

Continuous Improvement in Rail Safety Regulation

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Continuous Improvement in Rail Safety Regulation

Introduction

The Transport Agency is the primary regulator of safety on the rail network. Our role is to ensure rail operators operate in a way that secures the safety of rail passengers, rail workers and the public when in, or in the vicinity of, the rail corridor.

As part of ensuring our actions as the rail safety regulator support and encourage best practice safety practices, the Transport Agency supports and undertakes regular reviews of safety performance. Past reviews have helped us to work with the rail sector to better target and resolve safety risks. For example, fatalities among rail workers have been significantly reduced from relatively high levels in the mid-late 1990s.

The most recent review was commissioned by the Transport Agency and focuses on the adequacy of the rail safety legislation, and of the Transport Agency's day to day operational policies and activities. The review identifies significant opportunities for improvement and we are implementing the actions set out in this plan in response.

Deaths and Serious Injuries on the Rail Network

The Transport Agency considers it is being successful when deaths and serious injuries associated with rail operations are declining.

Prior to the introduction of the Rail Act 2005, deaths and serious injuries on the rail network were higher than today. After the introduction of the new Act, deaths and serious injuries initially declined. In the last three years, however, this trend has reversed. In particular, deaths among members of the public entering the rail corridor, for example when driving through level crossings or walking on rail tracks, have increased and serious injuries among rail workers and rail passengers have increased. Recent rail safety performance is summarised in Tables 1 and 2.

Table 1: Deaths on the rail network

Performance Category	Trend in five year period from 2005/06 to 2009/10	Annual Performance			Recent Short-term Trend (3 Yrs)
		2010/11	2011/12	2012/13	
Deaths (total number)	↓	9	16	21	↑
Rate of death (deaths per million kilometres travelled)	↓	0.50	0.81	1.09	↑
<i>Breakdown:</i>					
• Passengers	→	0	0	0	→
• Rail workers	→	0	0	0	→
• Members of public in rail corridor (eg, at level crossings)	↓	9	16	21	↑

Table 2: Serious injuries on the rail network

Performance Category	Trend in five year period from 2005/06 to 2009/10	Annual Performance			Recent Short-term Trend (3 Yrs)
		2010/11	2011/12	2012/13	
Serious injuries (total number)	→	5	11	27	↑
Rate of serious injury (serious injuries per million kilometres travelled)	↓	0.28	0.56	1.41	↑
<i>Breakdown:</i>					
• Passengers	→	2	5	10	↑
• Rail workers	→	0	3	8	↑
• Members of public in rail corridor (eg, at level crossings)	→	3	3	9	↑

Negative safety trends are also apparent in monitoring data on precursor incidents. Precursor incidents are events that can lead to death or serious injury, for example collision events and derailment events, or incidents that are known triggers for such events (eg, rail vehicles passing stop signals (“SPADs”), road vehicles driving around rail barrier arms, track defects, and objects left on tracks). Trend data on precursor incidents is less certain as consistent reporting of such incidents has only occurred recently and is still improving.

Changes within the Rail Sector

Over the last 5 years, rail “traffic”, passengers and amount of freight being moved have significantly increased and there has been a large amount of investment in network and train upgrades, including:

- Total passenger numbers have increased from approximately 19 million in 2008/09 to over 23 million in 2012/13. Passenger numbers in Auckland alone increased from 6.7 million in 2008/09 to over 10 million in 2013.
- The amount of freight being shifted on the main line rail network has increased from approximately 14 million tonnes in 2008/09 to approximately 17 million tonnes in 2012/13.
- There has been significant infrastructure change in Auckland, with extensive investment in new routes, double tracking, and electrification in preparation for the imminent introduction of new electric passenger trains.
- In Wellington, new Matangi trains have been introduced and some double tracking and route extension has occurred.

Independent Review of the Rail Safety Regulator

In 2013, the Transport Agency commissioned Australasian Transport Risk Solutions Pty Limited (ATRS) to complete an independent review of its rail regulator function. The focus of the review was on whether the Agency's current legislation, policies and practices were best practice for the current rail sector environment. The key review questions were:

- Does the legislative framework represent best practice?
- Does the rail regulator's operational policy represent best practice?
- Does the rail regulator's operational activity reflect best practice?

Findings of the Independent Review

New Zealand's Rail Safety Legislation

The independent review team concluded that New Zealand's current rail legislation represents 'good' if not "best" practice. The legislation, in its current form does not prevent or limit, in any way, the role of the NZ Transport Agency in delivering improved safety performance.

The review team considered there would be benefit gained from reviewing the legislation in the short term, noting that the stated periodic review period has been exceeded.

Transport Agency Policies and Operational Practice

The independent review team concluded the Transport Agency's operational policies and practices are not best practice in today's context. In particular, the review team noted the rail safety function appears to have low status and profile within the Agency, is not a proactive and strong regulator, and is reliant on outsourced assessors and the rail industry for some forms of specialist expertise needed to fulfil core regulatory functions.

The review team made a number of recommendations designed to improve the Transport Agency's operational practices and effectiveness. These included:

- Lifting the position of rail safety regulator to a more senior level within the Agency
- Promoting, growing and reinforcing to stakeholders the role of, and need for, a visible and respected safety regulator
- Improving the availability of an appropriate level of resourcing and specialist competencies to the rail safety team, and addressing the associated financial implications
- Establishing a closer working relationship with the Australian National Rail Safety Regulator to take advantage of the sharing of information and specialist expertise
- Taking a greater role in the leadership, education and provision of information to the New Zealand rail industry and bringing out-sourced regulatory assessment functions in house.

Continuous Improvement Action Plan

The Transport Agency has developed an action plan to address the areas for improvement identified in the review. The plan outlines the changes being made to improve our operational activities and effectiveness. The desired outcome of implementing the action plan is improved rail safety performance.

The Transport Agency considers it will have been successful when rates of death and serious injuries associated with rail operations have reduced and are showing a declining trend. Another indicator of success will be declining safety risk as indicated by precursor incidents.

Principles

The principles underlying the action plan are:

- Creating a safe rail system requires whole-of-sector participation. The Transport Agency is committed to working in partnership with rail stakeholders to continuously improve rail safety performance.
- Continuously improving rail safety performance requires a learning culture and a commitment to best practice. The Transport Agency is committed to:
 - leading and driving a focus on best practice safety systems and activities
 - Facilitating the sharing of learnings within the rail and wider transport sectors and across jurisdictions
 - regularly benchmarking its own regulatory practices against other recognised best practise regulators.
- Maintaining Government and public confidence in the safety of the rail system requires transparency around the sectors safety actions and results. The Transport Agency is committed to transparent and consistent reporting of rail safety activity and performance.

Focus Areas for Change

The action plan has six areas of focus:

1. Governance
2. Performance monitoring and transparency
3. Resource and capability
4. Standards and frameworks
5. Financial sustainability
6. Continuous improvement

The following sections outline the actions the Transport Agency is taking in each area of focus and the timeframe for completing the actions.

1. Governance

Transport Agency Actions	<ol style="list-style-type: none"> 1. Establish “Director Rail Safety” role at executive level. 2. Appoint a Rail Safety Change Manager to lead the Rail Safety Team, wider Transport Agency, and rail operators through the change period. 3. Review the internal delegations and decision levels within the Transport Agency and confirm decision accountabilities. 4. Establish rail safety goals and objectives 5. Promote, grow and reinforce role of rail safety regulator to stakeholders. 	
Commentary	<p>The Rail Safety Team currently sits within the Access and Use Group’s Delivery Unit. It plans, manages, and delivers the Agency’s rail safety functions.</p> <p>The governance actions will increase executive oversight of rail safety performance and activities, harness safety skills and expertise in the wider Agency for the benefit of rail safety, and increase visibility of the Agency’s rail safety role.</p>	
Milestones	Director Rail Safety appointed.	Completed
	Change manager appointed to lead the rail safety team, wider Agency and sector through change period.	Completed
	Decision making delegations and accountabilities reviewed: <ul style="list-style-type: none"> • Delegations and decision making accountabilities reviewed • New decision making framework in place • Operational policies to guide decisions relating to investigations and safety conditions completed. 	Completed January 2014 February 2014
	Structured stakeholder engagement and communication plans that support and reinforce the Agency’s role as rail safety regulator established.	January 2014
	Medium term operational objectives and strategies for rail safety established and communicated.	April 2014

2. Performance Monitoring and Transparency

Transport Agency Actions	<ol style="list-style-type: none"> 6. Develop a rail safety performance indicator framework and regularly report on rail safety performance to the executive, stakeholders, and the public. 7. Utilise safety performance information to inform work programme planning, in particular to identify and ensure areas of heightened risk are targeted and addressed. 8. Publish the ATRS report and Rail Action Plan on the Transport Agency website. 	
Commentary	<p>The Transport Agency currently captures safety incident data but does not have an established, rigorous approach to monitoring rail safety indicators, and rail safety performance is not as visible within the Agency or externally as it is for road safety performance.</p> <p>The performance monitoring and transparency actions develop a rail safety monitoring framework and ensure performance indicators are regularly published and used to inform both the Agency's and the sector's rail safety improvement work programmes.</p>	
Milestones	<p>Analysis of current rail safety dataset completed and:</p> <ul style="list-style-type: none"> • Lead and lag safety performance indicators identified • Current areas of heightened risk identified • New safety incident reporting, data capture and data analysis procedures to secure high quality, comparable data operating. 	<p>January 2014 January 2014 May 2014</p>
	<p>Topic-specific action plans to address current areas of heightened risk developed:</p> <ul style="list-style-type: none"> • Safety action plan for Otira Tunnel established • Safety action plan for all tunnels on the National Rail System established • Sector safety action plans for Signals Passed At Danger – Category A (SPAD As) reviewed • Review of current TAIC recommendations and safety conditions completed and plan for resolution of outstanding matters developed where required • Best practice peer review of Auckland electrification project safety management processes and performance completed • Safety action plan for level crossings and rail corridor trespassing established • Safety action plans for all other current areas of heightened risk established. 	<p>Completed March 2014 February 2014 February 2014 March 2014 June 2014 June 2014</p>
	<p>Regular and more visible reporting of rail safety performance initiated:</p> <ul style="list-style-type: none"> • Internally and to rail operators 	<p>January 2014</p>

	<ul style="list-style-type: none"> Externally in formal Agency reports. 	June 2014
	Operational planning processes for monitoring and addressing safety risks through Agency work programme established.	March 2014
	ATRS report and Transport Agency action plan release completed.	January 2014

3. Resource and Capability

Transport Agency Actions	<p>9. Increase the amount of resource and range of capabilities within the Transport Agency focused on rail safety.</p> <p>10. Grow relationships with other jurisdictions regulating rail networks to support shared learnings and to improve access to skillsets not available in New Zealand.</p>	
Comment	<p>Rail safety in the Transport Agency is currently the key focus of the Rail Safety Team. The team is knowledgeable and experienced in New Zealand's rail sector however the pace of change in the sector has been significant in recent years.</p> <p>The resource and capability actions are designed to expand the level of resource and range of skills focused on rail safety. The actions also build resilience by tapping into the experiences and learnings of other jurisdictions such as Australia. Working with and learning from other jurisdictions will assist the Transport Agency to continuously improve and to ensure our operational activities keep up with best practice.</p>	
Milestones	Analytical and planning resources increased to support rail safety operational activity and decision making.	Completed
	Capacity and capability of Rail Safety Team reviewed: <ul style="list-style-type: none"> Capacity and capability of team assessed Critical capacity and capability gaps filled. 	January 2014 March 2014
	Relationships with other jurisdictions established: <ul style="list-style-type: none"> Strong working relationship with Australian rail regulators established Co-operative work on strategic rail issues with TrackSafe, Australian rail regulators, and academics initiated Wider set of relationships established. 	Completed February 2014 June 2014
	Current business model (ie, the set of rail safety services and how they are delivered) reviewed: <ul style="list-style-type: none"> Review of business model completed Engagement on proposed changes to business model completed Changes to business model initiated 	April 2014 June 2014 July 2014

	<ul style="list-style-type: none"> Short and medium-term workforce plans completed and being implemented. 	July 2014
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4. Legislation and Standards

Transport Agency Actions	<p>11. Review National Rail System Standards governance and operation.</p> <p>12. Review rail legislation.</p>	
Comment	<p>The legislation governing safety on the rail network has been in place since 2005 without formal review.</p> <p>Rail safety standards, which apply to all operation of rail vehicles on the National Rail System (NRS), are managed by the National Rail Systems Standards Executive. The executive comprises KiwiRail, TransDev, CAF, Taieri Gorge Railway, FRONZ and the RTMU and the Transport Agency attends as an observer. The governance and operation of the executive has not been reviewed since its establishment.</p> <p>The legislation and standards actions will ensure the high-level framework for managing rail safety continues to be fit for purpose and enables and encourages best practice operational rail safety activity.</p>	
Milestones	<p>Current NRS standards governance and operation reviewed:</p> <ul style="list-style-type: none"> Terms of reference for review of NRS standards governance and operation review established Review of NRS standards governance and operation completed Engagement on any proposed changes to NRS standards governance and operation completed Changes to NRS standards governance and operation initiated if required. 	<p>March 2014</p> <p>August 2014</p> <p>October 2014</p> <p>March 2015</p>
	Review of rail legislation completed ¹ .	December 2015

¹ Action and timeframe dependent on Ministry of Transport concurrence

5. Financial Sustainability

Transport Agency Actions	13. Review the funding model for rail regulatory services. 14. Review the fees and charges applied to rail operators.	
Commentary	Rail safety regulatory services are not currently financially sustainable; currently there is a \$250K per annum short-fall in funding. The financial sustainability actions will address the financial short-fall and any financial implications of changes to levels of resourcing and specialist competencies.	
Milestones	Review of the rail fees and charges to address short term financial sustainability completed and provided to Government for consideration. ²	May 2014
	Review of the funding model for rail regulatory services completed.	July 2014

6. Continuous Improvement

Transport Agency Actions	15. Review Transport Agency's rail safety functions to ensure fitness for purpose.	
Commentary	The Transport Agency is committed to continuous improvement. The continuous improvement action explicitly captures this commitment in the form of a three year review of changes being made to ensure intended benefits have been realised, and to identify further improvement not captured through application of this Action Plan.	
Milestone	Evaluation of Transport Agency rail safety functions for fitness for purpose and effectiveness in achieving rail safety performance improvement completed.	July 2017

² Action and timeframe dependent on Ministry of Transport concurrence