

REDUCING TOTAL COST OF RISK ACROSS THE RAILWAY ORGANIZATION

While railways are perceived as one of the safest modes of transportation, recent disasters around the world have highlighted the safety concerns facing the industry. Such disasters can shake the confidence of travelers, shippers, regulators, and surrounding communities. But railway organizations that effectively integrate risk management and risk transfer processes with safety management systems (SMS) can often lower their total cost of risk (TCOR) and ultimately improve their financial results.

Railway organizations with risk management programs that incorporate SMS — a comprehensive framework for systematically managing risks — can better demonstrate to insurers their safety efforts, which can favorably affect premium costs and lower total claim payouts not covered by insurance. While some transportation entities employ SMS to mitigate hazards through the application of engineering solutions and operating procedures, those that use SMS to holistically engage the entire organization can produce both operational and financial rewards and better manage the railway.

DEFINING TCOR

As defined by the National Council on Compensation Insurance, TCOR constitutes the preventive, direct, and indirect costs within the entire railway, irrespective of the business unit in which they occur. Costs can include:

- The value of claims paid.
- Insurance premiums.
- Deductibles and self-insured losses.
- Costs to investigate and administer claims.
- Penalties and fines imposed by regulators.
- Legal services to defend officers and the company.
- Business interruption and extra expense.

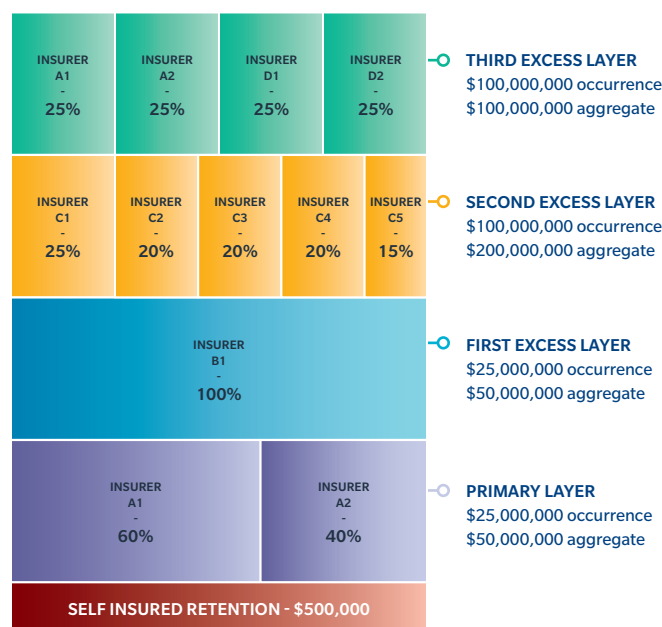
- Training replacement employees.
- Safety equipment.
- Repair or replacement of equipment and property.
- Loss of reputation.

While some risks can be mitigated, events with a low probability of occurrence and a high severity of outcome could destroy the railway, highlighting the need to transfer the risk to insurers. Controlling a railway's TCOR involves reducing risks and avoiding losses, regardless of whether they are insured or not, and managing the costs associated with these risks.

RAILWAY INSURANCE

The purchase and administration of insurance products is often a function of the railway's finance or legal department. The railway, in assessing its hazards, determines the likelihood of experiencing a loss and decides how much risk it is comfortable in assuming as a self-insured retention (SIR) or deductible. Generally, the lower the SIR, the higher the insurance premium is for specific coverage based upon the insured's loss history and insurers' global perception of the railway industry. In addition, there may be minimum contractual insurance and indemnification requirements that a railway operator must meet when running its trains on another entity's infrastructure.

**Figure 1: RAILROAD LIABILITY PROGRAM -
US \$250 MILLION IN LIABILITY LIMITS**



A liability insurance tower for a midsize freight railway might involve multiple insurers with portions of the coverage (see Figure 1). A separate tower would be constructed for property losses. An insurance program will also include workers' compensation, employee occupational insurance, as required by law, and financial insurance products, such as directors and officers liability (D&O) coverage.

Decisions regarding insurance limits are often made by railway executives based upon the company's financial capacity to respond to a severe loss, taking into account past history, benchmarking, and insurance market conditions. But the railway's operating officers that are most connected to potential losses are generally not involved in selecting insurance coverage.

IMPACT OF MEDIA COVERAGE

The nonstop media coverage of three sequential railway disasters in July 2013 in Canada, France, and Spain caused insurers to re-examine their global exposures. Rail systems with excellent loss histories that renewed their insurance programs immediately after high profile accidents were asked to provide detailed information on safety programs. Those railways with robust cultures of safety — with SMS and hazard rated safety programs — were able to

differentiate their safety and risk management programs against other organizations and better present their risks to insurers. This often was accomplished through regular communications between the railway's financial and legal departments and operations leadership. The principles employed by railway risk managers to evaluate the severity and frequency of events are not unlike the processes that operational safety managers are required to follow when developing SMS plans.

The historic "stovepipe" structures of railway organizations often prohibit operating officers and risk managers from interacting when a large loss occurs. The ability to deploy effective SMS plans is an opportunity to reduce TCOR, using railroad insurance as one component of a comprehensive risk management program. Working with their insurance brokers, railway organizations can better understand claims data within their SIR and identify systemic issues that could lead to large loss events.

CULTURE OF SAFETY

While most organizations affirm the notion of "safety first," railway operators should instead consider whether they embrace a "culture of safety." All parts of the organization — train operations, finance, legal, human resources, information technology, infrastructure, and rolling stock departments — must understand their roles in creating a safe railway, which meets expected performance goals while protecting employees, property, and third parties from harm and/or damage.

When safety is addressed primarily in organizational silos, the bottom line of the financial statement is at risk. SMS plans can provide the platform for every element of the organization to contribute its expertise to efficiently integrate safety programs. Railways that can improve their safety performance often see measureable gains in financial performance because earnings paid out for losses and insurance premiums directly impact the bottom line. When this is achieved, the railway is truly managing its TCOR.

SMS BECOMING MANDATORY

The use of SMS frameworks has gained favor among large, geographically spread entities that have many employees in small groups working on safety critical tasks. Transportation organizations in the late 1990s started to adopt severity and frequency loss measures that could reduce costs and improve reliability. In the US, urban-fixed guideway transit systems — such as light rail and metro systems — were required to develop system safety program plans

as a condition of receiving federal grants. The US Federal Railroad Administration (FRA) will require risk reduction plans that use SMS for the mainline railways. Transport Canada — the country’s regulatory department responsible for transportation policies and programs — adopted SMS for railways in 2003 and the European Railway Agency promulgated guidelines in 2010. Australia’s National Transportation Commission (NTC) published its guidelines in 2006 and the country’s Model Railway Law will require a fully implemented SMS protocol for all mainline railway operators and infrastructure managers.

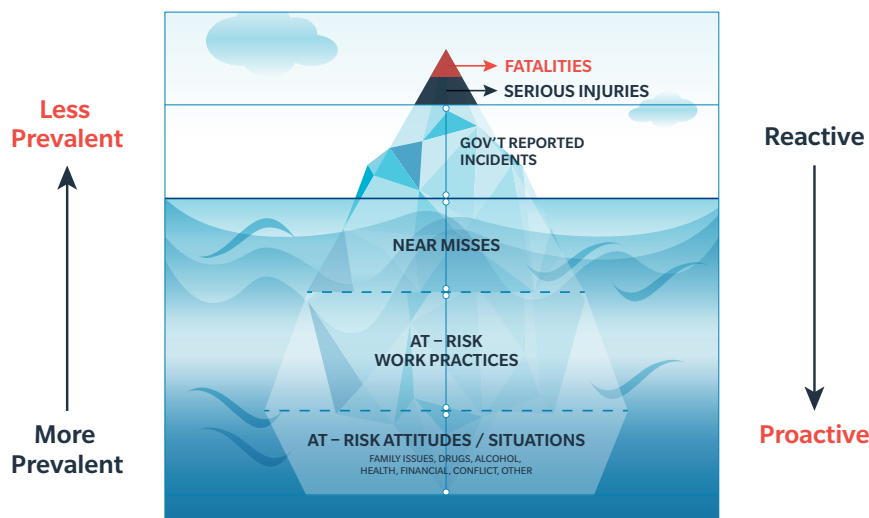
SMS BUY-IN

The effective implementation of SMS plans often requires a total “buy-in” by employees across all levels of the organization as well as contracting partners performing safety critical tasks. SMS support starts with senior executives and is measured across the entire railway organization. Success is achieved when the message of safety from senior management matches the understanding of ground-level employees. The closer to the bottom of the organizational pyramid this understanding occurs, the more effective the implementation.

BEHAVIOR-BASED SAFETY

SMS efforts around the world have focused on reducing employee injuries and service disruptions. An overwhelming majority of the causes of incidents and losses are not apparent. Like an iceberg, most of the mass resides below the surface (see Figure 2). As a result, railways may miss the opportunity to address the root cause of losses when relying solely on the frequency ratios of injuries and casualties as a prime measure of safety. Instead, behavior-based safety encourages employees closest to the hazards to address them and propose methods to mitigate risks.

Figure 2



INTEGRATING SAFETY AND RISK MANAGEMENT PROGRAMS

When presented with an application for coverage, insurers often ask the same questions that SMS guidelines pose. For example, Transport Canada’s SMS guidelines include five basic questions:

- What is the nature of your business?
- What could go wrong?
- How bad is it or could it be?
- What can be done about it?
- How effective are the corrective actions?

Because of this similarity with insurer questions, the integration of safety and risk management across the entire railway organization can help streamline efforts to reduce claims and losses. It is important for executive leaders in the organization to link losses to operational safety, especially if the majority of losses occur as a direct result from activities of the railway operation. In some railways, the purchase and management of insurance occurs within departments separate from claims adjudication, which can further disrupt the successful integration of safety and risk management.

HOW TO USE SMS PLANS

The adoption of SMS by most of the world's major railway regulators provides the railway community with an opportunity to reexamine how safety and risk management are mutually dependent. When developing SMS plans, railways should:

- Involve every element of the railway and all affected employees. Plans also should include a review of supply contracts with vendors that perform safety critical tasks, and senior employees with institutional knowledge should be engaged to identify ways to mitigate property damage from natural disasters.
- Establish periodic reviews of the plans and adjust as conditions or other risk factors change. Organizations should establish a method of tracking claims and corrective actions taken.
- Develop a proactive analysis and timely documentation of incidents. This approach can reduce damages and forestall legal suits.
- Implement annual audits. Such audits can become the framework for insurance renewal presentations to underwriters that demonstrate the total safety commitment of the entire railway organization. Should there be a major loss during the year, the SMS plan can provide a basis to analyze what occurred and identify actions taken to limit reoccurrence.
- Monitor and measure all the costs of risks, not only those that may be insured.

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THE BENEFITS OF REDUCING TCOR

A comprehensive risk management program includes the successful integration of an SMS plan with the purchase of insurance to protect against catastrophic events and losses. It also requires that all losses are analyzed to avoid repetition and reduce severity. If properly implemented, SMS plans can help avoid fatalities and result in fewer losses overall, reducing claims costs and lowering TCOR across the organization — which ultimately can improve the company's operating ratio.

Railway leaders entrusted with the procurement and management of an insurance program should ensure that their staffs and insurance brokers are engaged with the railway operating departments on a continuing basis. Before a loss occurs, every stakeholder in the organization can play an active role in preventing small claims that may lead to systemic problems.

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