



FORMATIVE EVALUATION OF A CLASS I RAILROAD C³RS PILOT DEMONSTRATION

SUMMARY

The Federal Railroad Administration (FRA) sponsored Volpe National Transportation Systems Center (Volpe) to conduct a formative evaluation of a Class I railroad's implementation of a Confidential Close Call Reporting System (C³RS) pilot demonstration (Pilot). The goal of the evaluation was to document implementation processes and provide stakeholders with formative feedback to strengthen the Pilot.

Volpe collected information from Safety Department leadership and Peer Review Team (PRT) members and reviewed relevant documentation to identify Pilot strengths and challenges. Volpe drew on prior C³RS evaluation findings (Multer, et al., 2024) to provide stakeholder feedback intended to strengthen the Pilot.

This Research Results documents the Pilot evaluation findings and translates them into good practices and considerations for other railroads interested in or currently implementing C³RS.

BACKGROUND

C³RS is an FRA-funded, voluntary, non-punitive, confidential safety reporting program that began as a pilot demonstration in 2007 and was implemented as an FRA safety initiative in 2014.

C³RS enables employees at participating railroads to report "close calls" (i.e., unsafe events or conditions) confidentially and without fear of discipline. The goal of the program is to collect information on safety issues that pose the risk of more serious consequences and implement remedies, or corrective actions (CAs), to improve safety.

In March 2023, all Class I freight railroads committed to joining C³RS as part of the Department of Transportation's (DOT) multi-pronged approach to strengthening rail safety.

FRA tasked Volpe with conducting a formative evaluation of one Class I railroad's C³RS pilot demonstration. Criteria set forth in the implementing memorandum of understanding (IMOU) specified that the railroad would implement C³RS over a 12-month period for Engineers and Conductors reporting to three terminals. In this implementation, each terminal location formed its own PRT comprised of Safety Department employees, labor union representatives, and employees from participating crafts working at that terminal.

The evaluation documented implementation processes, successes, and challenges, and provided formative feedback to the railroad. Many of the strengths and challenges identified during this evaluation were also identified and addressed separately on a larger scale in a recent evaluation of the overall C³RS Program and may be of interest to railroads implementing C³RS (Multer, et al., 2024).

OBJECTIVES

The objectives of this formative evaluation included documenting the implementation of C³RS at a Class I railroad, identifying implementation strengths and challenges, and providing stakeholders with formative feedback and considerations for strengthening the Pilot.

METHODS

Volpe conducted virtual discussions with the three PRTs, employees in leadership positions in the railroad's Safety Department, and FRA



inspectors that were members of the PRTs. Additionally, Volpe reviewed PRT meeting documents, reporting and CA spreadsheets, and C³RS newsletters distributed by the PRTs.

The Volpe team provided stakeholders with interim deliverables every three months that documented findings-to-date. Deliverables contained information about Pilot processes, including relevant context that may have impacted the Pilot, strengths and challenges across the three Pilot locations, and formative feedback for stakeholder consideration.

RESULTS

Key findings related to Pilot implementation strengths and challenges are reported in this section.

Strengths

Pilot strengths identified during the evaluation related to Safety Department involvement and PRT composition.

Railroad Safety Department Involvement

In contrast to some reports of low Safety Department involvement across C³RS-participating railroads noted by Multer and colleagues (2024), Safety Department employees played an active role in the current Pilot. These employees acted as “Process Managers” on the PRT and took on tasks that occurred outside of PRT meetings, including coordinating with other departments (e.g., for CA implementation) and scheduling future PRT meetings. This reduced the workload for craft employees with limited time to devote to C³RS-related activities and helped demonstrate Safety Department support for the program.

Furthermore, a separate Safety Department employee provided support by creating newsletters used by PRTs as outreach material to the workforce.

PRT Composition and Engagement

A diverse group comprised each PRT, including two craft employee representatives from each of the two participating labor unions, one manager, one FRA inspector, and one Safety Department employee. As a result, the PRTs benefitted from a broad base of context and knowledge about railroad territories and operations that supported the analysis of close call reports.

Stakeholders noted the importance of PRT members being active and engaged in the Pilot. One PRT reported replacing a member who became notably disengaged with a different employee who was enthusiastic about participating. Furthermore, across stakeholder groups, PRTs reported the successes of their membership in setting aside biases and/or preconceptions during PRT meetings.

Challenges

Pilot challenges identified during the evaluation related to employees lacking trust in C³RS and employees not being aware of, or well educated about, the Pilot.

Employee Trust

Stakeholders relayed a lack of employee trust toward the Pilot that likely stemmed from a number of interrelated factors, such as the Pilot timeline, the timing of Volpe’s data collection, and a persistent attitude of wariness regarding the confidentiality and protection from discipline afforded by C³RS.

PRT members speculated about the impact of the (relatively) short duration of the Pilot on employee trust, which, for such programs, takes time to build. In part, this is why FRA’s initial C³RS demonstration took place over five years (Ranney, Davey, Morell, Zuschlag, & Kidda, 2019). Initially scheduled for 12 months,¹ trust in the current Pilot may have suffered because of its alignment to the duration of past safety initiatives that the railroad implemented and subsequently terminated after one year.

¹ The railroad recently extended this Pilot to ~18 months’ duration to align with a third craft’s pilot end date.



Similarly, Volpe's data collection took place during the first 9 of 12 months of the initial Pilot timeframe. Findings noting employee skepticism regarding the confidentiality and protection from discipline afforded by C³RS may have been partially a function of this timing.

This reported lack of trust may also have impacted employee reporting. As shown in [Table 1](#), levels of reporting varied across the three Pilot sites, as did the amount of detail employees included in their reports, which PRT members reported as often being insufficient to easily conduct their incident analysis.

Table 1: Reporting variability across Pilot sites

Pilot Site	Total Number of Close Call Reports (March-February)
1	29
2	41
3	49

One PRT sought to improve trust by identifying employees with experience and influence among the workforce and educating them about C³RS. By establishing buy-in with these employees, the PRT hoped other employees who respect and trust them would be influenced to have more positive attitudes toward the program.

Pilot Program Education and Awareness

PRT members reported that a lack of education and awareness about the Pilot among employees and management persisted during the evaluation. Some PRTs cited staff turnover as a contributing factor to this challenge, since employees hired after the initial rollout would not have been reached during this training. Furthermore, the informal nature of the rollout process may have also contributed to a lack of knowledge about C³RS. Rollouts, which took place over two days at the start of the Pilot implementation, occurred in crew reporting locations in between jobs. Employees that were not at work or available during these times would have missed the training completely.

To address this challenge, PRTs implemented additional outreach methods, including allocating

dedicated time for PRT members to meet with employees and speak with them directly about C³RS and the CAs the PRTs implemented to support safety at their location. Labor union representatives on the PRT also worked with their organizations to communicate about the Pilot to membership via their own platforms.

Mixed Findings: Separate PRTs across Pilot Sites

The Pilot's model of forming a separate PRT for each participating terminal presented both strengths and challenges.

A strength of this model was the site-specific knowledge that PRTs brought to incident analysis. PRTs relayed that this in-depth knowledge helped them to identify contributing factors and implement CAs, even for reports that lacked detail.

A challenge to this approach was the "siloing" of information and a lack of information-sharing across the three PRTs and more generally across the railroad. Because PRTs were responsible solely for event reports in their terminal, they generally did not consider local safety issues as potentially applying elsewhere across the system. As an example, one PRT identified a safety issue with outdated terminology and implemented a CA to update the terminology locally. When researchers asked if the outdated terminology also was an issue at other locations, the PRT agreed that it likely was. However – either due to a lack of knowledge about the system as a whole or a lack of authority to implement CAs site wide – the PRT did not identify the terminology CA as one that should be implemented more broadly.

An additional drawback to the "separate PRTs" model is related to resource constraints; stakeholders noted that this approach would not be sustainable if the Pilot was expanded at the railroad.

CONCLUSIONS

Considerations for railroads include evaluating the size and complexity of their territory along with available resources to determine the



implementation model that will best suit their operations. If implementing a model with fewer PRTs covering larger areas of the railroad, a lack of knowledge about operational details at various locations could be mitigated by reaching out to subject matter experts at these locations.

Railroads considering piloting C³RS could benefit from implementing a demonstration of sufficiently long duration for employees to gain trust in the program. Trust is gained as employees see that fellow employees who submit reports are not disciplined and that PRTs implement CAs that support visible safety improvements.

It is important for stakeholders to recognize that education and communication about C³RS is an ongoing process. Inevitable staff turnover and gaps in the reach of initial rollouts speak to the importance of providing further (or refresher) training and outreach beyond that provided at the program outset.

Finally, facilitating information-sharing across PRTs (if multiple) and across the railroad more broadly is vital to program success and improving safety, as safety concerns and lessons learned that are present for one location may also apply elsewhere. The Safety Department, which has a holistic view of the railroad, plays an important role in supporting PRTs by identifying when local issues also should be addressed elsewhere on the railroad.

FUTURE ACTION

FRA may want to consider the benefits of continuing the current Pilot evaluation and documenting stakeholder decisions regarding the future of C³RS at the railroad when the Pilot concludes.

REFERENCES

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- Ranney, J., Davey, M., Morell, J., Zuschlag, M., & Kidda, S. (2019). Confidential Close Call Reporting System (C3RS) Lessons Learned Evaluation — Final Report. Washington, DC: Federal Railroad Administration

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C³RS, close calls, Class I railroad, evaluation, pilot demonstration implementation, voluntary safety reporting program

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