United States Government Accountability Office

Report to Congressional Committees

November 2022

FEDERAL RAILROAD ADMINISTRATION

Better Communication of Safety Information Could Improve the Close Call System

Accessible Version

GAO-23-105287

GAO Highlights

Highlights of GAO-23-105287, a report to congressional committees

November 2022

FEDERAL RAILROAD ADMINISTRATION

Better Communication of Safety Information Could Improve the Close Call System

Why GAO Did This Study

According to the Federal Railroad Administration, human error is a leading cause of train and rail equipment accidents.

House Report 116-452 included a provision for GAO to examine the Federal Railroad Administration's C3RS program. In this report, among other objectives, GAO: (1) describes the extent to which railroads participate in the C3RS program, reasons why or why not, and the Federal Railroad Administration's efforts to increase participation and (2) examines the extent to which the Federal Railroad Administration's and NASA's analysis and communication of C3RS safety information reflect leading practices for safety-reporting systems.

GAO interviewed Federal Railroad Administration and NASA officials and stakeholders from selected C3RS participating and non-participating railroads. GAO selected a non-generalizable sample of 22 railroads to reflect a range of carrier type, size, and geographic location. GAO also reviewed applicable statutes and regulations, and identified leading practices for the effective implementation of a safety-reporting system, including practices related to analyzing and communicating safety information.

What GAO Recommends

GAO is recommending that the Federal Railroad Administration improve its communication with the wider railroad industry by sharing information from the C3RS program including (1) broader safety trends and (2) success stories. The Federal Railroad Administration concurred with the recommendations.

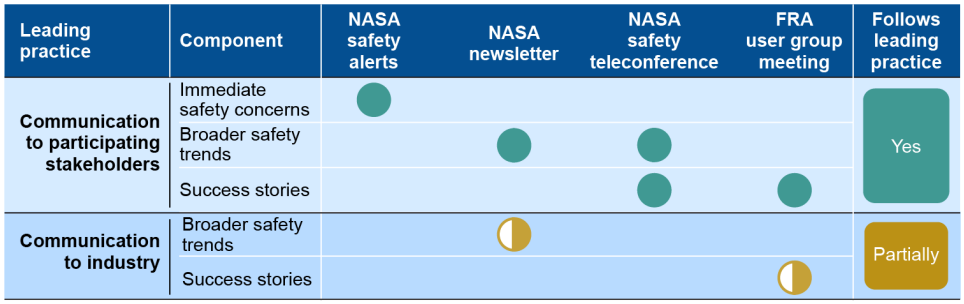
View GAO-23-105287. For more information, contact Elizabeth Repko at (202) 512-2834 or repkoe@gao.gov.

What GAO Found

The Confidential Close Call Reporting System (C3RS) is a voluntary and confidential system designed to improve railroad safety by collecting reports from railroad employees describing unsafe situations that have the potential for more serious consequences. According to the Federal Railroad Administration, as of August 2022, 23 of the nearly 800 railroads in the United States participated in C3RS. Participating railroads GAO interviewed cited benefits, including increased safety information and improved safety culture. However, the majority of railroads, comprising approximately 77 percent of the total eligible employee population, do not participate in C3RS. Selected railroads cited having similar internal safety-reporting systems and concerns about the program's confidentiality as reasons for not participating in C3RS. Federal Railroad Administration officials stated that the potential for the C3RS program's growth is significant and noted that the agency has ongoing efforts to increase participation.

The Federal Railroad Administration administers C3RS in partnership with the National Aeronautics and Space Administration (NASA). Both agencies have a role in analyzing and communicating C3RS safety information. While the Federal Railroad Administration's and NASA's efforts to analyze C3RS data align with leading practices GAO developed for safety-reporting systems, their efforts to communicate safety trends and success stories to the wider railroad industry do not. For example, while NASA produces quarterly newsletters highlighting broader safety trends seen in C3RS reports, not all are available to the wider railroad industry on either the Federal Railroad Administration's or NASA's websites. Additionally, the Federal Railroad Administration and NASA provide opportunities for participating railroads to share success stories, but this information is not shared with the wider railroad industry. (See fig.)

The Federal Railroad Administration's and NASA's Communication of C3RS Safety Information Is Not Consistent with Leading Practice on Communication to the Industry



Source: GAO analysis based on National Aeronautics and Space Administration (NASA) and Federal Railroad Administration (FRA) information and selected communication leading practices from GAO-10-850. | GAO-23-105287

Text of The Federal Railroad Administration's and NASA's Communication of C3RS Safety Information Is Not Consistent with Leading Practice on Communication to the Industry

	Component	NASA safety alerts	NASA newsletter	NASA safety teleconference	FRA user group meeting	Follows leading practice
Communication to participating stakeholders	Immediate safety concerns	Yes	No	No	No	Yes
	Broader safety concerns	No	Yes	Yes	No	Yes
	Success Stories	No	No	Yes	Yes	Yes
Communication to industry	Broader safety concerns	No	Partially	No	No	Partially
	Success stories	No	No	No	No	Partially

Source: GAO analysis based on National Aeronautics and Space Administration (NASA) and Federal Railroad Administration (FRA) information and selected communication leading practices from GAO-10-850. | GAO-23-105287

By not effectively communicating C3RS safety trends or success stories to the wider railroad industry, non-participating stakeholders may be unaware of important and relevant safety information. Further, the Federal Railroad Administration may miss opportunities to demonstrate the C3RS program's benefits to a wider audience through communication of success stories, a practice that could help increase program participation.

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Figures

Abbreviations

Amtrak	National Railroad Passenger Corporation
ASAP	Aviation Safety Action Program
ASRS	Aviation Safety Reporting System
C3RS	Confidential Close Call Reporting System
FAA	Federal Aviation Administration

FRA	Federal Railroad Administration
IMOU	Implementing Memorandum of Understanding
NASA	National Aeronautics and Space Administration
PRT	peer review team
Volpe Center	John A. Volpe National Transportation Systems Center

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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November 16, 2022

The Honorable Brian Schatz
Chair
The Honorable Susan Collins
Ranking Member
Subcommittee on Transportation, Housing and Urban Development, and Related Agencies
Committee on Appropriations
United States Senate

The Honorable David E. Price
Chairman
The Honorable Mario Diaz-Balart
Ranking Member
Subcommittee on Transportation, and Housing and Urban Development, and Related Agencies
Committee on Appropriations
House of Representatives

According to Federal Railroad Administration (FRA) data, human error is a leading cause of train and rail equipment accidents.[1] Between 2002 and 2021, errors caused by human factors accounted for nearly 40 percent of train and rail equipment accidents, on average.[2] FRA, within the Department of Transportation, provides regulatory oversight for the safety of railroad operations in the United States. Its mission is to enable the safe, reliable, and efficient movement of people and goods. As part of achieving this mission, FRA initiated a voluntary safety-reporting system, known as the Confidential Close Call Reporting System (C3RS), to collect data from railroad employees on opportunities to improve unsafe situations that have the potential for more serious consequences—referred to as "close calls" or "near misses." Such an approach to safety

[1]The data on train and rail equipment accidents excludes grade crossing and trespass accidents, which FRA officials said are largely caused by human error on the part of pedestrians and automobile drivers.

[2]FRA defines human factors as factors that contribute to an accident and are directly attributable to the operator, worker, or personnel involved in an accident. Accidents caused by human factors can result from fatigue and actions such as improperly positioning track switches, moving train engines or rail cars without proper authority, leaving rail cars in a position that obstructs the track, or failing to secure a sufficient number of handbrakes.

has proved successful in the airline, chemical-processing, nuclear, and other industries, and according to FRA, analyzing close call events is a proactive way to manage safety. In addition to providing information on potential safety risks that can be used to help improve the safety of a specific railroad's operations, FRA has noted that safety-reporting systems can also help promote safety culture across the rail industry.[3]

FRA established C3RS in 2007 as a pilot program to enable railroad employees to confidentially report close call and unsafe events, such as a train missing a temporary speed restriction. The program protects railroad employees from railroad disciplinary action as long as certain criteria are met. The goal of the C3RS program is to improve information on close calls so that railroads can take actions to prevent potentially serious safety consequences from occurring, such as accidents and incidents resulting from human error. C3RS is administered by FRA in partnership with the National Aeronautics and Space Administration (NASA), in conjunction with participating railroads and labor organizations. NASA serves as an independent third party that collects, analyzes, and maintains the confidential data for C3RS.

House Report 116-452, incorporated by reference into the explanatory statement accompanying the Consolidated Appropriations Act, 2021, included a provision for us to examine FRA's C3RS program to better understand how the program helps promote and improve rail safety culture.[4] This report:

- determines the extent to which railroads participate in the C3RS program, the reasons why or why not, and FRA's efforts to increase participation;
- describes participating railroads' reported challenges related to the C3RS program, and what FRA is doing in response to those challenges; and
- examines the extent to which FRA's and NASA's analysis and communication of C3RS safety information reflects leading practices for safety-reporting systems.

[3]According to FRA, "safety culture" reflects the shared values, attitudes, motivations, and knowledge that affect the extent to which an organization's decisions and behavior emphasize safety over competing goals and demands, such as on-time performance or profitability.

[4]Pub. L. No. 116-260, 134 Stat. 1182 (2020); H.R. Rep. No. 116-452 at 62 (2020).

We evaluated the C3RS program from 2014 through 2022 during its full implementation, after C3RS completed its pilot program phase from 2007 to 2014. For all objectives, we interviewed officials from two railroad employees' labor organizations; three industry associations representing passenger and freight railroads, and the Short Line Safety Institute, a non-profit that receives federal funding to perform safety culture assessments, among other things. We also spoke with the National Transportation Safety Board; the John A. Volpe National Transportation Systems Center (Volpe Center); and the Federal Aviation Administration (FAA) to obtain additional information about the impetus for the C3RS program and to learn about the FAA's Aviation Safety Reporting System (ASRS) after which C3RS is modeled. See appendix I for a list of all the stakeholders we interviewed and appendix II for more information on the ASRS and its similarities and differences with C3RS.[5] We also conducted a background literature search to allow us to describe similarities and differences between the ASRS and C3RS. Additionally, we reviewed applicable statutes, regulations, and key C3RS program documentation, including Implementing Memoranda of Understanding (IMOU), FRA's Reimbursable Interagency Agreement with NASA, and the Standard Procedures supplementing this agreement.

To determine the extent to which railroads participate in the C3RS program, the reasons they do or do not, and FRA's efforts to increase participation, we interviewed FRA and NASA officials, stakeholders from selected C3RS participating and non-participating railroads, and peer review team (PRT) members from two participating railroads.[6] We selected a non-generalizable sample of eight railroads that participate in the C3RS program based on factors including the type, size, and geographic location of the railroad, as well as length of participation, in order to get a mix of perspectives. We also selected a non-generalizable

[5]NASA collects, de-identifies, and analyzes voluntarily submitted reports to the ASRS, and has operated the ASRS since 1976.

[6]A PRT is a team of stakeholder representatives from a participating railroad, employees or labor organization(s), and FRA that review C3RS reports to determine what, if any, corrective actions a railroad should take in response. We selected the PRTs from these two participating railroads to interview because they have been participating in the C3RS program the longest.

sample of 14 railroads that do not participate in C3RS.[7] For this sample, we selected all the Class I freight railroads because they are the largest freight railroads and collectively as a group do not participate in C3RS. We selected seven additional railroads to obtain diversity in the type, size, and geographic location of the railroad, and to ensure the railroads had a sufficient level of knowledge about the C3RS program. To determine railroads' level of knowledge about the C3RS program, we sent out a short screening questionnaire to 36 passenger, Class II, and Class III railroads to identify their management's level of familiarity with the C3RS program.[8] We received 31 responses to our screening questionnaire. Also included in the 14 selected railroads were four railroads that had participated in the C3RS program, but no longer do. We discussed with these four selected railroads their reasons for no longer participating in the program.

To describe challenges related to the C3RS program and FRA's response, we interviewed stakeholders from eight participating railroads (as noted above), including railroad management and PRTs from two participating railroads. We also interviewed FRA officials to determine what steps FRA has undertaken to address C3RS-related challenges. Additionally, we reviewed a 2019 Volpe Center study that identified lessons learned and offered recommendations based on C3RS's pilot program and interviewed officials knowledgeable about the study.[9]

To examine the extent to which FRA's and NASA's analysis and communication of C3RS safety information reflect leading practices for safety-reporting systems, we compared these efforts with applicable

[7]We interviewed 15 railroads that did not participate in C3RS, but include 14 in our analysis identifying the reasons why railroads did not participate in the program. One of the 15 railroads we interviewed was in the process of joining C3RS at the time of our review.

[8]The Surface Transportation Board categorizes freight railroads into three classes for regulatory purposes based on annual operating revenues. As of June 2022, Class I freight railroads are railroads that earn $900 million or more annually, Class II railroads earn between $40.4 million to $900 million annually, and Class III railroads earn $40.4 million or less annually. 49 C.F.R. § 1201.

[9]Department of Transportation, *Confidential Close Call Reporting System (C3RS) Lessons Learned Evaluation – Final Report,* DOT/FRA/ORD-19/01 (Washington, D.C.: Feb. 2019). The Volpe Center is part of the U.S. Department of Transportation and serves as a federal resource to provide multidisciplinary and multimodal transportation expertise.

leading practices we identified in prior work.[10] Our review focused on one data analysis leading practice and two communications leading practices for the effective implementation of a safety-reporting system. We reviewed the applicable types of safety information that could be analyzed or communicated for each of the three leading practices and determined if FRA's and NASA's efforts were in alignment.[11] We conducted a search of peer-reviewed literature to confirm that the selected leading practices identified in our prior report were applicable and determined that they were. We did not evaluate C3RS against all of the leading practices identified in our prior report because we focused on the implementation rather than the design of the C3RS program. We interviewed FRA and NASA officials to better understand their roles and responsibilities related to C3RS data analysis and communication efforts. We then compared FRA's and NASA's actions against the analysis and communication leading practices to identify gaps, if any. We evaluated whether FRA and NASA perform analyses of C3RS information. However, we did not independently assess how the analyses were conducted due to the confidential nature of the information.

We conducted this performance audit from June 2021 to November 2022 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

[10]GAO, *Biological Laboratories: Design and Implementation Considerations for Safety Reporting Systems,* GAO-10-850 (Washington, D.C.: Sept. 10, 2010). This report identified three key areas—(1) reporting and analysis, (2) reporter protections and incentives, and (3) feedback mechanisms—for the design and implementation of an effective safety reporting system. Each of these key areas includes several leading practices. These leading practices were developed through our review of academic and applied literature related to safety science (organizational safety and human factors) and safety reporting system evaluation across a wide variety of industries. We also conducted case studies of safety reporting systems in the aviation, commercial nuclear power, and health care industries. For the purposes of our report, we focused on the "analytical process" leading practice within the "reporting and analysis" key area. We refer to the "analytical process" leading practice as "data analysis." In the "feedback mechanisms" key area, we focused on the leading practices "feedback to administrators" and "feedback to industry." "Feedback to administrators" within the context of the C3RS program refers to "communication to participating stakeholders" and we refer to "feedback to industry" as "communication to industry." We focused on these three leading practices because they allowed us to assess the implementation of the program.

[11]For the purpose of our review, we identified three types of safety information—immediate safety concerns, broader safety trends, and success stories—relevant to the C3RS program based on GAO-10-850. We refer to these types of safety information as "components" of the leading practices we reviewed, although not all components may be applicable to each leading practice.

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

Rail Industry and Safety Oversight

The U.S. railroad system consists of a vast network of operations and infrastructure. Nearly 800 railroads operate on about 200,000 miles of track nationwide. The Association of American Railroads estimates that the seven largest freight railroads, referred to as Class I freight railroads, account for 95 percent of the annual freight revenues and employ 88 percent of all railroad employees, as of 2019. There are also 11 Class II freight railroads and about 750 smaller Class III freight railroads—which are collectively referred to as short line railroads. Additionally, there are 34 passenger railroads including the National Railroad Passenger Corporation (Amtrak) and commuter railroads.

FRA has a mission to enable the safe, reliable, and efficient movement of people and goods over the U.S. railroad system. It provides regulatory oversight for the safety of all U.S. freight and passenger railroads and conducts inspections of railroads and their records to monitor their compliance with federal rail safety statutes and regulations and railroads' own operating rules and practices.[12] FRA has the authority to cite violations and assess civil penalties, both against railroads and individual employees, when they do not comply with federal safety statutes or regulations.[13] Although FRA uses civil penalties as its primary enforcement tool, it can also issue warnings, special notices for repair, and compliance and disqualification orders.[14] In addition to these actions,

[12]FRA's general authority is under 49 U.S.C. 20103 et seq. Its regulations are located in 49 C.F.R. Subtitle B, Chapter II.

[13]Certain procedures followed by FRA to enforce railroad safety are found in 49 C.F.R. Part 209. Civil penalties may be assessed against individuals only for a willful violation. 49 U.S.C. § 21304.

[14]A compliance order directs a railroad to comply with a rail safety statute or an FRA regulation or order issued under the rail safety statutes. A disqualification order is issued against an employee who FRA determines is unfit to perform safety-sensitive functions and either temporarily or permanently prohibits the employee from working for any railroad in a manner inconsistent with the order.

FRA conducts other safety oversight activities, including analyzing railroad safety data, investigating accidents, and reviewing complaints.

Railroads have primary responsibility for their safe operation and must adhere to federal rail safety statutes and regulations. For example, federal statute requires that within 30 days after the end of each month, railroads must submit a report to FRA on certain accidents and incidents that arise from the railroad's operations during the month.[15] Railroads must also adhere to applicable states' rail safety statutes and regulations in the states where they operate.[16] Each railroad is responsible for performing its own safety activities; these include reviewing track inspection reports for accuracy, performing tests on electronic devices, understanding and utilizing automated test data, identifying and analyzing defective components, and identifying necessary corrective actions. A railroad has the authority to discipline its employees through actions that can range in severity depending on the violation, such as written warnings, suspensions without pay, demotions, or terminations.

The Rail Safety Improvement Act of 2008 required FRA to issue regulations that require certain railroads to develop and implement an FRA-approved railroad safety risk reduction plan that contains processes and procedures to proactively identify, evaluate, and manage hazards and associated risks to safety to reduce the numbers and rates of railroad

[15]49 U.S.C. § 20901. FRA's regulations implementing this statute generally define and divide reportable accidents and incidents into three groups: (1) any impact between railroad on-track equipment and highway users; (2) collisions involving operation of on-track equipment that results in certain property damage exceeding the current monetary reporting threshold; and (3) death, injury, or occupational illness. 49 C.F.R. §§ 225.5. 225.11, 225.19. FRA's monetary reporting threshold for calendar year 2022 is $11,300. In addition to submitting monthly reports, FRA requires railroads to report some accidents/incidents, such as deaths, immediately to the National Response Center by telephone. 49 U.S.C. § 225.9.

[16]A state rail safety statute, regulation, or order remains in effect until FRA prescribes a regulation or issues an order covering the subject matter of the state requirement. However, states may adopt additional or more stringent rail safety requirements under certain circumstances. 49 U.S.C. § 20106.

accidents, incidents, injuries, and fatalities.[17] These plans may include participation in the C3RS program established by FRA.[18] FRA regulations state that this safety risk reduction approach is intended to improve railroad safety through structured, proactive processes and procedures developed and implemented by railroads.

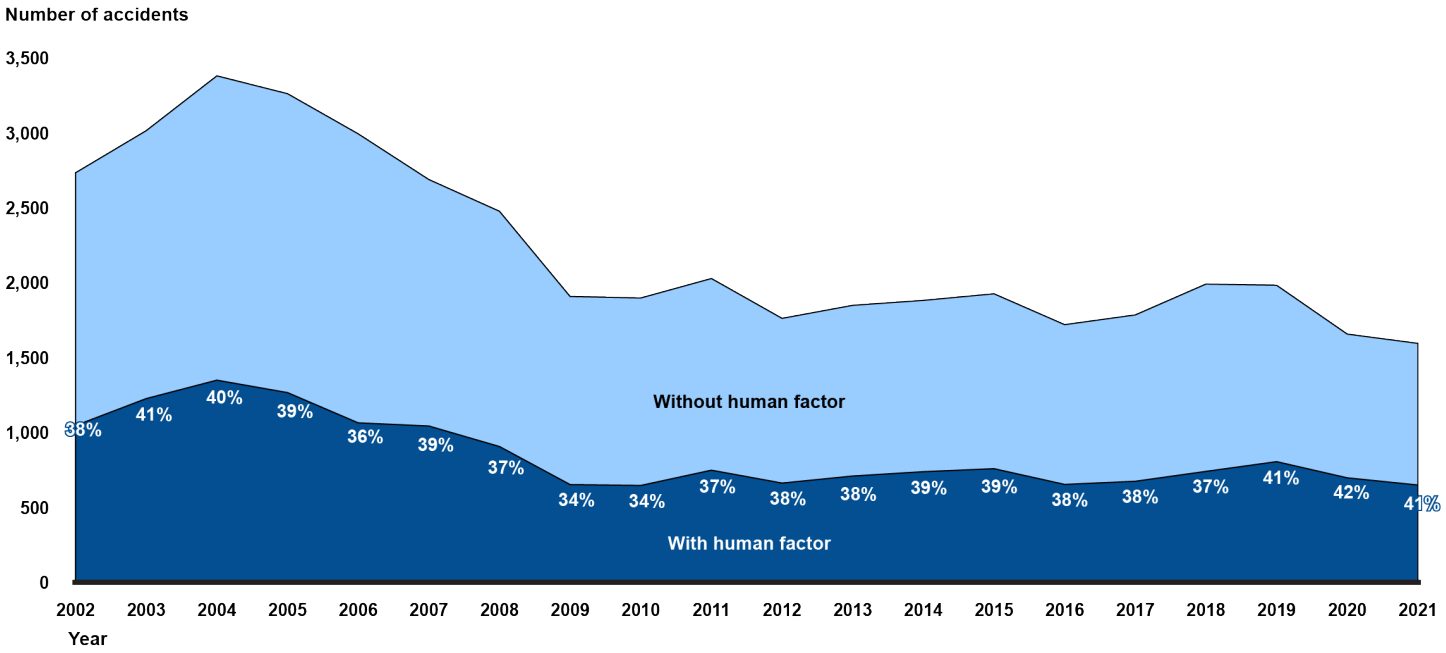
C3RS Impetus and Reportable Events

According to FRA data, human factors or errors have been a leading cause of train and rail equipment accidents across the industry and, on average, accounted for nearly 40 percent of these accidents over the past 20 years (2002–2021) (see fig. 1).

[17]Pub. L. No. 110-432, div. A, § 103, 122 Stat. 4848, 4853 (2008) (codified as amended at 49 U.S.C. § 20156). The affected railroads are Class I freight railroads, Class II and III freight railroads that FRA determines demonstrate inadequate safety performance, and passenger railroads. FRA issued final rules in 2020 requiring passenger rail operations to develop System Safety Programs and freight railroads to develop Risk Reduction Programs to satisfy the statutory mandate. System Safety Program, 81 Fed. Reg. 53,850 (Aug. 12, 2016), 85 Fed. Reg. 12,826 (Mar. 4, 2020); Risk Reduction Program, 85 Fed. Reg. 9262 (Feb. 18, 2020).

[18]In addition, under FRA regulations, passenger rail operations are required to include in their System Safety Programs a public safety outreach program, through which railroads must provide passengers and the general public a means to report any observed hazards. The other affected railroads must include in their Risk Reduction Programs an internal-reporting system through which employees can report safety concerns (including, but not limited to, hazards, issues, occurrences, and incidents) and propose safety solutions and improvements.

Figure 1: Number of Train and Rail Equipment Accidents Caused by Human Factors (2002–2021)



Source: GAO analysis of Federal Railroad Administration data. | GAO-23-105287

Data table for Figure 1: Number of Train and Rail Equipment Accidents Caused by Human Factors (2002–2021)

Year	Human factor	Non human factor	Human factor percentage
2002	1050	1688	38
2003	1230	1789	41
2004	1353	2032	40
2005	1270	1996	39
2006	1068	1930	36
2007	1047	1646	39
2008	910	1571	37
2009	656	1256	34
2010	650	1252	34
2011	752	1280	37
2012	666	1100	38
2013	713	1140	38
2014	742	1144	39
2015	762	1168	39
2016	657	1067	38

Year	Human factor	Non human factor	Human factor percentage
2017	678	1111	38
2018	744	1251	37
2019	809	1178	41
2020	701	960	42
2021	653	946	41

Source: GAO analysis of Federal Railroad data. | GAO-23-105287

In 2007, FRA established C3RS as a pilot program to obtain additional information from railroad employees about close calls and unsafe events that could result from human factors, without fear of discipline. C3RS began under the direction of the Volpe Center as a pilot program. In 2014, FRA assumed leadership of C3RS in its full implementation.

Certain Types of Events Are Not Eligible to be Reported as Close Calls to the C3RS Program Because They Are Reportable under FRA Regulations, including:

- any train accident or incident that meets FRA's reporting thresholds;
- any event that caused or has allegedly caused any injury, illness, or medical treatment to any person involved;
- acts of sabotage and other willful violations or criminal offenses;
- employee behavior involving the use of alcohol or prohibited controlled substances; and
- any event resulting in an identifiable release of a hazardous material.

In addition, events unrelated to the safety of railroad operations are not eligible to be reported as close calls, as well as any real-time observation by railroad management, supervisor, or FRA.

Source: GAO presentation of FRA information. | GAO-23-105287

For the purposes of the C3RS program, a "close call" is generally a specific situation or event observed by a railroad employee, that has a potential for more serious adverse consequences to railroad safety. Some examples of close calls could be, but are not limited to: a train missing a temporary speed restriction, a train going beyond the authorized maximum speed, equipment or signal failure, a run-through switch (i.e., when a train goes through a misaligned switch and damages it), or when proper track protection is not provided during track maintenance.[19]

While most close calls are unknown to railroad management, there are some cases where close calls are required to be reported to railroad management and may also be reported to C3RS. For example, a known close call is generally an event that is below FRA's reporting threshold for accidents and does not involve an injury, but would require immediate managerial notification to be considered an eligible C3RS close call event.[20] Examples of close call events that must be reported immediately to railroad management include, but are not limited to: mishaps when loading a rail car, run-through switches, minor derailments, and a worker nearly struck by a moving train.

[19]A close call would not include any train accident or incident that meets FRA's reporting thresholds; any event that caused or has allegedly caused any injury, illness, or medical treatment to any person involved; events unrelated to the safety of railroad operations; acts of sabotage and other willful violations or criminal offenses; employee behavior involving the use of alcohol or prohibited controlled substances; and an event resulting in an identifiable release of a hazardous material.

[20]To facilitate the analysis of such events, the employee is to notify the employer without undue delay and then file the C3RS report.

C3RS Process

To participate in the C3RS program, a railroad and its relevant employee labor organizations must enter into an agreement with FRA, known as an Implementing Memorandum of Understanding (IMOU), with the intent to improve the safety of railroad operations. The IMOU is a document typically developed for each specific railroad by FRA, railroad management, and if applicable, labor organization representatives. An IMOU outlines how C3RS works at each participating railroad and defines the rights, roles, and responsibilities of all stakeholders. In addition to entering into an IMOU, railroads must apply for and receive an FRA waiver from certain regulatory requirements related to the certifications of engineers and conductors to participate in the C3RS program.[21] Although each railroad has a separate IMOU tailored to its particular operations, the IMOUs generally address the same topics. For example, all of the IMOUs specify which railroad employees the agreement covers and describe the conditions under which they will receive protection from railroad discipline; revocation of certification (where applicable); and other FRA enforcement actions.[22]

For the reporting employee to receive protection from employer discipline; revocation of certification (where applicable); and FRA enforcement, multiple criteria must be met.[23] For example, one participating railroad's IMOU generally provides that if the employee's action or lack of action was not intended to cause damage or injury to the railroad's operations, equipment, or personnel, and NASA accepts the report, then the reporting

[21]Requirements for engineer and conductor certifications and revocation of these certifications are located in 49 C.F.R. Part 240 and Part 242, respectively. Under these regulations, FRA requires railroads to revoke their engineers' and conductors' certifications if they commit specific violations, such as certain acts of noncompliance with the railroads' operating rules and practices. If FRA grants a waiver of this requirement and the engineer or conductor and reported close call meet other conditions set forth in the IMOU, FRA will not require the railroad to revoke their certifications.

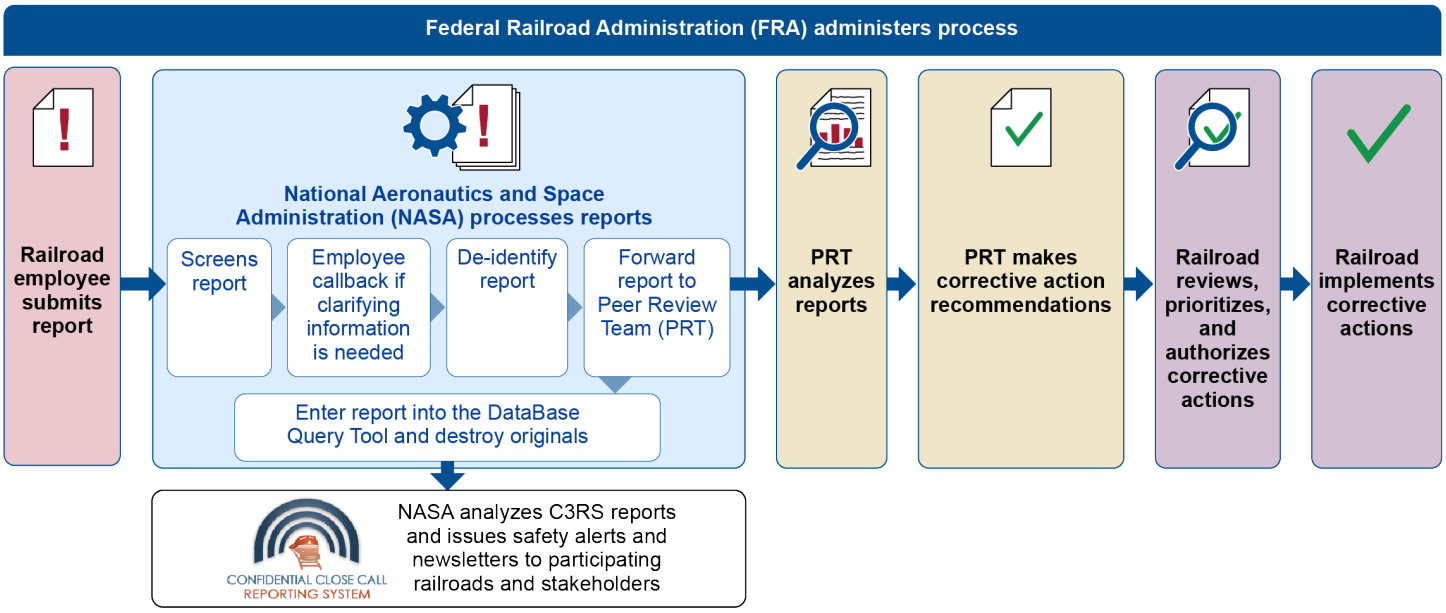
[22]Covered employees are only those working for the railroad or contractor and, if applicable, represented by the employee labor organizations, that are signatories to the IMOU (e.g., employees in various occupation types, such as transportation, mechanical, engineering, etc.). An example of a condition an employee must meet to be eligible to receive protection from employer discipline and/or FRA enforcement actions is that the employee must report the event within a certain number of days after it occurred. The number of days is also specified in the IMOU, which is typically 3 calendar days excluding Saturdays, Sundays, and federal holidays.

[23]IMOUs are specific to each railroad and thus these criteria may vary.

employee receives these protections.[24] The railroad will generally receive the same protection from FRA's enforcement actions as the covered employee who filed the accepted close call report. Likewise, if the employee does not receive protection from FRA enforcement actions, the railroad will also not receive protection. The IMOUs also specify the criteria for known event reporting and railroad management agreement that it will not initiate discipline for a known event considered an eligible close call.

The C3RS process follows a number of steps and involves multiple actors. These include report submission by employees; report processing, aggregation, and analysis by NASA; review and analysis of de-identified report by PRTs for creation of potential corrective actions at railroads; review, prioritization, and implementation of proposed corrective actions by railroads; and C3RS program administration by FRA. The following figure describes this process (see fig. 2):

Figure 2: Confidential Close Call Reporting System (C3RS) Process



Sources: GAO analysis of FRA and NASA information. | GAO-23-105287

[24]This particular IMOU also provides that all covered employees involved in a close call event will receive the same protections, if any, as the reporting employee, so long as the reporting employee is an immediate co-worker.

Text of Figure 2: Confidential Close Call Reporting System (C3RS) Process

1) Federal Railroad Administration (FRA) administers process
2) Railroad employee submits report
3) National Aeronautics and Space Administration (NASA) processes reports
    a) Forward report to Peer Review Team (PRT)
    b) De-identify report
    c) Employee callback if clarifying information is needed
    d) Screens report
    e) Enter report into the Database Query Tool (DBQT) and destroy originals
    f) NASA analyzes Confidential Close Call Reporting System (C3RS) reports and issues safety alerts and newsletters to participating railroads and stakeholders
4) PRT analyzes reports
5) PRT makes corrective action recommendations
6) Railroad reviews, prioritizes, and authorizes corrective actions
7) Railroad implements corrective actions

Sources: GAO analysis of FRA and NASA information. | GAO-23-105287

- A covered employee submits a written close call report to NASA (via mail or electronically).[25] There are three reporting forms: transportation, mechanical, and engineering, which are tailored to the specific employee occupation types. A C3RS report includes: (1) background information on the employee's position and general details of the event and (2) a narrative section for the employee to explain what happened and any safety lessons learned from the experience. The employee must submit the report within the timeframe specified in the railroad's IMOU.

[25]NASA's website to electronically submit C3RS reports can be found at https://c3rs.arc.nasa.gov/report/electronic.html.

- NASA, as an independent third party, owns, maintains, and safeguards C3RS data and protects the confidentiality of this information under a Reimbursable Interagency Agreement and its supplementing Standard Procedures with FRA.
  - NASA collects C3RS reports and screens them to ensure they meet the criteria for acceptance. If the report's narrative is not sufficiently detailed to make this determination, NASA is to conduct call-backs to the employee to clarify information, as needed, and if the report is accepted, de-identifies (i.e., removes) confidential information before forwarding the report to the participating railroad's PRT for analysis.
  - NASA aggregates the reports it receives by entering each de-identified C3RS report into the C3RS DataBase Query Tool—a searchable online database made publicly available in 2021—and destroys the original reports. As of September 2022, the DataBase Query Tool contained over 17,500 de-identified reports.[26]
  - NASA also analyzes the reports it receives to develop products, such as safety alerts and quarterly newsletters to communicate both immediate safety concerns and broader safety trends identified during its review of the collective C3RS reports. NASA distributes these products to participating railroads and stakeholders as agreed upon with FRA.
- The PRT is responsible for analyzing each de-identified C3RS report from NASA to identify the root cause of the event and developing corrective action recommendations to railroad management. A railroad's PRT consists of stakeholders from railroad management, employee labor organizations (if applicable), and FRA regional inspectors. Each participating railroad has at least one PRT. The frequency of meetings and number of participants varies.
- Railroad management is to review and prioritize the corrective actions recommended by the PRT. Railroad management will authorize corrective actions as it determines necessary and will implement them as resources allow.

[26]DataBase Query Tool, accessed September 2022, https://c3rs.arc.nasa.gov/dbqt.html. NASA de-identifies all personal and railroad information from the C3RS report narratives and information so that the identity of the reporting employee or railroad cannot be determined before inclusion into the DataBase Query Tool.

- FRA administers the C3RS program. As part of FRA's program management role, FRA is responsible for encouraging railroads to participate in C3RS, developing the IMOU with railroads, training PRTs, and working with participating railroads and employees to sustain the program. FRA reimburses NASA for its data-processing services for the C3RS program with its annual appropriations.[27] FRA does not provide any funding to the participating railroads for their implementation of the C3RS program.

Twenty-three Railroads Participate in C3RS, Citing Safety Benefits, but Most Railroads Do Not, and FRA Has Efforts to Increase Participation

Twenty-three Railroads Participate in C3RS, Citing Benefits Including Increased Safety Information and an Improved Safety Culture

FRA reported that, as of August 2022, 23 of the nearly 800 railroads in the U.S. participate in C3RS.[28] The 23 railroads include 9 passenger railroads, one Class II, and 13 Class III freight railroads (see table 1). According to FRA, there are over 27,000 railroad employees covered by C3RS IMOUs, which is about 23 percent of the total eligible railroad employee population of approximately 117,000 employees who can report to C3RS.[29]

[27]FRA also provides funding to the Short Line Safety Institute to perform certain program functions for some participating Class II and Class III freight railroads that may not have enough resources to otherwise participate in C3RS.

[28]FRA officials noted in September 2022, Northern Plains Railroad and Port Terminal Railroad Association are withdrawing from the C3RS program due to changes in railroad management. North Shore Railroad Company and Affiliates is a holding company that is comprised of six Class III railroads in Pennsylvania: Juniata Valley Railroad, Lycoming Valley Railroad, Nittany and Bald Eagle Railroad, North Shore Railroad, Shamokin Valley Railroad, and Union County Industrial Railroad. There is one signed IMOU for these six railroads, but FRA counts them as six separate participating railroads. For the purposes of our review, we are counting North Shore Railroad Company and Affiliates as one participating stakeholder railroad because one IMOU is signed.

[29]Eligible railroad employees who can report to C3RS include any craft employee, including those in training or probation, working at the participating railroad.

Table 1: List of 23 Railroads Participating in the Federal Railroad Administration's Confidential Close Call Reporting System (C3RS) (as of August 2022)

Railroad name	Type of railroad[a]	Start year[b]
New Jersey Transit[c]	Passenger	2009
National Railroad Passenger Corporation (Amtrak)[c]	Passenger	2010
Strasburg Railroad	Freight - Class III	2014
Metro North Rail Road	Passenger	2014
Long Island Rail Road	Passenger	2015
Massachusetts Bay Transportation Authority	Passenger	2015
Northeast Illinois Regional Commuter Railroad Corporation (Metra)[c]	Passenger	2015
Southeastern Pennsylvania Transportation Company	Passenger	2016
Denton County Transportation Authority	Passenger	2017
Buffalo and Pittsburgh Railroad[c]	Freight - Class II	2019
North County Transit District[c]	Passenger	2019
North Shore Railroad Company and Affiliates[c, d]	Freight - Class III	2019
Northern Plains Railroad [c, e]	Freight - Class III	2020
Port Terminal Railroad Association[c, e]	Freight - Class III	2020
New Orleans Public Belt	Freight - Class III	2021
Delaware Lackawanna[f]	Freight - Class III	2022
Goose Lake Railway[f]	Freight - Class III	2022
St. Mary's Railway[f]	Freight - Class III	2022

Source: GAO presentation of Federal Railroad Administration data. | GAO-23-105287

[a]The Surface Transportation Board categorizes freight railroads into three classes for regulatory purposes based on annual operating revenues. As of June 2022, Class I freight railroads are railroads that earn $900 million or more annually; Class II railroads earn between $40.4 million to $900 million annually; and Class III railroads earn $40.4 million or less annually. 49 C.F.R. § 1201.

[b]The year the railroad joined the C3RS program. Both Amtrak and New Jersey Transit were part of the C3RS pilot program. Full implementation of the C3RS program started in 2014.

[c]Selected participating railroad for interviews.

[d]North Shore Railroad Company and Affiliates is a holding company that is comprised of six Class III railroads in Pennsylvania: Juniata Valley Railroad, Lycoming Valley Railroad, Nittany and Bald Eagle Railroad, North Shore Railroad, Shamokin Valley Railroad, and Union County Industrial Railroad. There is one signed IMOU for these six railroads, but FRA counts them as six separate participating railroads.

[e]No longer participating in the C3RS program as of September 2022, due to changes in railroad management.

[f]Delaware Lackawanna, Goose Lake Railway, and St. Mary's Railway are part of the Short Line Safety Institute pilot program and these smaller railroads will have a joint peer review team from the Short Line Safety Institute.

Stakeholders from the eight selected railroads we spoke with of the 23 railroads that participate in the C3RS program cited the following as the primary benefits of their participation:[30]

- **Increased safety information to implement corrective actions.** According to stakeholders from seven of the eight selected participating railroads, C3RS has increased awareness of otherwise unknown safety issues and has helped inform the development of corrective actions. Stakeholders from two participating passenger railroads stated that information gained about unsafe behavior and close call incidents from the C3RS program led to the implementation of safeguards to mitigate issues about which railroad management was previously unaware. Similarly, stakeholders from a participating freight railroad told us C3RS reports uncovered violations of which railroad management was unaware that related to a temporary speed restriction. According to these stakeholders, this information allowed the railroad to implement a corrective action to prevent speeding incidents related to that temporary speed restriction from occurring again.
- **Improved safety culture.** According to stakeholders from five of the eight selected participating railroads, improved safety culture is a benefit of participating in C3RS. Stakeholders from one participating passenger railroad stated that the C3RS program provides the railroad with the opportunity to transition from a discipline and compliance approach to establishing more of a trust culture and becoming a learning organization. The railroad stakeholders said their participation in C3RS shows employees that the railroad is serious about creating a culture that prioritizes transparency over discipline to make the railroad safer. Stakeholders from another participating passenger railroad shared that the collaborative nature of the PRT fostered improved working relationships and built trust between railroad management and labor organization representatives. The stakeholders believe the improved relationships have helped employees feel more comfortable submitting C3RS reports.

FRA officials also shared their views on the benefits of C3RS for participating railroads. According to FRA officials, participating in the program allows railroads to learn about safety issues and proactively

[30]For the purposes of our review, stakeholders from railroads that participate in the C3RS program may include railroad management and PRT members, such as labor organization representatives and employees, who participated in our meetings with the selected railroads.

address their causes before incidents and accidents occur. Officials also cited improving communication and cooperation among railroad stakeholders and building a culture of trust at railroads, in which employees can learn from mistakes with the goal of improving safety.

The Majority of Railroads Do Not Participate in C3RS, and Stakeholders from Selected Railroads Cited Several Reasons Why Not, Including Having Similar Internal Systems

C3RS is a voluntary program available to all U.S. railroads. According to FRA, as of August 2022, over 750 railroads, accounting for about 77 percent of the total eligible employee population, do not participate in C3RS. In particular, none of the Class I freight railroads participate in the C3RS program and their employees make up the majority of eligible railroad employees.[31]

We spoke with stakeholders from 14 selected non-participating railroads, and they cited the following as the primary reasons why the railroad chose not to participate in C3RS:

- **Similar internal safety-reporting systems.** Stakeholders from ten of the 14 selected railroads, including all seven of the Class I freight railroads, stated that their railroads have internal safety-reporting systems that capture employee-reported safety information. Stakeholders from one Class I freight railroad that participated in the C3RS pilot program shared that they opted out of the C3RS program because C3RS did not synchronize well with the railroad's internal safety reporting system and it was administratively duplicative to have two reporting systems for close call information. According to stakeholders from the railroads that we spoke with, these internal safety-reporting systems range from anonymous telephone hotlines to systems similar to C3RS with varying levels of participation. However, FRA officials noted that unlike C3RS, close call information that is generally collected is limited to the individual railroad and information

[31]Canadian Pacific Railway and Union Pacific Railroad Company were two of the four railroads that participated in the C3RS pilot program. Both railroads did not continue participating in C3RS past the pilot phase. One of the former participants cited that despite their participation in the C3RS program, the number of close call safety incidents did not seem to be decreasing.

is not shared between systems to be able to benefit from incidents being reported by other railroads.

- **Railroad disciplinary protections.** Stakeholders from six of the 14 selected railroads raised concerns about the disciplinary protections of C3RS, with half noting railroad management's concerns that employees might misuse the system by reporting incidents to gain protection from potential railroad discipline. According to representatives from one labor organization that we spoke with, labor organizations have generally been supportive of the C3RS program and the disciplinary protections that it affords to the reporting railroad employees. However, the representatives said that railroad management may not have been as supportive of the C3RS program's railroad disciplinary protections, which has been a source of disagreement between the labor organization and the railroad's management. According to stakeholders at one railroad, the railroad management had concerns over its inability to discipline employees under C3RS, particularly those employees with known repeat violations. FRA officials are aware of the perceptions from railroad management that employees might be misusing the system to get out of potential railroad discipline, but said that this challenge can be addressed with education on the purpose and intent of the C3RS program and, as discussed more below, is something FRA has focused on.
- **Lack of timely information.** Stakeholders from five of the 14 selected railroads had concerns that the C3RS program does not provide timely information. For instance, stakeholders noted that their own internal safety systems allow the railroad to act quickly to resolve reported safety issues. According to NASA officials, to protect the confidentiality of reporting employees, NASA has a minimum waiting period of 30 days before it sends de-identified C3RS reports to a participating railroad's PRT for review. Stakeholders at one Class I freight railroad said that the C3RS process does not provide the option for a swift response. In contrast, they noted that with their internal safety-reporting system, they can act more immediately on reports and that this immediacy increases involvement because employees can see tangible results. FRA officials are aware that many railroads would like to see a quicker turnaround of C3RS reports from NASA, but reiterated the importance of NASA's minimum

waiting period to maintain confidentiality and that NASA's protocols to process C3RS reports take time.[32]

- **Confidentiality concerns.** Stakeholders from five of the 14 railroads, including one Class I freight railroad that participated in the C3RS pilot program, cited confidentiality concerns related to participation in the C3RS program and uncertainty as to whether the program was truly confidential. One small freight railroad shared that with its few number of employees and infrequent number of incidents, it would be difficult to maintain employee confidentiality. Additionally, one Class I freight railroad shared concerns about FRA's participation in PRTs given FRA's role as the railroad's regulator. For example, there was concern that information discussed during PRT meetings might negatively affect FRA's safety inspections at the railroad, given the FRA stakeholder on the PRT is generally an FRA inspector. According to FRA and NASA, despite these concerns, C3RS has never had a known confidentiality breach. Additionally, FRA officials said it is recommended that PRT members sign non-disclosure agreements and information discussed during meetings is considered confidential and not to be shared. FRA officials said that all C3RS IMOU stakeholders, including FRA, have agreed to use the information they acquire only for positive purposes to improve railroad safety.

Beyond these reasons, some railroads may not participate in the C3RS program because they are not aware of it. For example, of the 31 railroads we screened that do not participate in the C3RS program, seven reported that they had little to no familiarity (23 percent), 16 were moderately familiar (52 percent), and eight were very familiar with the C3RS program (26 percent). Of the 16 railroads that reported that they were moderately familiar with the program, six reported that they had not been directly contacted by FRA to participate. Of the nine that reported they were very familiar with the program, two said they had not been directly contacted. Additionally, a stakeholder at one Class I freight railroad whom we spoke with noted that he was not familiar with the C3RS program, even though the railroad has a similar safety reporting

[32]According to NASA officials, the timeliness of processing C3RS reports is an ongoing discussion with the rail industry and participating railroad PRTs because they would prefer to receive the information sooner. NASA officials noted that every C3RS report is screened within 3 to 5 days of receipt. According to NASA officials, if in this screening the NASA analyst identifies a safety concern that warrants immediate attention specific to a railroad, the analyst will conduct a carrier heads-up by alerting the applicable railroad of the concern.

system. Accordingly, it is unclear how many railroads in the total population do not participate in C3RS because they are unaware of it.

FRA Has Ongoing Efforts to Increase C3RS Program Participation

FRA officials stated that they continue to face challenges with obtaining buy-in from railroad industry stakeholders and acknowledged that the potential for program growth is significant. Low industry participation reduces the value of the C3RS program because the reported close call incidents reflect those of a small subsection and may not be reflective of the safety issues across the wider railroad industry. According to FRA officials, increasing the number of participating railroads has been FRA's priority since the C3RS program went into full implementation in 2014. Since then, as of August 2022, 19 new railroads (six passenger railroads and 13 short line railroads) have joined the C3RS program.[33]

FRA officials cited ongoing efforts to increase awareness and participation, including those targeting:

- **Wider railroad industry.** FRA officials stated that they attend conferences to help promote the C3RS program across the wider railroad industry. FRA has a booth at these conferences with promotional materials and officials answer questions about C3RS. According to FRA officials, the pandemic limited the officials' ability to attend conferences and visit interested railroads in-person to promote the C3RS program, a situation that likely contributed to only one Class III railroad joining in 2021. However, as of June 2022, three Class III railroads have joined C3RS and two additional passenger railroads are actively negotiating the terms of their IMOUs with the intent to participate in 2022. FRA officials also stated that they are hopeful that the Risk Reduction Program's requirement for certain railroads to have a safety-reporting system will help C3RS gain additional traction across the freight rail community and encourage more participation.
- **Short line freight railroads.** FRA officials also stated that they are targeting the short line freight railroads through a partnership with the Short Line Safety Institute—a non-profit that performs safety culture assessments for short line railroads, among other things. Starting in fiscal year 2022, FRA provided funding to the Short Line Safety

[33]FRA officials noted in September 2022, two short line railroads are withdrawing from the C3RS program due to changes in railroad management.

Institute to develop, maintain, and act as a PRT for multiple short line railroads that participate in the C3RS program. According to FRA officials, a third party such as the Short Line Safety Institute may alleviate concerns around confidentiality and limited resources that railroads with smaller workforces have expressed. As of June 2022, three Class III railroads have signed on to participate in the Short Line Safety Institute pilot program.

- **Class I freight railroads.** FRA requested $4.3 million to expand the C3RS program in its budget request for fiscal year 2023. According to FRA officials, FRA intends to use the funding, in part for the Railroad Safety Advisory Committee to explore how C3RS could be expanded industry-wide without a separate IMOU for each participating railroad, in part to target Class I freight railroad participation in the program.[34]

Participating Railroad Stakeholders Cited Several Challenges Related to the C3RS Program and FRA Has Ongoing Efforts to Address Them

Selected participating railroads we spoke with noted several challenges related to the C3RS program, including C3RS's reporting and program implementation. FRA has taken a variety of steps to address these challenges.

Reporting

According to stakeholders from seven out of the eight selected participating railroads (three passenger railroads and four freight railroads), C3RS's reporting from covered employees can be a challenge for reasons such as:

- **Insufficient details.** According to stakeholders from four of the seven selected participating railroads that identified reporting challenges, PRTs are sometimes unable to evaluate the root cause of a reported incident because the C3RS report lacks important details, such as

[34]FRA established the Railroad Safety Advisory Committee in 1996 to develop mutually satisfactory regulatory standards through a collaborative process with stakeholders from the rail community.

why or how an unsafe event occurred.[35] For example, stakeholders from a participating passenger railroad's PRT said they have received a report that simply stated, "I was speeding." The PRT members noted that this report's narrative does not contain enough information to understand the circumstances surrounding the incident or to develop any practical corrective actions. Additionally, these same four participating railroads stated employees may not answer NASA's follow-up phone calls, which are conducted to obtain more detail around the reported incident. Stakeholders noted that employees may not answer NASA's call because the call comes from an unknown number and because of confidentiality concerns. FRA officials also noted other factors may impact the responses to NASA's follow-up phone calls, including work schedules and the prohibition of using cell phones at work.[36] According to NASA, if two follow-up call attempts are not successful, the C3RS report is forwarded to the PRT as is.[37]

- **Insufficient total number of reports.** According to stakeholders from three of the seven selected participating railroads that identified reporting challenges, the total number of C3RS reports their railroads received is too low to identify safety trends across the railroad to support corrective actions.[38] According to stakeholders from one participating short line railroad, employees may not trust the confidentiality protections of the C3RS program, particularly at a smaller railroad with fewer employees and lower numbers of C3RS reports. Stakeholders from another participating passenger railroad stated that as of February 2022, the railroad received five total reports since joining the C3RS program in 2019. These stakeholders attribute the low rate of C3RS reporting in part to poor communication between railroad management and the railroad's contractor that provides

[35]Two of the four participating railroads that noted insufficient details in C3RS reports as a challenge are among the railroads that have participated in the program the longest from our eight selected railroads.

[36]Under 49 C.F.R. § 220.305, railroad operating employees must have each personal electronic device turned off with any earpiece removed from the ear (a) when on a moving train; (b) when any member of the crew is (1) on the ground, or (2) riding rolling equipment during a switching operation; or (c) when any railroad employee is assisting in preparation of the train for movement.

[37]In March 2022, NASA officials said that in the past year, 73 percent of C3RS reports required callbacks for additional clarification or details on the reported event. Of those call backs, NASA had a 60 percent success rate. The number of callbacks NASA is able to conduct is dependent on funding.

[38]All three participating railroads that noted insufficient total number of reports were newer participants to the C3RS program; this recent status could impact the number of reports that are being submitted by employees.

employees to perform services for the railroad. The contractor adds an additional level that management must educate on the purpose and intent of the C3RS program to then pass down to the reporting employees. Similarly, stakeholders from one participating short line railroad shared that one C3RS report has been submitted since they joined the program in 2019. These stakeholders believe this outcome is because there are fewer close call incidents at smaller railroads compared to larger railroads.

FRA officials recognize that C3RS reporting is a challenge for participating railroads' PRTs and believe the primary cause of this challenge is employees' misunderstanding the purpose and intent of the C3RS program. FRA officials have taken steps to better educate employees about the program. According to FRA officials, if employees better understood how submitted C3RS reports are used to determine the root cause of unsafe events and develop corrective actions to prevent such events, employees may be more inclined to submit detailed reports more often. Although FRA officials stated that they believe educating covered employees on the purpose and intent of the C3RS program is the PRT's responsibility, FRA offers C3RS program "re-launches" for participating railroads. In a typical C3RS program re-launch, FRA officials travel to participating railroad sites and hold multiple informational sessions on the C3RS program's purpose and intent and answer any related questions. Stakeholders from one participating railroad we spoke with stated that they had scheduled a re-launch because the PRT noticed a decline in reporting, an increase in reports with minimal detail, and recent employee turnover.

Implementation

According to stakeholders from five of the eight selected participating railroads (three passenger railroads and two freight railroads), there are challenges related to implementing the C3RS program at their respective railroads, including:

- **Interpreting C3RS program eligibility.** According to stakeholders from three of the five selected participating railroads that identified implementation challenges, vague definitions for what exactly constitutes a "close call," including what is considered a "known event," has led some PRTs to spend excessive time debating whether a C3RS report under review makes the reporting employee eligible for protection from disciplinary and FRA enforcement actions. FRA

officials stated that PRT meetings should focus on determining the root cause of all reported C3RS incidents, but stakeholders told us that some PRTs spend a lot of meeting time debating the eligibility of a C3RS report for protection from disciplinary actions. Stakeholders from one participating railroad stated between 8 and 10 percent of C3RS reports describe events that are considered to be "known events" where a potential rule violation occurred and disciplinary action is pending. However, the stakeholders noted that the majority of the PRT meeting is focused on determining if the reporting employee notified management of the event without undue delay as well as completed and submitted the C3RS report to NASA within the established time limits, as required for protection from disciplinary action. PRT members from this participating railroad also stated that there is likewise a lot of meeting time spent determining if the event was a "close call" because the definition in the IMOU is vague and leaves room for interpretation. According to FRA officials, although PRTs should verify that a reported event meets the requirements outlined in the IMOU, the PRT meetings should primarily focus on determining the root cause of reported events and developing corrective actions.

- **Lack of timely information.** According to stakeholders from three of the five selected participating railroads that identified implementation challenges, the length of time it takes NASA to send de-identified C3RS reports to the PRT for review can be a challenge. According to NASA officials, NASA has a minimum waiting period of 30 days before C3RS reports are provided to the PRT in order to protect the reporter's confidentiality, but two of the selected stakeholders stated that NASA's turnaround time had doubled during the pandemic.[39] According to NASA officials, NASA also matches details when multiple reports are submitted for the same incident and this process can sometimes delay sending de-identified reports to the PRTs. NASA officials added that issues outside their control, such as railroad employees not answering call backs, can also delay NASA from sending the C3RS reports to the PRTs. NASA officials noted the importance of these steps to help provide the PRTs with information to be able to make well-informed decisions. However, delays in NASA's turnaround time may lead to delays in implementing corrective actions that can prevent similar types of reported incidents.
- **PRT member responsibilities.** According to stakeholders from three of the five selected participating railroads that identified

[39]According to NASA officials, NASA has up to 90 days to send de-identified reports to PRTs to review.

implementation challenges, it can be difficult for PRT members to meet regularly to review C3RS reports. PRT members have daily roles and responsibilities, such as being a conductor, safety manager, or dispatcher, and must take time away from their role for PRT meetings. According to a PRT member from one participating passenger railroad, the PRT, which is made up of 20 members, tries to meet twice a month, but that does not always happen because it is difficult to coordinate so many schedules. According to FRA officials, in addition to reviewing individual C3RS reports, a PRT may analyze its collective C3RS reports for safety trends at the railroad as support for corrective actions. According to stakeholders from another participating railroad, it is also challenging for PRTs to find time outside of the PRT meetings to analyze the collective C3RS reports.

- **Implementing corrective actions.** According to stakeholders from two of the five selected participating railroads that identified implementation challenges, it can be challenging to implement corrective actions. FRA officials stated that PRTs analyze the collective C3RS reports for safety trends at the railroad and present this evidence to railroad management when proposing corrective actions. Stakeholders from one participating railroad stated that if FRA could help the PRT demonstrate the benefits of participating in the C3RS program to the railroad's management, the PRT might be more successful at convincing management to implement corrective actions. Stakeholders from two participating railroads we spoke with stated that many of the "low hanging fruit" safety issues were addressed with corrective actions early in their participation. However, one of the railroads noted that the remaining safety issues require more robust, and often more expensive, corrective actions for which railroad management is hesitant to allocate resources.

Some Lessons Learned from the 2019 Volpe Center Study on the C3RS Pilot Program:

- Detailed C3RS reports are more important than quantity of reports to develop corrective actions.
- Railroad management should resolve disputes over the scope of C3RS discipline protection in a way that encourages future reporting.
- Railroads have limited capacity to implement corrective actions; therefore, guidance on priorities is needed to help PRTs target their analysis efforts.
- FRA should consider new approaches to reach out to Class I freight railroads.
- Sustainability is strengthened when success stories are shared.

Source: Department of Transportation, Confidential Close Call Reporting System (C3RS) Lessons Learned Evaluation – Final Report, DOT/FRA/ORD-19/01 (Washington, D.C.: February 2019). | GAO-23-105287

FRA officials stated that they understand there are challenges related to the implementation of the C3RS program due to the IMOU structure and submitted a proposal to the Railroad Safety Advisory Committee in December 2021 to address some of these challenges. FRA proposed examining how C3RS could be expanded industry-wide by revising the structure of C3RS to allow more railroad employees—even those from railroads without an IMOU and waivers when applicable—to submit confidential reports on close call events. FRA also proposed to examine which events are eligible for acceptance in a C3RS report. According to FRA officials, in addition to addressing challenges related to program implementation, adoption of this proposal could identify ways to enhance the quality of C3RS information by allowing more employees to report, including Class I freight railroad employees. FRA presented the proposal to the Railroad Safety Advisory Committee in June 2022. According to FRA officials, the committee expressed support for the proposal and a formal vote is expected to occur in late 2022.

Additionally, in January 2022, the Volpe Center began a study at the request of FRA to evaluate the C3RS program in its full implementation, which will include identifying areas for process improvements. This study is expected to be complete in 2024 and plans to follow-up on many of the similar challenges the Volpe Center identified in its 2019 evaluation of the C3RS pilot program.[40]

FRA and NASA Analyze C3RS Safety Information, but Communication Is Not Consistent with Leading Practices

FRA and NASA Analyze C3RS Data for Safety Information Consistent with Leading Practice

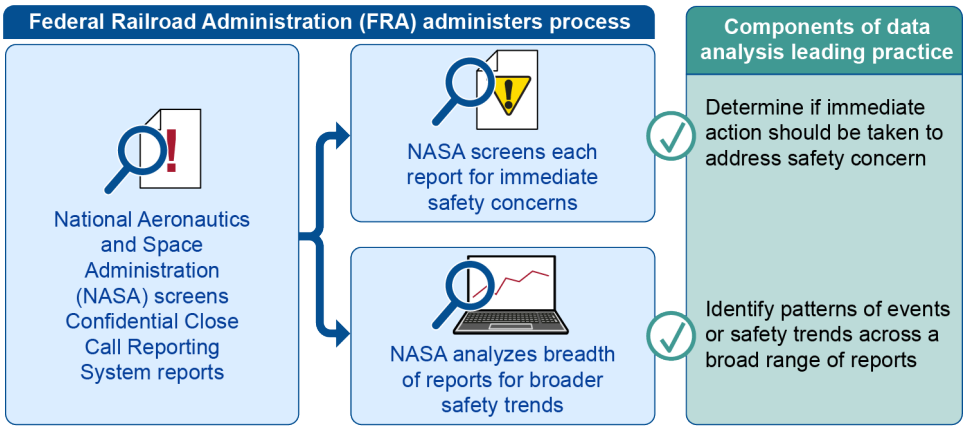
We found that NASA analyzes C3RS reports consistent with the data analysis leading practice for safety-reporting systems that we previously developed because NASA screens C3RS reports for immediate safety concerns and analyzes the breadth of reports for broader safety trends.[41]

[40]Department of Transportation, *Confidential Close Call Reporting System (C3RS) Lessons Learned Evaluation – Final Report,* DOT/FRA/ORD-19/01 (Washington, D.C.: February 2019).

[41]GAO-10-850.

NASA's analysis of data obtained through the C3RS program is a key component of the C3RS process that FRA administers (see fig. 3).

Figure 3: FRA and NASA Analyze Safety Information in Alignment with the Data Analysis Leading Practice



Source: GAO analysis based on NASA information and selected analysis leading practices from GAO-10-850. | GAO-23-105287

Text of Figure 3: FRA and NASA Analyze Safety Information in Alignment with the Data Analysis Leading Practice

1) Federal Railroad Administration (FRA) administers process
   a) NASA screens each report for immediate safety concerns
   b) NASA analyzes breadth of reports for broader safety trends
2) Components of data analysis leading practice
   a) Determine if immediate action should be taken to address safety concern
   b) Identify patterns of events or safety trends across a broad range of reports

Source: GAO analysis based on NASA information and selected analysis leading practices from GAO-10-850. | GAO-23-105287

Data analysis. The data analysis leading practice for safety reporting systems states that analytical processes enhance the usefulness of reported information.[42]

[42]GAO-10-850.

- **Immediate safety concerns.** One component of the data analysis leading practice suggests that the first step in analyzing reported data is determining whether immediate action should be taken to address a safety concern.[43] The C3RS Standard Procedures indicates that NASA is responsible for independently screening all C3RS reports.[44] According to NASA officials, NASA has a group of rail industry experts, each with more than ten years of relevant experience, who review each C3RS report's narrative for hazardous situations or any other circumstances that might compromise safe operations. The officials added that if an immediate safety concern is identified during their screening, a type of safety alert referred to as a carrier heads-up is issued to the impacted stakeholders. These officials stated that once C3RS reports are screened for immediate safety concerns, each report is coded for ease of future analysis. According to NASA officials, there is a coding taxonomy of about 2,000 codes, which is used to identify characteristics such as event type, outcome, and contributing factors. They added that once each report is coded, the NASA analyst uploads the report to the DataBase Query Tool allowing for subsequent analyses by FRA, railroads, research organizations, and other interested stakeholders.
- **Broader safety trends.** Another component of the data analysis leading practice is identifying patterns of events across a broad range of reports.[45] According to the C3RS Standard Procedures, NASA is responsible for distributing quarterly newsletters. NASA officials told us they analyze the C3RS reports for broader safety trends or the types of safety incidents seen in the C3RS reports to inform the quarterly newsletter. According to FRA officials, FRA does not prescribe how or what NASA should analyze in order to allow NASA the ability to remain a true, independent third party. However, according to NASA officials, FRA formally requested and provided funding for NASA to analyze C3RS reports for incidents involving

[43]GAO-10-850.

[44]The Reimbursable Interagency Agreement between FRA and NASA states that NASA owns, maintains, and safeguards all C3RS data and other information relevant to reported close call events. Further, the agreement identifies the C3RS Standard Procedures as the document that informs how FRA and NASA are to perform their roles in implementing the C3RS program. The Reimbursable Interagency Agreement states that one of NASA's primary roles is to provide PRTs timely access to de-identified C3RS reports and FRA and the railroad industry de-identified data regarding unreported or underreported unsafe events.

[45]GAO-10-850.

positive train control.[46] NASA's findings were published in a report in 2021.[47]

In addition, FRA officials told us the DataBase Query Tool was made publicly available in May 2021 to allow anyone, including FRA, to analyze the C3RS information for various purposes. For example, these officials said they participate on other FRA committees that analyze fatalities and other incident data to identify risks, trends, and other factors affecting worker safety.[48] The FRA officials added that one of these committees has queried the data from the DataBase Query Tool to try and find information on potential issues that could lead to fatalities during switching operations. FRA officials said they continue to encourage the committees to combine the C3RS data with existing incident and fatality data to identify trends and potential precursors that could prevent future accidents and incidents. Additionally, FRA officials stated that it recently hired an agency-wide data scientist who may combine C3RS data with these other available rail safety data to conduct analyses in the future. According to NASA officials, NASA also provides FRA with DataBase Query Tool usage data each month.

FRA's and NASA's Communication of C3RS Safety Information Is Not Consistent with Leading Practices

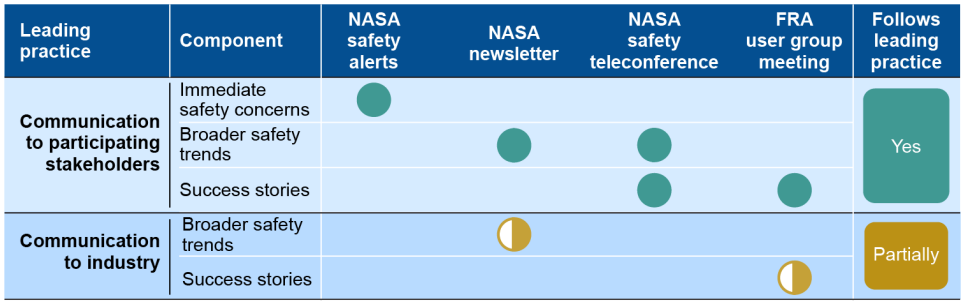
We found that FRA's and NASA's communication of safety information from C3RS to participating stakeholders is consistent with one of the communication leading practices. However, our review found that FRA's and NASA's communication of safety information to the wider railroad industry is not consistent with the other communication leading practice (see fig. 4).

[46]Positive train control systems are designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position.

[47]NASA, *Positive Train Control (PTC) Study: An Analysis of PTC-Related Reports Submitted to the Confidential Close Call Reporting System (C3RS),* NASA/TM-20210021139 (Moffett Field, CA: August 2021).

[48]These committees include the Switching Operations Fatalities Analysis working group and the Fatality Analysis Maintenance-of-way Employee and Signalmen committee. These committees look for commonalities among fatalities and related incidents in order to develop recommendations to reduce the risk of future fatalities.

Figure 4: FRA's and NASA's Communication of Confidential Close Call Reporting System's (C3RS) Safety Information Is Not Consistent with Leading Practice on Communication to the Industry



Source: GAO analysis based on National Aeronautics and Space Administration (NASA) and Federal Railroad Administration (FRA) information and selected communication leading practices from GAO-10-850. | GAO-23-105287

Data table for Figure 4: FRA's and NASA's Communication of Confidential Close Call Reporting System's (C3RS) Safety Information Is Not Consistent with Leading Practice on Communication to the Industry

	Component	NASA safety alerts	NASA newsletter	NASA safety teleconference	FRA user group meeting	Follows leading practice
Communication to participating stakeholders	Immediate safety concerns	Yes	No	No	No	Yes
	Broader safety concerns	No	Yes	Yes	No	Yes
	Success Stories	No	No	Yes	Yes	Yes
Communication to industry	Broader safety concerns	No	Partially	No	No	Partially
	Success stories	No	No	No	No	Partially

Source: GAO analysis based on National Aeronautics and Space Administration (NASA) and Federal Railroad Administration (FRA) information and selected communication leading practices from GAO-10-850. | GAO-23-105287

Description of FRA and NASA's Communication Methods:

- **Safety alerts:** Includes several types of communications used by NASA for time-critical and significant safety issues specific to a railroad (i.e., carrier heads-up); significant safety issues that may impact the wider railroad industry (i.e., safety alert bulletin); or less critical topics that may impact the wider railroad industry (i.e., for your information notices).
- **Inside the Rail newsletter:** NASA's quarterly communication which describes safety trends observed through NASA's screening of submitted C3RS reports. Newsletters generally highlight a railroad safety topic and provides examples from C3RS reports with the intent to increase awareness and promote discussion related to reported safety topics.
- **Safety teleconference:** NASA hosts a quarterly teleconference which includes FRA and railroad PRTs to facilitate a discussion on identified safety trends and provide PRTs the opportunity to share ideas for corrective actions.
- **User group meeting:** FRA's annual in-person meeting where railroad PRTs are invited to present on implemented corrective actions and share challenges and lessons learned from participating in the C3RS program.

Source: GAO presentation of FRA and NASA information. | GAO-23-105287

Note: Under FRA's and NASA's Reimbursable Interagency Agreement and supplemental Standard Procedures, the agencies have separate responsibilities with respect to communicating C3RS information with stakeholders and the railroad industry.

Communication to participating stakeholders. The leading practice for communication to participating stakeholders states that communicating safety information, such as immediate concerns, broader trends, and success stories, promotes management awareness of safety concerns, management buy-in, and top-level efforts to address these concerns.[49]

- **Immediate safety concerns.** According to NASA officials, if a NASA analyst identifies a time-critical safety concern specific to a railroad in its initial screening, the analyst will call the applicable railroad's PRT lead representative to alert them of the concern typically within 5 days of receiving the C3RS report. As previously mentioned, NASA refers to this type of safety alert a carrier heads-up. NASA officials added that if NASA receives a report or several reports describing a hazardous situation that might compromise safe operations across the industry, it may issue a safety alert bulletin. For example, in December 2021, NASA officials issued a safety alert bulletin to inform appropriate railroad stakeholders that the agency received several C3RS reports describing instances where engineers may have over relied on positive train control automation while operating a train. Officials said these bulletins are distributed to all participating railroads' PRTs and relevant stakeholders, so these stakeholders can evaluate the information and take corrective action as needed.
- **Broader safety trends.** According to NASA officials, NASA analyzes the breadth of C3RS reports for safety trends, and these identified trends are primarily communicated through its quarterly newsletter, Inside the Rail. For example, the April 2022 newsletter presented narrative examples from numerous C3RS reports that highlighted close calls related to train crews' operating over the maximum authorized speed when, for example, onboard control systems, such as positive train control, fail. NASA officials said that the agency distributes the newsletter using a distribution list provided by FRA and that list includes all participating railroads' PRTs, FRA, and other participating industry stakeholders such as labor organizations and the Short Line Safety Institute. There is also a link on the public NASA C3RS website where anyone can subscribe to be added to the newsletter distribution list. NASA also holds a quarterly safety teleconference for participating railroads' PRTs and FRA officials to discuss safety trends identified by NASA. NASA officials said that

[49]GAO-10-850.

these teleconferences serve as an opportunity to further communicate safety trends identified in its screening of C3RS reports. For example, NASA officials highlight a safety trend observed that NASA wants to bring to the participating railroads' attention, but this trend may or may not be related to a topic covered in a safety alert bulletin.

- **Success stories.** FRA hosts an annual C3RS user group meeting and invites participating railroads' PRTs to attend, and according to FRA officials, these meetings are used to highlight success stories of implemented corrective actions and lessons learned. For example, at the June 2022 annual C3RS user group meeting, one participating commuter railroad shared a success story of an implemented corrective action, which added platform markers to help ensure trains with various car lengths stop so the doors always open with safe passenger access to platforms. According to NASA officials, the quarterly safety teleconferences are also an opportunity for participating railroads to share success stories of corrective actions implemented at their respective railroad that addressed the safety trend being discussed.

Communication to industry. The leading practice on communication to the industry states that communicating safety information, such as broader safety trends and success stories, with the wider industry can provide tangible evidence of the value of the safety reporting system and alert the industry to important safety issues. This leading practice also states that an entity with recognized authority and industry-wide visibility, such as FRA, is ideally situated to ensure safety information is disseminated across the industry.[50]

- **Broader safety trends.** Anyone who is interested in learning about broader safety trends from C3RS data may subscribe to NASA's quarterly Inside the Rail newsletter on NASA's C3RS website. However, while some of the newsletters can be searched for on FRA's website, the majority are not available on either FRA's or NASA's websites for the public to access. According to FRA officials, FRA does not separately communicate safety trends to the railroad industry because it has delegated the role to NASA in the C3RS Standard Operating Procedures, which outlines FRA's expectations for NASA's communications. However, FRA has not specified in the C3RS Standard Procedures that NASA share the quarterly newsletter, which includes information on broader safety trends, with the wider railroad industry. Accordingly, FRA could work with NASA to update

[50]GAO-10-850.

these expectations or determine a mechanism to more proactively communicate safety trends from C3RS and help ensure that information is made more widely available to the railroad industry.

- **Success stories.** FRA officials stated that the annual user group meeting, which is used to highlight success stories from participating railroads, is open to the public and advertised on its website. For example, FRA officials stated that representatives from three industry groups and one Class I railroad attended the C3RS user group meeting in June 2022. Although the annual user group meeting is open to anyone, FRA officials said that participating stakeholders generally attend and that there is no product that comes out of the meeting that can be shared with those who were not able to attend the meeting or the wider railroad industry in general.

  According to FRA officials, they have considered sharing information on corrective actions from the user group meeting in the past, but have not done so due to limited staff resources and potential confidentiality concerns. However, FRA officials stated that information on corrective actions and success stories would be useful to the industry and could also help support FRA's efforts to increase overall C3RS participation. According to FRA officials, at the most recent annual user group meeting in June 2022, the Volpe Center approached FRA with a suggestion that it could help catalog the corrective actions participating railroads implemented from C3RS. In August 2022, Volpe Center officials confirmed that this idea and its implementation were in development but shared that the catalog of corrective actions would first be made available to participating C3RS railroads. Volpe Center officials noted that documenting success stories like corrective actions that address specific safety concerns is a concrete way of illustrating the benefits of participating in C3RS. Until FRA can better demonstrate the benefits of participating in the C3RS program to the wider railroad industry, it may be difficult to improve C3RS reporting issues and increase railroad industry buy-in and railroad participation in the program.

Conclusions

FRA established C3RS in 2007 as a proactive way to improve unsafe situations by collecting information directly from railroad employees on close calls as human error continued to be a leading cause of train and rail equipment accidents. The C3RS program offers participating railroads and their eligible employees the ability to report close calls with confidentiality and without fear of discipline. Although FRA has ongoing

efforts to increase participation in the C3RS program, the vast majority of railroads, including all of the Class I freight railroads, do not participate.

FRA and NASA play a role in communicating safety information from the C3RS program. However, thus far, the communications highlighting important safety trends and success stories, such as corrective actions, has largely been limited to participating stakeholders. By not effectively communicating such safety information to the wider railroad industry, non-participating stakeholders may miss important and relevant safety information for their respective railroads. For example, stakeholders from both participating and non-participating railroads we interviewed stated that additional information on corrective actions would be helpful. Without enhancing its communication efforts to the wider railroad industry, FRA may miss the opportunity to promote tangible evidence of the C3RS program's value and continue to experience C3RS program challenges, such as low railroad participation and C3RS reporting issues.

Recommendations for Executive Action

We are making the following two recommendations to FRA:

The Administrator of FRA should, in collaboration with NASA as appropriate, make C3RS safety information, including broader safety trends, more accessible to the wider railroad industry. (Recommendation 1)

The Administrator of FRA should ensure that success stories from the C3RS program are effectively communicated and shared with the wider railroad industry. (Recommendation 2)

Agency Comments

We provided a draft of this report to the Department of Transportation, NASA, and Amtrak for their review and comment. FRA concurred with our recommendations (see letter reproduced in app. III). Amtrak also agreed with our recommendations to FRA (see letter reproduced in app. IV). Additionally, FRA and NASA provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Transportation, NASA Administrator,

Amtrak's Chief Executive Officer, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

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

Elizabeth Repko
Director, Physical Infrastructure Issues

Appendix I: List of Railroad Stakeholders Interviewed

Table 2: List of Railroad Stakeholders Interviewed in Relation to the Confidential Close Call Reporting System (C3RS)

Stakeholder	Type[a]	C3RS Status
Federal Railroad Administration	Federal	—
National Aeronautics and Space Administration	Federal	—
National Transportation Safety Board (NTSB)	Federal	—
John A. Volpe National Transportation Systems Center	Federal	—
Association of American Railroads (AAR)	Association	—
American Short Line and Regional Railroad Association (ASLRRA)	Association	—
American Public Transportation Association (APTA)	Association	—
Brotherhood of Locomotive Engineers and Trainmen (BLET)	Labor organization	—
International Association of Sheet Metal, Air, Rail and Transportation Workers (SMART)	Labor organization	—
Short Line Safety Institute	Non-profit	—
National Railroad Passenger Corporation (Amtrak), Amtrak Peer Review Team	Passenger	Participant
Buffalo and Pittsburgh Railroad	Freight - Class II	Participant
New Jersey Transit, New Jersey Transit Peer Review Team	Passenger	Participant
Northeast Illinois Regional Commuter Railroad Corporation (Metra)	Passenger	Participant
North County Transit District	Passenger	Participant
North Shore Railroad Company and Affiliates[b]	Freight - Class III	Participant
Northern Plains Railroad	Freight - Class III	Participant
Port Terminal Railroad Association	Freight - Class III	Participant
Kansas City Southern Railway	Freight - Class I	Non-participant
CSX Transportation, Inc.	Freight - Class I	Non-participant
Norfolk Southern Railway Company	Freight - Class I	Non-participant
Union Pacific Railroad Company	Freight - Class I	Non-participant[c]
BNSF Railway	Freight - Class I	Non-participant
Canadian National Railway	Freight - Class I	Non-participant
Canadian Pacific Railway	Freight - Class I	Non-participant[c]
Sun Rail	Passenger	Non-participant[c]
Metrolink[d]	Passenger	Non-participant
Trinity Railway Express	Passenger	Non-participant
Virginia Railway Express	Passenger	Non-participant
Iowa Interstate Railroad	Freight - Class II	Non-participant

Stakeholder	Type[a]	C3RS Status
Paducah and Louisville Railway Company	Freight - Class II	Non-participant
Belt Railway of Chicago	Freight - Class III	Non-participant[c]
Terminal Railroad	Freight - Class III	Non-participant

Source: GAO. | GAO-23-105287

[a]The Surface Transportation Board categorizes freight rail carriers into three classes for regulatory purposes based on annual operating revenues. As of June 2022, Class I freight railroads are railroads that earn $900 million or more annually, Class II railroads earn between $40.4 million to $900 million annually, and Class III railroads earn $40.4 million or less annually. 49 C.F.R. § 1201.

[b]North Shore Railroad Company and Affiliates is a holding company that is comprised of six Class III railroads in Pennsylvania: Juniata Valley Railroad, Lycoming Valley Railroad, Nittany and Bald Eagle Railroad, North Shore Railroad, Shamokin Valley Railroad, and Union County Industrial Railroad. There is one signed Implementing Memorandum of Agreement for these six railroads, but FRA counts them as six separate participating railroads.

[c]Former C3RS participant.

[d]In the process of developing its Implementing Memorandum of Understanding to join the C3RS program.

Appendix II: Comparison of Federal Railroad and Aviation Safety Reporting Systems

The Federal Railroad Administration's (FRA) Confidential Close Call Reporting system (C3RS) is a voluntary safety-reporting system that was established in 2007 as a pilot program. According to FRA officials, C3RS was modeled after the Federal Aviation Administration's (FAA) Aviation Safety Reporting System (ASRS), which began collecting safety reports in 1976. In both C3RS and ASRS, reports are collected, de-identified, analyzed, and maintained by an independent third party, the National Aeronautics and Space Administration (NASA). However, there are some differences in how program participation is structured and the disciplinary protections provided to employees, as well as how the de-identified reports are analyzed and shared. For example:

- **Program participation requirements:** To participate in C3RS, railroads and employee labor organizations must enter into an Implementing Memorandum of Understanding (IMOU) with FRA. The IMOU specifies which railroad employees the agreement covers and describes the conditions under which they will receive protection from railroad discipline, for example. In contrast, pilots, dispatchers, cabin crew, maintenance, and the general public can report to ASRS, making the program an open and voluntary system without the need for a document like an IMOU.
- **Program scope:** Within C3RS, peer review teams at each participating railroad analyze de-identified C3RS reports from NASA to identify specific corrective action recommendations to railroad management. According to FRA officials, the C3RS program's online database also became available for the public to be able to access C3RS reports for broader analysis in May 2021. ASRS is an open system where the information collected is not limited to a specific airline. Once NASA de-identifies the ASRS reports, they are input into its public ASRS Database Online. The ASRS Database Online is used to identify deficiencies and discrepancies across the national airspace system and broadly provide opportunities for human factors research and recommendations for aviation procedures, operations, facilities, and equipment improvements.

Although there are some key differences between these programs, both aim to identify safety issues for their respective industries to help mitigate potential accidents in the future (see table 3 below for more details).[1]

[1]In addition to ASRS, the Aviation Safety Action Program (ASAP) is another safety-reporting system used in the aviation industry that has similarities to C3RS. For example, similar to C3RS, ASAP is more of a closed participation system, with participation limited to the employees of companies that have signed memoranda of understanding to participate and is focused on entity-level reporting and corrective actions. According to NASA officials, ASAP programs share their collected safety reports with the ASRS program, and the de-identified information is entered into the public ASRS Database Online.

Table 3: Comparison of the Federal Railroad Administration's (FRA) Confidential Close Call Reporting System (C3RS) and the Federal Aviation Administration's (FAA) Aviation Safety-Reporting System (ASRS)

	C3RS	ASRS
Modal administration	FRA	FAA
Start date	Pilot phase (2007) Full Implementation (2014)	1976
Number of participants	23 railroads (as of August 2022)	Open to anyone
Third party administrator	Bureau of Transportation Statistics (2004-2010) National Aeronautics and Space Administration (2010-present)	National Aeronautics and Space Administration
Primary functions	• Screens and de-identifies reports • Codes reports • Program outputs • Maintains publicly available database	• Screens and de-identifies reports • Codes reports • Program outputs • Maintains publicly available database
Public database (year publicly available)	C3RS DataBase Query Tool (2021)	ASRS Database Online (2006)
Number of reports available in public database	Approximately 17,500 (as of September 2022)	Approximately 220,500 (as of September 2022)
Program outputs	• Safety alerts • Quarterly newsletter • Quarterly safety teleconference • Focused studies and research	• Safety alerts • Monthly newsletter • Search requests • Focused studies and research
Window for reporting	Typically 3 business days after event occurs (depending on the railroad's implementing memorandum of understanding)	Typically within 10 days after event occurs
Disciplinary and modal enforcement protections for qualifying events	Yes, with exceptions that include drug and alcohol related events	Yes, with exceptions that include criminal activities
Responsible for reviewing reports	Individual participating railroad's peer review team	Contracted aviation experts
Responsible for implementing corrective actions	Participating railroad	FAA and other stakeholders

Source: GAO presentation of FRA, FAA, and National Aeronautics and Space Administration information. | GAO-23-105287

Appendix III: Comments from the Department of Transportation

U.S. Department of Transportation
Office of the Secretary of Transportation

Assistant Secretary for Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

October 25, 2022

Elizabeth Repko
Director, Physical Infrastructure
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Ms. Repko,

The Federal Railroad Administration (FRA) Confidential Close Call Reporting System (C3RS) has provided employees of participating railroads a safe environment to report unsafe events and conditions without fear of railroad discipline or FRA enforcement action since 2007. Currently, 23 railroads participate in the program, covering approximately 23 percent of railroad employees. In 2022 alone, three railroads joined the program, and another two railroads are currently negotiating participation. Approximately 17,500 close call reports have been submitted to the confidential reporting system to date, allowing railroads to identify root causes and implement corrective actions to prevent serious incidents from occurring in the future.

FRA has the following initiatives underway to support continued improvements to the program and promote rail safety:

- FRA will collaborate with the Volpe Center (Volpe) to develop a catalog of past and future corrective actions to share with the broader railroad community.
- Volpe is currently conducting an evaluation of C3RS that considers the efficiency, effectiveness, and sustainability of the program. The evaluation will seek to quantify program benefits and identify potential process improvements that will support a sustainable, successful program.
- The National Aeronautics and Space Administration has agreed to publish all previously issued quarterly newsletters on its C3RS website in FY 2023. Future newsletters will also be published on the website.
- FRA has partnered with the Short Line Safety Institute (SLSI) to develop, maintain, and perform as a Peer Review Team for participating Class II and Class III freight carriers.

Based on our review of the draft report, FRA concurs with GAO's two recommendations to (1) make C3RS safety information, including industry-wide safety trends, more broadly accessible to the wider railroad industry, and (2) ensure that success stories from the C3RS program are effectively communicated and shared with the broader railroad industry. We will provide a detailed response to each recommendation within 180 days of the final report's issuance.

We appreciate the opportunity to comment on the GAO draft report. Please contact Gary Middleton, Director of 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

Text of Appendix III: Comments from the Department of Transportation

Elizabeth Repko

Director, Physical Infrastructure

U.S. Government Accountability Office 441 G Street NW

Washington, DC 20548 Dear Ms. Repko,

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Philip A. McNamara

Assistant Secretary for Administration

Appendix IV: Comments from the National Railroad Passenger Corporation (Amtrak)

NATIONAL RAILROAD PASSENGER CORPORATION
Steven Predmore, EVP/Chief Safety Officer
1 Massachusetts Ave, NW , Washington, DC 20001
Tel 202-906-3482

AMTRAK

November 1, 2022

Elizabeth Repko
Director, Physical Infrastructure Issues
Government Accountability Office
441 G St., NW
Washington, DC 20548

Dear Ms. Repko:

Amtrak appreciates the opportunity to provide input and feedback for the Government Accountability Office's (GAO) review of the Confidential Close Call Reporting System (C3RS) implementation within the railroad industry. The time afforded for interviews of key stakeholders to include Peer Review Team (PRT) members and program support personnel undoubtedly provided a broad perspective for review of the program from a variety of vantage points.

Amtrak agrees with the executive recommendations made in the report. The report's recommendation that information and success stories learned from confidential reports and corrective actions should be reviewed and shared across all entities is an accurate observation for improvement. Similarly, increased accessibility to the data and the information gathered from C3RS reports would benefit the industry and aid in non-participants better understanding the value of C3RS. To this end, we are looking to collaborate within the tri-party agreement to pursue process improvements in both design, execution, and communication of C3RS. One opportunity we have identified not captured in the report is for the Federal Railroad Administration (FRA) to create more enticing incentives for railroads to participate in C3RS. This is an approach the FAA has successfully taken with U.S. commercial airlines.

Please direct all comments and any questions you may have concerning this correspondence to Marcus Suhr, Director Voluntary Safety Reporting Programs, (302)-388-9506 or Marcus.Suhr@amtrak.com.

Sincerely,

Steven C. Predmore
Executive Vice President, Chief Safety Officer

Text of Appendix IV: Comments from the National Railroad Passenger Corporation (Amtrak)

November 1, 2022

Elizabeth Repko

Director, Physical Infrastructure Issues Government Accountability Office 441 G St., NW

Washington, DC 20548 Dear Ms. Repko:

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Sincerely,

Steven C. Predmore

Executive Vice President, Chief Safety Officer

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

Elizabeth Repko, (202) 512-2834, RepkoE@gao.gov

Staff Acknowledgments

In addition to the contact named above, Nancy Lueke (Assistant Director); Catherine Kim (Analyst-in-Charge); Fareeda Elsayed; Serena Lo; Josh Ormond; Mary-Catherine P. Overcash; Rebecca Shea; Pam Snedden; McKenna Stahl; and Michelle Weathers made key contributions to this report.

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