohol testing data to the internal database.

- **Data checks and warnings:** DOT's internal database has five data checks that are used for employer-submitted data across all five modal administrations and USCG, as well as additional data warnings

that are specific to each individual mode and USCG.²⁷ These checks and warnings alert employers to review the data that they are submitting because the data are outside of expected parameters. According to DOT officials, employers submit data that in some cases appear to be improbable but are not necessarily inaccurate. Therefore, DOT requires employers to review the data but does not prevent the employer from submitting the data to the internal database. For example, an employer may report that it has zero employees in a certain employee category but report that it has results from a pre-employment drug test. It is possible that the pre-employment drug test was conducted and the individual was never hired, resulting in zero employees reported. While the system alerts the employer that the data appear to be improbable, the data check does not prevent the employer from submitting the data.

- **Error messages:** DOT's internal database has six error messages that prevent employers from submitting data that are inaccurate. For example, the internal database generates an error message if the number of positive tests for marijuana exceeds the total number of drug tests reported by the employer.²⁸ Employers must correct the data so that there are no error messages before being allowed to officially submit the data to DOT.

²⁷The specific data checks are: (1) there is drug data for a category where there are zero employees, (2) there is alcohol data for a category where there are zero employees, (3) the number of alcohol confirmation tests is greater than the number of alcohol screening tests with a result of 0.02 or greater, (4) the number of alcohol confirmation tests with results 0.02 to 0.039 is greater than the number of alcohol screening tests with a result of 0.02 or greater, and (5) the number of alcohol confirmation tests with a result of 0.04 or greater is greater than the number of alcohol screening tests with a result of 0.02 or greater. A confirmation test must be administered after an alcohol screening test yields a result of 0.02 or greater. 40 C.F.R. § 40.247. If the result is less than 0.02, no confirmation test is performed. *Id.* In addition to the five data checks that apply to all modes and USCG, there are warnings for each mode and USCG that alert the employer that the percentage of employees testing positive for random drug or alcohol tests appears to be improbable, but not impossible. There is one data warning for USCG and each modal administration that collects drug test results and an additional data warning for the modal administrations that collect alcohol test results. In addition, FMCSA has two warnings related to the number of employees reported.

²⁸There are four similar warning messages related to positive tests for the other drugs for which testing is mandatory. These drugs are cocaine, phencyclidine (PCP), opioids, and amphetamines. 40 C.F.R. § 40.85. In addition, there is an error warning if the number of alcohol confirmation tests with results of 0.02 through 0.039 plus the number of alcohol confirmation tests with 0.04 or greater is greater than the number of alcohol confirmation test results.

We analyzed data from the internal database to determine if DOT's validation checks are working as intended and found very few instances where the data submitted failed to meet the parameters of the data check and no instances where the data failed to meet the parameters of the error messages. Of the approximately 4.8 million alcohol test records collected from 2003 through 2018, less than 2,500 (0.05 percent) violated the data checks. Over the same time period, nearly 5-million drug test records were collected and about 2,800 (0.06 percent) violated the data checks. None of the test records violated the error messages. As previously discussed, there are valid reasons why a data check or warning might be violated.²⁹

The Modal Administrations and USCG Have Implemented Varying Processes to Ensure Data Quality and Completeness but Have Not Evaluated Those Processes

Individual modal administrations and USCG have taken various steps to verify that their own drug and alcohol testing data are reliable. By regulation, each DOT modal administration and USCG are to take action to ensure the reliability of the data by considering their quality and completeness.³⁰ Officials from DOT's modal administrations and USCG reported taking a variety of different steps to ensure the data are: (1) of sufficient quality (i.e., contain the correct drug and alcohol testing results), and (2) complete (i.e., include submissions from all employers that cover all regulated employees) before calculating the random testing rate.

The modal administrations and USCG take the following steps to ensure the quality of drug and alcohol testing data:

- **Evaluate testing data during compliance reviews:** Four of the five modal administrations (FAA, FRA, FTA, and PHMSA) compare records from DOT's internal database to physical records during employer-specific compliance reviews and inspections to make sure

²⁹DOT officials told us that even if the data were incorrectly submitted by an employer, the instances where the data violated the data check were too infrequent to have affected the calculation of the random testing rate for each mode and USCG.

³⁰The regulations in general provide that the modal administration or USCG considers the quality and completeness of the reported data to ensure their reliability. See 14 C.F.R. §§ 120.109(b)(2), 120.217(c)(2) (FAA); 46 C.F.R. § 16.230(f)(1) (USCG); 49 C.F.R. § 199.105(c)(2) (PHMSA); 49 C.F.R. § 219.625(b) (FRA); 49 C.F.R. § 382.305(c), (f) (FMCSA); 49 C.F.R. § 655.45(b) (FTA). FRA's regulation is slightly different as it provides that in order to ensure the reliability of the reported data, the FRA Administrator may consider quality and completeness. 49 C.F.R. § 219.625(b). The Administrators or Commandant may also take other action to ensure reliability, such as obtaining additional reports from covered employers. FAA has further issued an internal order providing for compliance inspections of employers' random testing records, among other things. FAA Order 9120.1D (Apr. 30, 2019).

the data were reported accurately.³¹ For example, in 2018, during compliance reviews, FTA officials identified 17 records that did not match the information provided and recorded in DOT's internal database and required these employers to submit corrections. FMCSA and USCG do not generally compare records from the internal database to employers' records during compliance reviews. USCG officials told us that, while USCG's annual inspections include a review of employers' drug and alcohol programs, these inspections do not include a review of the drug and alcohol testing data reported by employers to DOT. These inspections may be expanded to include a more comprehensive investigation should deficiencies in compliance be discovered.

- **Use software or manually review data to identify errors:** Three of the five modal administrations (FMCSA, FRA, and FTA) use software to compare employers' submissions to prior years' submissions to see if there is a large change in the number of employees or the number of positive tests that might indicate that the data are inaccurate. For example, FMCSA uses a statistical software program to review the data and flag employers that reported having a significantly higher number of employees than were reported in previous years.³² PHMSA and USCG officials said that they also review the data to look for possible errors and anomalies but without using software. For example, PHMSA officials told us that they look for employers that reported an unusually large number of employees or tests conducted and typically identify about 20 reports per year where employers incorrectly reported data for all of its contractors' employees, instead

³¹DOT modal administrations and USCG use varying review processes to ensure that employers are complying with drug and alcohol testing requirements. For example, FTA officials told us that they will conduct a high-level review of employers' drug and alcohol programs as part of a general compliance review that is conducted for each employer every 3 years. If an issue is identified that is related to the employers' drug and alcohol program, FTA will conduct a more comprehensive audit that includes a review of policies and procedures, interviews with knowledgeable staff, and a review of drug and alcohol testing records.

³²In 2020, FMCSA launched the Drug and Alcohol Clearinghouse (Clearinghouse), which contains records of drug and alcohol violations of its drug and alcohol testing program's regulations, including positive drug and alcohol results and test refusals. We asked FMCSA officials if the Clearinghouse could be used to verify the data in DOT's drug and alcohol database. While the Clearinghouse does contain drug and alcohol testing data, and, according to officials, could potentially be used to verify data in the drug and alcohol testing database, Clearinghouse data do not contain the total number of negative tests conducted in the year. Because the Clearinghouse does not contain the total number of negative tests, the data cannot be used to calculate the random drug and alcohol testing rate. In addition, while the Clearinghouse contains data on individuals, the drug and alcohol database does not.

of only those who perform safety-sensitive functions. If an error is found and the reporting system is still open for reporting for that year, then they will ask the employer to review the submission and correct it. FAA does not use software or manually review data to identify errors.

Officials from all of DOT's modal administrations and USCG told us that they take steps to ensure that drug and alcohol testing data are complete—meaning that they have received reports from all employers and the reports contain the required information—but these steps vary for each modal administration and USCG:

- **Contact employers that do not submit a report:** Officials from all five modal administrations told us that they individually contact employers if they do not receive a submission. However, FMCSA officials told they only reach out to employers that have more than 1,000 employees due to the amount of resources needed to reach out to the large number of employers that are required to report drug and alcohol testing data. USCG does not individually contact employers that have not submitted a report.
- **Contact employers if they submit incomplete reports:** Officials from three of the five modal administrations (FRA, PHMSA, and FTA) and USCG told us that they would contact an employer if they receive a submission, but the information appears to be incomplete. For example, FTA will contact employers that report having zero employees in a certain category if the employer reported having employees in that category in the prior year. FAA and FMCSA do not contact employers if reports are missing information.

The data verification processes used by most of the individual modal administrations and USCG help improve the reliability of their data. However, these validation efforts have been inconsistently implemented by all of the modal administrations and USCG, and they do not know which processes are sufficient to ensure the quality and completeness of the data, because officials have not evaluated them.

As previously stated, each DOT modal administration and USCG are to take action to ensure the reliability of the data by considering their quality and completeness and employers submitting the data to DOT are also responsible for certifying that the information is accurate. Further, according to federal internal control standards, agencies should evaluate external information received and take any necessary actions to ensure its quality. There may be valid reasons some modal administrations and USCG have not incorporated all of the verification steps we identified, as

certain steps discussed above might not be appropriate for all of the modal administrations and USCG. For example, some modes collect data from thousands of employers, and other modes collect data from less than a hundred employers, and it may make sense for these modes to have different verification procedures. However, neither USCG nor any of the modal administrations have evaluated their processes to discern whether the data have been sufficiently verified, or whether additional verification steps are needed. Thus, neither DOT nor USCG can be sure that the data are reliable and that either entity has correctly set the rates of drug and alcohol testing, which act as a detection and deterrent tool and help ensure the safe transportation of people and commercial goods.

DOT Follows Several Key Actions for Transparently Reporting Drug and Alcohol Testing Data but Has Not Disclosed Data Limitations or Reached Out to Potential Users in the Public

DOT Follows Eight Key Actions in Disclosing Drug and Alcohol Testing Data on its Website

DOT's drug and alcohol testing website—which DOT published in March 2019 as required by the SUPPORT for Patients and Communities Act—follows eight of 16 key actions that we have previously identified for transparently reporting government data, including:³³

- **Make government data open by default, while protecting sensitive or restricted information.** The required content of the data on the website was specified in the SUPPORT for Patients and

³³[GAO-19-72](#). The requirements for open government data described in this report from OMB's *Memorandum M-13-13* have been codified and expanded upon in the OPEN Government Data Act. For more information, see [GAO-21-29](#).

Communities Act, which also contained a provision protecting certain data that could be used to identify the employer reporting the information.³⁴ By adhering to the content specified in the SUPPORT for Patients and Communities Act, DOT has made the data open while protecting sensitive information.

- **Do not charge users for access to the data.** The drug and alcohol testing data are available to the public free on DOT's website.
- **Include a feedback mechanism to collect user feedback and respond to that feedback.** There is a link at the bottom of the drug and alcohol testing website for users to submit feedback; such a link, according to ODAPC officials, is included on all public DOT webpages. ODAPC officials explained that they review submissions to the webpage daily. To date, officials said they have not received any feedback from this forum, or phone calls from individuals with feedback on the public website.
- **Provide data downloads in a non-proprietary format.** The public website is published in a format that is compatible with the XML file format, which is a non-proprietary format that can be opened using common office software.
- **Provide users with detailed and disaggregated data.** The content and level of aggregation of the data were specified in the SUPPORT for Patients and Communities Act to protect certain employer information. DOT adhered to the level of aggregation specified in the law.
- **Disclose data sources and timeliness.** The DOT webpage explains that the data are reported by employers for each mode of transportation and are updated annually.
- **Clearly label data.** The website contains labels for data that are standardized across USCG and the modal administrations and years in clearly defined fields.
- **Ensure that the website's content is written in plain language.** ODAPC officials explained that the webpage was designed by DOT to minimize confusion for the users, including limiting the amount of information on the page.

³⁴SUPPORT for Patients and Communities Act § 8103 (codified at 49 U.S.C. § 329 note).

DOT Does Not Fully Follow Eight Other Key Actions, Including Disclosing Known Data Limitations or Reaching Out to Potential Users in the Public

DOT does not fully follow eight other key actions for transparently reporting data on the drug and alcohol testing website, including: (1) disclosing known data limitations and (2) reaching out to potential users in the public to encourage data use. In addition, DOT currently does not follow or partially follows six other key actions that may improve the website. However, the immediate benefits and costs of following these six actions are unclear because DOT has not reached out to users to determine if the value of making changes to the website outweighs the time and resources necessary to implement them.

Disclosing known data limitations. We found that DOT does not follow the key action of disclosing known data issues.³⁵ Specifically, public users of the data may not be aware of data limitations because DOT does not disclose known data limitations on the drug and alcohol testing website. As discussed above, the primary use of drug and alcohol testing data is for the USCG and the modal administrations to calculate the random testing rates for the following year. However, DOT's website does not inform the public of data limitations that would prevent users from performing this calculation. Specifically, two modal administrations—FRA and FMCSA—refine the data reported on the website before calculating the random testing rates, as described below:

- Unlike the other modal administrations and USCG, FRA currently calculates two separate random testing rates depending on employee type.³⁶ However, the drug and alcohol testing data on DOT's website is aggregated for all regulated employees and does not separate the data for each category of employees. As a result, a user of the public website would not be able to use the data to calculate the random testing rate for each category of employees.
- Unlike the other modal administrations and USCG, FMCSA requires upon request only a sampled subset of the employers in the motor

³⁵Disclosing known data limitations is also a requirement in OMB Memorandum M-17-06, *Policies for Federal Agency Public Websites and Digital Services, 2016*, which was used to inform the key actions for transparently reporting data in [GAO-19-72](#).

³⁶As previously mentioned, FRA added a new category of employees, MOW employees, in 2017 to be tested, and initially set the random testing rate for this new category of employees at 50 percent for drugs and 25 percent for alcohol. FRA regulations provide that the random testing rates for MOW employees will be calculated separately from covered service employees for at least three years, but that it also may adjust the random testing rates for MOW employees after at least 18 months of random testing data has been compiled for them. 49 C.F.R. § 219.625(c). Since FRA now has two years of these data, it lowered the random alcohol testing rate to 10 percent for MOW employees, but the random drug testing rate remains at 50 percent.

carrier industry to report drug and alcohol testing data. Officials explained that FMCSA uses this sampling process because of the large number of employers in the industry. FMCSA uses these data to create weighted statistical estimates that it generalizes to the entire driver population. FMCSA publishes the statistical estimates publicly on its own website. However, the refined data in FMCSA's analysis are not reflected in the data shown on DOT's drug and alcohol testing website. Thus, a user trying to calculate the testing rate may not be able to replicate FMCSA's process for calculating the random testing rate.

While DOT is aware of the limitations in the data it reports on its website, it has not disclosed those data limitations. DOT officials we interviewed had not previously considered adding this information, but acknowledged the value in letting the public know that the data on the website cannot necessarily be used to calculate the random testing rate. By not discussing known limitations, the public may be confused about how the data are used to calculate the random testing rates and could view the data as unreliable if they cannot reconcile DOT's data with their own calculations. In addition, not disclosing the limitations is inconsistent with the purpose of the public database, which is to provide greater transparency of drug and alcohol testing data.³⁷

Reaching out to the Public. DOT also does not follow the key action of reaching out to the public to encourage data use. In addition to being a key action identified by GAO, the OPEN Government Data Act requires agencies to develop a plan to allow for collaboration with non-government entities, including businesses, researchers, and the public, for the purpose of understanding how data users value and use government data.³⁸ While ODAPC does discuss the modal administrations' drug and alcohol testing programs at industry conferences, it does not discuss the public drug and alcohol testing data.

ODAPC officials explained that website use is limited, and therefore they do not believe that the public is interested in it. Specifically, officials stated that they received few inquiries about the data before they were published on the drug and alcohol testing data website in March 2019, and that since they were published, the officials said they have not received any inquiries via the website. The testing data website is also not within DOT's top 100 most viewed webpages. However, potential users in the

³⁷S. Rep. No. 115-286, at 7-8 (2018).

³⁸OPEN Government Data Act § 202(c)(1)(A).

public may not be aware of the website or potential uses of the data. For example, if aware that the information is now publicly available, a motor carrier employer could use the public drug and alcohol testing data to understand how that individual employer's drug and alcohol testing results compare to industry-wide results. However, because ODAPC has not identified or reached out to potential users in the public, officials cannot be certain the public is not interested in the data. As a result, DOT does not know whether the website meets the requirements for transparently providing data, or if additional improvements could make this a more valuable resource for users.

Additional key actions that could improve DOT's website. DOT does not fully follow six other key actions that could improve its drug and alcohol testing website and has not reached out to users to determine if these key actions would provide benefits. These key actions include the following:

- **Identify data users and their needs.** ODAPC officials have not identified data users and their needs. ODAPC officials explained that they have used data analytics tools that could help to identify the total number of visits to the website, but they have not used these or other tools to determine the types of individuals or organizations that are accessing the data to identify their needs.
- **Use central data repositories and catalogues to help users easily find the data they are looking for.** ODAPC officials explained that the data on the drug and alcohol testing website is not available through any data repositories or catalogues, which are portals that provide a "one-stop shop" for users to access a variety of datasets.
- **Provide machine-readable data that can be downloaded in bulk and in selected subsets.** While the data can be downloaded in machine readable subsets on ODAPC's drug and alcohol testing website by each individual year, the data are not available for download in bulk.
- **Make the data interoperable with other datasets.** The data on ODAPC's drug and alcohol testing website is reported in a standardized format, which can make data potentially more useful for the public by promoting interoperability with other datasets. However, ODAPC does not provide documentation to ensure that definitions are clear. Providing documentation can promote consistency with other datasets.

-
- **Publish data under an open license and communicate licensing information to users.** ODAPC officials explained that the data on the drug and alcohol testing website is published under an open license, which allows users to use the data without any restrictions such as copyrights. However, DOT has not communicated relevant licensing information to users of the website.
 - **Provide an interface that enables intuitive navigation and ensure that the most important information is visible.** ODAPC officials explained that the webpage was designed to limit user confusion, but ODAPC has not confirmed the usability of the website, such as through a usability analysis or internal assessment.

While DOT does not fully follow these six key actions, the potential benefits and costs of following these six actions are unclear because DOT has not reached out to potential users. With a better understanding of potential needs and uses of the data, DOT would be able to determine whether implementing these actions would provide benefits consistent with any implementation costs.

Conclusions

With rising drug use and the opioid crisis, DOT's efforts to accurately set the drug and alcohol testing rate of commercial transportation employees and make the resulting information transparent matter are increasingly important. While DOT has taken some steps in this direction, it has opportunities to do more without a significant investment of resources. Notably, DOT's modal administrations and USCG have not all taken similar steps to ensure the data are reliable, and they have not assessed if these steps are sufficient. Therefore, it is not clear that the random testing rates are set at the appropriate level to deter drug and alcohol misuse and promote public safety. Further, those using the data on the website for its intended purpose—to calculate the testing rates—may be confused by undisclosed data limitations that could be easily remedied by a short disclosure. While DOT's claims that the website has few users are true, it is not clear that the cause is because there is limited interest in the data, or because DOT has not alerted potential users in the public about the website. If DOT reaches out to increase awareness of the data, consistent with requirements in the OPEN Government Data Act, and it becomes clear that there is limited interest, then the existing website, modified to disclose data limitations, may be sufficient. However, if DOT reaches out to potential users, for example, by presenting the data at industry conferences and identifies a broader audience, then DOT may have both an incentive and an opportunity to more fully understand these users' needs. Then DOT can evaluate the benefits and costs of

implementing the six additional key actions for transparently reporting data that DOT does not follow.

Recommendations for Executive Action

We are making the following four recommendations, three to DOT and one to USCG:

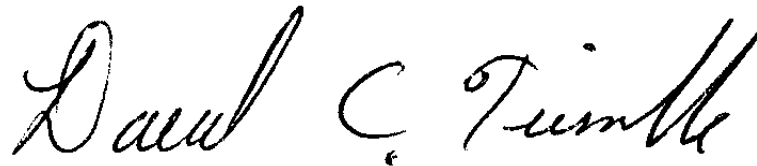
- The Secretary of Transportation should direct the Administrators of FAA, FMCSA, FRA, FTA, and PHMSA to: (1) evaluate the different processes used by each modal administration to verify drug and alcohol testing data—including comparing data to records during inspections, checking data for errors manually or with software, and contacting employers that do not submit a report or submit an incomplete report—and (2) determine what, if any, additional steps should be taken to improve the reliability of the information. (Recommendation 1)
- The Commandant of the Coast Guard should direct the Assistant Commandant for Prevention Policy to: (1) evaluate the different processes used by USCG to verify drug and alcohol testing data—including comparing data to records during inspections, checking data for errors manually or with software, and contacting employers that do not submit a report or submit an incomplete report—and (2) determine what, if any, additional steps should be taken to improve the reliability of the information. (Recommendation 2)
- The Director of ODAPC should disclose known limitations of drug and alcohol testing data on DOT's website, consistent with key actions for open government data. (Recommendation 3)
- The Director of ODAPC should reach out to potential users in the public to determine if there is a broader audience for the public data, consistent with key actions for open government data, and if a broader audience is identified, engage with users to evaluate the benefits and costs of adopting additional key actions for open government data and any other possible improvements to the website. (Recommendation 4)

Agency Comments and Our Evaluation

We provided a draft of this report to the Departments of Transportation and Homeland Security for their review and comment. In their written comments, reproduced in appendixes III and IV, DOT and DHS concurred with our recommendations. DOT and DHS also provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Transportation, the Secretary of Homeland Security, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have questions about this report, please contact me at (202) 512-2834 or trimbled@gao.gov. Contact points for our Office 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.

A handwritten signature in black ink that reads "David C. Trimble". The signature is written in a cursive style with a large, looped 'D' and a distinct 'C'.

David Trimble
Managing Director, Physical Infrastructure Issues

Appendix I: Drug and Alcohol Testing Laws and Regulations

The Department of Transportation’s (DOT) modal administrations—the Federal Aviation Administration, Federal Motor Carrier Safety Administration, Federal Railroad Administration, Federal Transit Administration, and Pipeline and Hazardous Materials Safety Administration—and the United States Coast Guard issue drug and alcohol testing regulations specific to their industries. These regulations specify the reasons that require or authorize employers to administer drug or alcohol testing. The regulations also identify which employees are covered by the regulations; that is, who is a safety-sensitive employee subject to the drug and alcohol testing requirements.¹ DOT’s Office of Drug and Alcohol Policy and Compliance issues and interprets the drug and alcohol testing regulations, which are found in 49 C.F.R. part 40 and which are generally applicable to all of the modal administrations and set forth the procedures for conducting drug and alcohol testing, among other things.

Table 1: Drug and Alcohol Testing Regulations for the Department of Transportation (DOT) and U.S. Coast Guard

Agency	Reasons to conduct testing ^a		Covered employees
	Drugs	Alcohol	
Federal Aviation Administration (FAA) 14 C.F.R. pt. 120	Pre-employment Random Post-accident Reasonable cause Return-to-duty Follow-up	*Pre-employment Random Post-accident Reasonable suspicion Return-to-duty Follow-up	Employees who perform, directly or by contract or subcontract, safety-sensitive functions for air operators holding a Part 121 or Part 135 operating certificate, air traffic control facilities not owned or operated by FAA or U.S. Military, or any operator defined in 14 C.F.R § 91.147. The following functions are safety-sensitive: crewmember, attendant, or instructor; aircraft dispatcher; aircraft maintenance or preventative maintenance; ground security coordinator; aviation screening; air traffic control; and operations control specialist.
United States Coast Guard (USCG) 46 C.F.R. pts. 4, 16.	Pre-employment Random Post-accident (serious marine incident) Reasonable cause Return-to-duty Periodic ^b	Post-accident (serious marine incident) ^c	Credentialed mariners and selected non-credentialed mariners who perform safety-sensitive functions.

¹Safety-sensitive employees generally are individuals who perform duties affecting their own safety and the safety of others.

Appendix I: Drug and Alcohol Testing Laws and Regulations

Agency	Reasons to conduct testing ^a		Covered employees
	Drugs	Alcohol	
Pipeline and Hazardous Materials Administration (PHMSA) 49 C.F.R. pt. 199	Pre-employment Random Post-accident Reasonable cause Return-to-duty Follow-up	*Pre-employment Post-accident Reasonable suspicion Return-to-duty Follow-up	Employees who perform operations, maintenance, or emergency-response functions on gas, carbon dioxide, or hazardous liquid pipelines, or certain liquefied natural gas facilities, whether they are employed by the operator, contractors with the operator, or an employee of such contractors.
Federal Railroad Administration (FRA) 49 C.F.R. pt. 219	Pre-employment Random Post-accident ^d Reasonable suspicion *Reasonable cause ^e Return-to-duty Follow-up	*Pre-employment Random Post-accident Reasonable suspicion *Reasonable cause Return-to-duty Follow-up	Generally, employees for certain railroads and their contractors who are either: (1) covered service employees, i.e., a train crewmember, dispatching service employee, or signal employee, or a volunteer who performs the same services, under hours-of-service laws; or (2) maintenance-of-way employees, i.e., roadway workers whose duties include the inspection, construction, or repair of railroad tracks and signal and communication systems, among other things.
Federal Motor Carrier Safety Administration (FMCSA) 49 C.F.R. pt. 382	Pre-employment Random Post-accident Reasonable suspicion Return-to-duty Follow-up	*Pre-employment Random Post-accident Reasonable suspicion Return-to-duty Follow-up	Operators of commercial motor vehicles who are required to hold a commercial driver's license (CDL) under FMCSA regulations or the laws of Mexico or Canada.
Federal Transit Administration (FTA) 49 C.F.R. pt. 655	Pre-employment Random Post-accident Reasonable suspicion Return-to-duty Follow-up	*Pre-employment Random Post-accident Reasonable suspicion Return-to-duty Follow-up	Employees of recipients and subrecipients of FTA financial assistance and their contractors, as well as certain volunteers, who perform safety-sensitive functions such as the following: Revenue vehicle operation; Nonrevenue vehicle operation when the operator must be a CDL holder; revenue vehicle dispatch control; revenue vehicle and equipment maintenance; and carrying a firearm for security purposes.

Source: GAO analysis of DOT regulations. | GAO-21-296.

^aThese reasons require employers to conduct testing, unless the reason is marked with an asterisk. Reasons marked with an asterisk authorize, but do not require, employers to conduct testing.

^bUSCG generally requires employees to undergo periodic drug testing when they are applying for or renewing certain licenses, credentials, and endorsements, among other circumstances.

^cUSCG is not subject to DOT regulations at 49 C.F.R. part 40 (Part 40) for alcohol testing, and alcohol testing data are not required or permitted to be submitted to USCG for storage in the internal database maintained by the Office of Drug and Alcohol Policy and Compliance.

^dFRA's post-accident testing program is not subject to Part 40. Its program has unique characteristics, such as mandatory post-mortem testing on the remains of any employee fatally injured in certain train accidents or incidents.

^eCircumstances that constitute reasonable cause to conduct drug and/or alcohol testing include: (1) a train accident, paired with a railroad supervisor's reasonable belief, based on specific, articulable

**Appendix I: Drug and Alcohol Testing Laws
and Regulations**

facts that an individual employee's behavior contributed to the occurrence or severity of the accident;
or (2) an individual's employee's direct involvement in a rule violation, such as a failure to apply
brakes when required.

Appendix II: GAO's Evaluation of the Department of Transportation's (DOT) Drug and Alcohol Testing Data Website

We have previously reported on requirements for transparently reporting data on federal websites, including policies and guidance on open government data.¹ This report identified five key practices that managers of open government data programs can consider to help ensure the transparent reporting of their data.² The report also identified eighteen key actions for publishing government data. These eighteen key actions are associated with each of the five key practices. We evaluated DOT's public drug and alcohol testing data website to determine the extent to which DOT followed these key actions. We determined that DOT followed eight of those key actions, partially followed four others, and has not followed four of them and that two were not applicable. See table 2 for our assessment of whether DOT's drug and alcohol testing data website meets these key actions.

Table 2: Department of Transportation's (DOT) Public Drug and Alcohol Testing Website Implementation of Key Actions

Key Actions	Key Practice	Status
Make government data open by default, while protecting sensitive or restricted information.	Provide free and unrestricted data	Followed
Do not charge users for access to the data	Provide free and unrestricted data	Followed
Include a feedback mechanism to collect user feedback and respond to that feedback	Engage with users	Followed
Provide data downloads in a non-proprietary format	Provide data in useful formats	Followed
Provide users with detailed and disaggregated data	Provide data in useful formats	Followed
Disclose data sources and timeliness	Fully describe the data	Followed
Clearly label data and provide accompanying metadata ^a	Fully describe the data	Followed
Ensure that the website's content is written in plain language	Facilitate data discovery for all users	Followed
Disclose known data quality issues and limitations	Fully describe the data	Not Followed
Reach out to potential users to encourage data use	Engage with users	Not Followed

¹GAO, *OPEN DATA: Treasury Could Better Align USASpending.Gov Practices with Key Practices and Search Requirements*, [GAO-19-72](#), (Washington, D.C.: Dec. 13, 2018).

²These key practices include: (1) Provide free and unrestricted data. To promote transparency, data should be freely and equally available to users without restrictions; (2) Engage with users. Open government data only create value to the extent that they are used; (3) Provide data in useful formats. Data are most useful when they are provided in formats that allow them to be analyzed in a variety of ways; (4) Fully describe the data; Providing information about a dataset allows users to determine whether it is suitable for their intended purpose, and make informed decisions about whether and how to use it; and (5) Facilitate data discovery for all users. Data discovery is facilitated by presenting the data in a way that enables user to easily explore them.

**Appendix II: GAO's Evaluation of the
Department of Transportation's (DOT) Drug
and Alcohol Testing Data Website**

Key Actions	Key Practice	Status
Identify data users and their needs	Engage with users	Not Followed
Use central data repositories and catalogues to help users easily find the data they are looking for	Facilitate data discovery for all users	Not Followed
Provide machine-readable data that can be downloaded in bulk and in selected subsets	Provide data in useful formats	Partially Followed
Make the data interoperable with other datasets	Provide data in useful formats	Partially Followed
Publish data under an open license and communicate licensing information to users	Fully describe the data	Partially Followed
Provide an interface that enables intuitive navigation and ensure that the most important information is visible	Facilitate data discovery for all users	Partially Followed
Provide users with appropriate interpretations of the data, such as visualizations or summaries	Facilitate data discovery for all users	Not Applicable
Provide a search function that is optimized for easy and efficient use	Facilitate data discovery for all users	Not Applicable

Source: GAO analysis of DOT website. | GAO-21-296.

^aIn [GAO-19-72](#), we stated that some key practices and actions may be more relevant than others based on the purpose and characteristics of individual open government data programs. For DOT's website, we considered two key actions and a portion of a third action to be not applicable because of the limited utility and reduced amount of data once they are aggregated for public release. Specifically, the actions considered not applicable were: (1) provide users with appropriate interpretations of the data, such as visualizations or summaries; (2) provide a search function that is optimized for easy and efficient use; and (3) provide accompanying metadata as it relates to the key action of clearly labeling data and providing accompanying metadata.

Appendix III: Comments from the Department of Transportation

U.S. Department of
Transportation

Office of the Secretary
of Transportation

March 1, 2021

David Trimble
Managing Director, Physical Infrastructure Issues
U.S. Government Accountability Office (GAO)
441 G Street NW
Washington, DC 20548

Assistant Secretary
for Administration

1200 New Jersey Ave., SE
Washington, DC 20590

Dear Mr. Trimble:

Safety is the top priority of the Department of Transportation (DOT). A cornerstone of our safety policy is ensuring that transportation providers across all modes – on roads, rails, water, or in the air, over land and underground – employ operators who are 100 percent drug- and alcohol-free. The Department works towards reducing the demand for illicit drugs, deterring the use of illicit drugs and the misuse of alcohol in the transportation industries, and creating prevention and treatment opportunities for transportation employers and employees.

Annually, DOT-regulated employers submit their drug and alcohol testing data to the DOT, when required, and self-certify to the accuracy of the data they submit. DOT was mandated by the Support for Patients and Community Act to publish its aggregate drug and alcohol testing data on its web site by March 31, 2019. The GAO draft report acknowledges that DOT published the aggregate data before the required date, updated it annually, and followed several key actions for transparently reporting the data. In addition, GAO noted that DOT had taken steps to prevent data entry errors by those submitting the data to DOT.

Upon review of the GAO draft report, we concur with recommendations 1, 3 and 4 (recommendation 2 applies only to the Coast Guard, not DOT). The Department will provide a detailed response to these three recommendations within 180 days of the issuance of GAO's final report.

We appreciate the opportunity to respond to the GAO draft report. Please contact Madeline M. Chulumovich, Director Audit Relations and Program Improvement, at (202) 366-6512 with any questions or if you would like to obtain additional details.

Sincerely,



Philip A. McNamara
Assistant Secretary for Administration

Appendix IV: Comments from the Department of Homeland Security

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



**Homeland
Security**

February 25, 2021

David Trimble
Managing Director, Physical Infrastructure Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Management Response to Draft Report GAO-21-296, "TRANSPORTATION SAFETY: DOT Has Taken Steps to Verify and Publicize Drug and Alcohol Testing Data but Could Do More"

Dear Mr. Trimble:

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

The Department is pleased to note GAO's acknowledgement that the Coast Guard, Department of Transportation (DOT), and modal administrations have taken steps to ensure that drug and alcohol testing data reported by employers are reliable. GAO's analysis of the approximately 4.8 million alcohol test records and nearly 5 million drug tests records collected from 2003 through 2018, showed less than 0.05 percent and 0.06 percent violated DOT's validation checks, respectively. The Coast Guard remains committed to identifying potential methods for improving data collection, verification of test records, and reliability, as appropriate.

The draft report contained four recommendations, including one for the Coast Guard with which the Department concurs. Attached find our detailed response to the recommendation. DHS previously submitted a technical comment addressing an accuracy issue under a separate cover for GAO's consideration.

**Appendix IV: Comments from the Department
of Homeland Security**

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Sincerely,

**JIM H
CRUMPACKER**

Digitally signed by JIM H
CRUMPACKER
Date: 2021.02.25 08:30:38
-05'00'

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

Attachment

**Attachment: Management Response to Recommendations
Contained in GAO-21-296**

GAO recommended that the Commandant of the Coast Guard:

Recommendation 2: Direct the Assistant Commandant for Prevention Policy to: (1) Evaluate the different processes used by USCG to verify drug and alcohol testing data, including comparing data to records during inspections, checking data for errors manually or with software, and contacting employers that do not submit a report or submit an incomplete report, and (2) Determine what, if any, additional steps should be taken to improve the reliability of the information.

Response: Concur. The Coast Guard's Assistant Commandant for Prevention Policy will direct the Office of Investigations and Analysis, in coordination with the Office of Commercial Vessel Compliance, to evaluate current Drug and Alcohol Prevention and Investigation program administrative processes to identify potential methods for improving data collection, verification, and reliability. This evaluation will emphasize technological solutions to utilize data collected during local inspection or investigation activities for comparative analysis with data reported by marine industry employers through the Management Information System. Estimated Completion Date: September 30, 2021.

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

David Trimble, Managing Director, (202) 512-2834 or trimbled@gao.gov

Staff Acknowledgments

In addition to the contact above, the following are key contributors to this report: Lori Rectanus (Director); Matthew Cook (Assistant Director); Stephanie Purcell (Analyst in Charge); Kathleen Drennan; Mikey Erb; Grant Mallie; Mary-Catherine P. Overcash; Malika Rice; Amy Rosewarne; Kelly Rubin; Edward Staples; Jeanne Sung; and Janet Temko-Blinder.

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