

# Using the COM-B Model to Improve Safety Reporting by Railway Track Workers

Jana Mihulkova, Sam Waters & Anita Weltz

Risktec Solutions Ltd

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## SUMMARY

This study used the COM-B model to investigate the barriers and enablers that influence safety reporting behaviour among track workers within the GB rail industry. Using a qualitative design, semi-structured interviews and focus groups were conducted with sixty track workers and seven safety managers to explore experiences and perceptions of reporting practices. Findings revealed fragmented and complex reporting systems that require significant knowledge and experience to navigate, inconsistent expectations, and negative influences of fear of repercussions as key barriers to effective reporting. Additional themes included the importance of feedback, trust, and recognition, alongside limited training and target-driven reporting.

## KEYWORDS

Reporting, safety concern(s), rail, track worker(s), safety manager(s), COM-B model

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## Introduction

Safety reporting plays a central role in accident prevention and in improving health and safety across the rail sector. Reporting ultimately depends on individuals and teams raising safety concerns consistently and despite widespread awareness and the existence of multiple reporting channels, reporting remains a persistent challenge within the rail industry. Organisations continue to experience variation in both the quantity and quality of reports received. Evidence explaining why track workers choose not to report is limited, and quantitative data on under-reporting are difficult to establish or verify. This study therefore sought to establish foundational knowledge of reporting behaviour of track workers within the rail industry, exploring underlying drivers, barriers, and effective interventions.

## Method

Through the exploration of the research questions and guided by the Michie and colleagues' (2011) COM-B behaviour model (Capability, Opportunity and Motivation) and Behaviour Change Wheel, this study conducted interviews and focus groups with track workers and safety managers (professionals responsible for processing reported safety concerns). The COM-B model was chosen for its flexibility of use across populations, industries, and contexts. The model enables systematic and comprehensive identification of key behavioural drivers. Building on the COM-B model, the Behaviour Change Wheel represents the next stage, providing a structured framework for selecting and implementing suitable interventions. Together, the COM-B model and Behaviour Change Wheel framework inform the development of effective interventions to drive behaviour change.

Track workers were recruited through collaboration with multiple organisations, including Network Rail, SPL Powerlines, and Ganymede. To engage the full spectrum of track workers that work in GB rail, the study consulted track workers from: Infrastructure Managers (n=14, 23%), Principal

Contractors (n=16, 27%), Second Tier or lower Contractors (n=7, 12%) and Agency Workers (n=23, 38%).

The question sets were developed based on the COM-B Behavioural Model. Qualitative Thematic Framework Analysis, grouped under the categories of the COM-B model, was used to identify recurring themes and concepts within the collected data.

## Results

One of the study's aims was to explore the different reporting channels available to the workforce. Many were identified, including: informal reporting (e.g. to a supervisor), internal reporting systems (e.g. via mobile phone Applications), via Control, the Work Safe Procedure, internal whistleblowing schemes, CIRAS (a confidential external reporting system), Trade Union representatives and the Office of Rail and Road (ORR).

When asked, 85% of participants reported having raised a safety concern before. The findings highlighted the complex factors shaping reporting behaviours, and these were reported according to the three main COM-B model categories:

- **Capability:** refers to whether a track worker has the knowledge, skills, resilience and abilities to engage in safety reporting.
- **Opportunity:** refers to external and organisational factors influencing reporting, including available resources, tools, infrastructure, cultural norms, peer influences, and social pressures.
- **Motivation:** refers to the internal processes that influence track worker reporting behaviours, such as decision making, planning, beliefs, goals, habits, emotions and impulses.

The key findings indicated that track workers were less likely to report when trust in the system was low or when reports produced no visible outcomes. Limited feedback and poor transparency reduced motivation, as workers were unaware of how their reports were handled and saw little purpose in reporting. The complexity of reporting systems further affected behaviour. Multiple reporting channels, varying by concern type, client, or organisation, created confusion and inefficiency. Participants emphasised that simplicity, user-friendliness, and consistency are essential for accurate and timely reporting. One key suggestion was to centralise and streamline the process to make reporting easier and more effective. A widespread lack of training and guidance on safety reporting was noted. Safety culture influenced engagement: positive cultures encouraged proactive reporting, while fear of negative consequences discouraged it. Safety managers recognised these challenges and also noted system complexity and inconsistencies at report processing levels.

The barriers to the reporting of safety concerns across all three COM-B components are outlined in Figure 1.

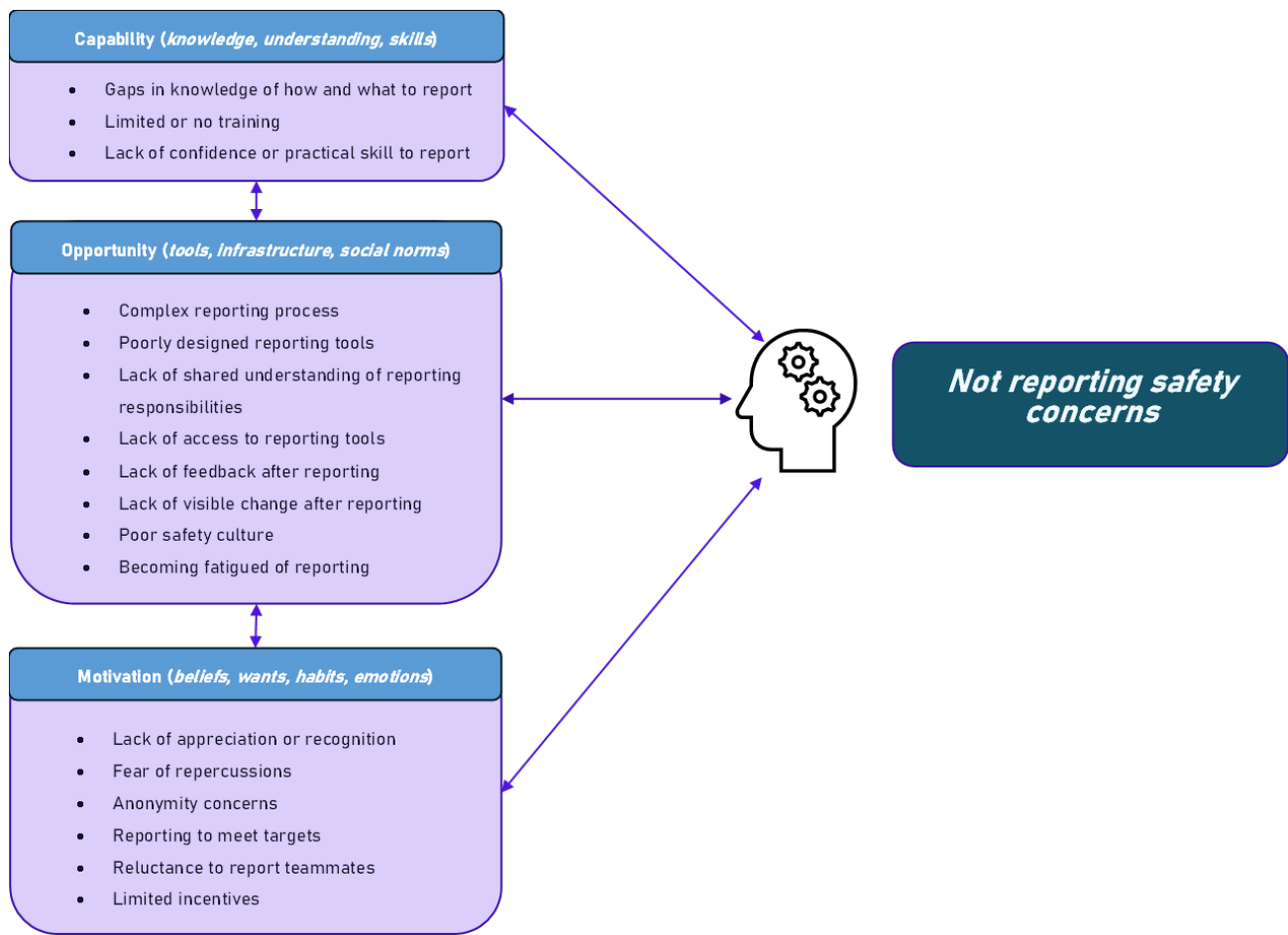


Figure 1 - Barriers to reporting safety concerns across the three COM-B components

The study revealed that safety managers had different expectations amongst themselves about what should be reported. Some wanted any concern with potential for harm to be reported, while others were unsure about how to handle certain reports. Some managers believed it was their role to filter reports and decide how to handle them, while others believed that track workers should report accurately, based on the briefings that they receive, thus placing more responsibility on track workers for reporting correctly. Without alignment, track workers risk frustration from rejected reports, and safety managers receive incomplete information. Clarifying expectations and simplifying systems should strengthen reporting behaviour and safety outcomes.

### Key Takeaways & Practical Implications

Using the COM-B model, this study identified key behavioural barriers and enablers to safety reporting among railway track workers. Through the Michie et al. (2011) Behaviour Change Wheel, it highlights practical ways to improve safety reporting in the rail industry. Simplifying reporting systems, providing feedback, and offering targeted training can reduce confusion and align expectations. Enhancing psychological safety and recognising reporting helps embed it into everyday practice and culture.

While some findings align with previous anecdotal or empirical observations, this study provides a robust, evidence-based foundation to support them. It also challenges common assumptions about why track workers may not report, including rushing, lack of motivation or assertiveness, not going above or beyond essential duties, as well as knowledge or education literacy challenges. One of the most important outcomes, however, was that the consistent barriers to safety reporting were behavioural and psychological.

Reporting behaviours and engagement depended on fundamental workplace needs, including feeling recognised, knowing their actions make an impact, contributing to the collective good, wanting to do well for the company, and navigating moral conflicts when reporting on colleagues. These insights challenge a prevalent assumption that underreporting stems from a lack of interest or capability. Instead, they show that anyone may hesitate to report if these deeper needs are not met.

Overall, the findings provide evidence-based insights that are transferable across workplaces and sectors, highlighting the importance of positive reinforcement, feedback, and a culture that genuinely supports and values employees. They provide a practical foundation to inform strategies that foster effective, consistent, and sustainable safety reporting across the rail industry and beyond.

## **References**

Michie, S., Van Stralen, M. M., & West, R. (2011). The Behavior Change Wheel: A new method for characterising and designing behavior change interventions. *Implementation Science*, 6(1), 1–12.