

Land Transport Safety Authority
Proceedings
Safety Management Systems
Workshop

Brentwood Hotel, Wellington
15 July 2004

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Executive Summary

This workshop was for staff from RCA's, LTSA and consultants that had been actively involved in developing Safety Management Systems. The workshop included those from the both the initial demonstration project round (2002/03) and those from the second round (2003/04) of SMS development. Therefore each of the RCA's were at a range of stages in the SMS process with some beginning to implement the SMS and others having only just completing development of the SMS document.

The workshop provided an opportunity for the participants to learn from the practical experiences of those involved and to make improvements to the guidelines and procedures that LTSA have developed to date. The workshop also allowed the RCAs to identify issues for LTSA that need to be confronted to assist them to implement their SMS.

The following is a summary of the proceedings from the workshop along with key actions that need to be implemented by all parties in order to continue to progress that has been made in the area of SMS to date.

Workshop Proceedings

Bill Greenwood provided a welcome to all attendees and thanks for all the hard work everyone had undertaken to date.

A.1 Key Issues to be Addressed

Attendees were split up into Peer Groups and asked to identify the key issues that they wanted to be addressed during the day or in future editions of the SMS guidelines. These were summarised at the end of the session as follows:

Relationships:

- Between RCA and the consultant. Consultant to better understand the need to assist RCA rather than drive RCA.
- Internal between RCA departments and staff not directly involved in the SMS
- Between politicians, management and staff administering the SMS. Some conflict between technical and political agendas
- Between neighbouring RCA's to find out what others are doing and share good ideas and processes
- Boundary issues between RCA's including Transit NZ State Highways within an RCA boundary
- Consistent standards within RCA peer groups
- Between LTSA and RCA's

The big picture:

- Define and encourage safety culture
- Include items beyond engineering in the SMS
- Develop KPI's (Key Performance Indicators) and other measures of success
- Linkage of the SMS to other key documents and existing systems, particularly Road Safety 2010, LTCCP and asset management plans
- Regional consistency

Processes:

- Implementation. Need a clear understanding of what implementation is and what it means
- Communication and continuous marketing of SMS to all departments and staff within the RCA

Technical:

- Continuous improvement of SMS and SMS guidelines as "living documents"
- Best practice to be defined
- More definitions of technical items and standardisation of terms used in the SMS and components of the SMS to be consistent
- Funding of identified deficiencies

Other:

- Succession planning for staff replacements and induction
- Concerns that by writing the procedures down, politicians use the SMS to persecute staff
- SMS provides protection from litigation

A.2 Presentation by Denise Anderson: SMS marketing, planning and operation for implementing a Safety Management System

To be successful, an SMS must have buy-in by stakeholders, effective planning and operation and continuous improvement of the document.

The stakeholders that should buy-in to the SMS are:

- Politicians
- Council staff
- Consultants
- Contractors
- Public

Each has a different level that they can provide input and support to the SMS and other stakeholders. Each must understand their role and obligations and how they can benefit from the success of the SMS. The methods used to get buy-in at each level are different and must be tailored for each stakeholder group.

Common to all is that stakeholders must understand:

- Aim of the SMS
- Why the SMS is needed
- Their role
- What benefits they will receive from supporting the SMS
- What benefits the community will gain

Buy-in takes time and must be persevered with.

Key people involved with the SMS will move on from time to time and new people need to be inducted into the SMS and safety culture of the organisation.

Reinforcement of the SMS is essential for its ongoing success. Regularly disseminating results and achievements due to the SMS can motivate people to keep working within the SMS.

A different model of implementation and operation needs to be prepared for each organisation.

Roles of each person must be clearly identified together with their interest in the SMS.

The status of each SMS component needs to be identified when planning an implementation campaign. They need to be prioritised and programmed for implementation.

Gaps and inefficiencies in the current documentation needs to be identified, especially in the standards and guidelines. Each needs to be documented and a plan formed to address them. The plan should prioritise the areas to be addressed and provide a timetable for completion.

The Safety Management Plan (SMP) gives effect to the SMS. Different approaches are by specification or by partnership. If a network management consultant is used, this manages the external relationship with the consultant. If internal staff are used, this can be managed by job description and performance evaluation. Specification relies on the document being accurate and detailed. Partnership requires a safety culture to be developed that encourages each member to take ownership. Partnership requires more time input initially to ensure people understand why the SMS is important and what it can achieve but should give better long term results because people buy-in to the idea and achieve a high standard without being reminded.

Safety Intervention Plans (SIPS) are between the network manager and the maintenance contractor doing the physical work. This can again be by specification of acceptable levels of maintenance or by partnership and developing a safety culture in the contractors organisation. An example of partnership can be where contractor staff are told the reasons why it is important an edge marker post (EMP) is installed and maintained properly. If the contractors staff do not know and appreciate the principles involved, they do not take ownership of the problem and may not install and maintain the EMP properly.

Although preparing and properly implementing and maintaining a SMS takes time, effort and funding, the improved safety arising from a functioning SMS is considered to be worth pursuing.

A.3 Peer group discussion on guidelines and challenges for implementation:

The peer groups were reformed and asked to discuss the guidelines and identify challenges in the implementation of SMS. The following is a summary of the comments made:

- SMS must have a champion. The champion should be a senior person with respect in the organisation. Multiple champions could be considered by using a politician as one way to smooth the way for political buy-in.
- Larger RCA's with more or specialist inhouse services could mentor those smaller RCA's within their region.
- Keep document simple.
- Current terminology is confusing. Too many names for the same thing. Need standardisation.
- Need more information on how to monitor the performance of the SMS. Different sized and configured RCA's will need to monitor different things on the path towards the same goal. In small RCA's, 1 additional fatality per annum can cause 100% increase which politicians get excited about.
- Clarify the path to achieving political buy-in. Can take up to 2 years.
- Cost of implementation can be high. Need to investigate funding to implement.
- Need to build relationships with service providers. Prefer a collaborative partnering approach initially. If this does not work, then use a specification approach.
- LTSA should present to senior Council staff and politicians (and possibly contractors) to ease the path for the SMS. Although LTSA is available for this,

their availability needs to be promoted. A formal road show would also help. Key messages are that SMS is a management tool, that it is to formalise existing systems and identify weaknesses.

- Include case studies of successful implementation in the guidelines.
- Provide a resource library on the internet of SMS. Include some completed generic components that those developing an SMS can use.
- Some templates have been too rigid to alter and apply to different RCA's.
- Produce a 2 page summary of what an SMS is and why it is important for distribution to non technical/engineering people.
- The consultant needs to facilitate the RCA producing the SMS rather than the consultant producing the SMS. The right people need to be involved from the start of the process.
- Performance measures and safety culture need to be defined and included in guideline. Concern has been that when KPI's are not met they can be the basis of punishment so buy-in can be difficult if KPI is too difficult. Need to change attitudes to not meeting KPI's.
- Targets for the Region need to be established as well as targets for RCA's.
- Show how the SMS can be included successfully in network management and maintenance contracts.
- SIP should be developed by the contractor in conjunction with the RCA and their specified outputs. This encourages ownership by the contractor.
- Safety culture is good within a contractor since they may deal with many different authorities with different SMS. They then do not need to understand detail of each when they cross a boundary but should achieve similar results eg Telecom.
- Need consistency across RCA boundaries.
- SIP may not only be for contractors but also for other departments eg parking wardens.

A.4 Presentation by Raiyo Nariman: Continuous improvement

There is always a better way to do something and we achieve improvements by increments. Sometimes increments are large, sometimes small. Hence the need for continuous improvement.

The focus of continuous improvement is to manage the entire system and it can never stop.

The stages of continuous improvement are cyclic from planning the implementation to implementing the SMS, checking/monitoring the SMS then planning to implement the improvements identified during the checking stage. The application will be different in each RCA. The following 3 stages relate to the checking/monitoring stage of the cyclic process.

Monitoring is the first stage of continuous improvement. This is typically 1 - 2 years after first implementing the SMS. It is based on objective evidence through a paper trail. It seeks to find if the RCA is following its own documentation.

Monitoring should use a team following a workbook. The workbook has questions and checklists that elicit details of what is actually being done. This identifies systems and processes that are and are not working. Not all issues noted in the workbook will be needed but some are critical to all. Other issues not in the workbook may be specific to an RCA and should be noted for future use.

Evaluation is the second stage of continuous improvement. The aim is to determine if the safety solutions used by the RCA are best practice allowing the RCA to meet the targets of the Road Safety Strategy. The processes are currently under development and will come from the Transfund Road Infrastructure Safety Assessment Manual and the LTSA Road Network Performance Project.

The third stage of continuous improvement is the SMS review. This incorporates the lessons from the monitoring and evaluation stages. The process will be to use an audit by internal or external staff, or both in a team. They will identify actions to develop the SMS based on feedback from the monitoring and evaluation stages.

RCA's currently have many ad hoc methods to identify specific safety deficiencies. Once identified, they have many different ways of recording and reacting to the deficiency.

A.5 Peer group trials of the Continuous Improvement Monitoring Workbook

Following on from Raiyo's presentation, each of the groups was assigned a couple of topics to work through from the Continuous Improvement Monitoring Workbook – Appendix E of the Implementation Guideline.

The following is a summary of the points made from those sessions:

Crash Reduction Studies:

- Initiated by LTSA and agreed to by RCA.
- Cyclic, every 1-5 years.
- Either use LTSA and RCA, RCA and a consultant or the RCA does the CRS in house. Depends largely on whether suitable personnel are available and expenditure. Some concern about suitability of some people for these teams.
- Use CRS manual as a guideline.
- Include key team members from the RCA/LTSA/Police/Road Safety Coordinator depending on the type of problem or theme to be studied.
- Set clear goals and procedures for the team.
- Outcomes are usually included in minor safety programme for prioritisation.
- Monitoring is important but not often done.

Safety Auditing:

- Project audits
 - Use Transfund rules.
 - Decision whether or not to audit and who audits can be based on cost

- SMS should detail policy of when audits not required.
- Decisions should be documented and filed.
- Should include subdivision roads.
- Does audit need to comply with Transfund rules eg 3 person teams?
- Existing road safety audits
 - Audits are detailed inspection of representative samples of road using external people to provide a fresh set of eyes.
 - RCA to determine frequency of audits.
 - Use Transfund guidelines.
 - Policy should be documented in SMS.

Problem analysis and Key safety issues:

- Identification of problems comes from:
 - CAS
 - Crash reduction studies
 - Police
 - LTSA Road Safety Reports
 - Contractor feedback/reports
 - Public complaints
- Prioritisation of urgent and scheduled maintenance problems.
- Things in the issues report will be targeted in Road Safety Strategy eg speed, fatigue, etc.

Management of SMS:

- Management/ownership
 - Funding for dedicated role of SMS manager is an issue.
 - Depends whether the RCA is proactive or reactive
- Monitoring staff compliance
 - Training/staff competency development is in the objectives of the SMS.
 - Annual reporting, both internal and external
 - Include staff through audits
 - In house training to develop safety culture.
- Ongoing system development
 - Feedback process to Champion
 - Best practice review. As best practice changes, need to keep up to date.
 - Team reviews in an open forum
- Operational/management structure

- Must have a clear ownership of document by a Champion

Land use planning and Regulatory controls

- How does District Plan address safety issues
 - Access requirements, sight distance requirements, etc
- Input from road safety staff into RMA process
 - Prepared or assisted with relevant sections in DP
 - Review consents that do not meet DP requirements
 - Development engineer placed in planning section
- How do road safety staff provide input into DP and bylaws
 - Point out safety issues to planners and hope they take them on board
 - Make submissions to DP when being reviewed. Lengthy process to get changes once DP operative.
- How does RCA conduct safety audits for new subdivisions and resource consents.
 - Development engineer does this in planning section
 - Use of consultants on roading projects
 - Traffic engineer reviews consents or particular types of consent.
 - Developer has to get independent audit, not just safety audit
- How does RCA approve signage
 - Rely on DP and bylaws
- Streetlighting
 - Surveys undertaken to identify deficiencies in terms of the new code
 - Prioritise upgrades and prepare programme to replace lighting
 - Flag lighting is installed on a case by case basis using accident history and public complaints. Too expensive to install throughout the network

A.6 Presentation by Lyndon Hammond: Assessment of Standards and Guidelines.

Lyndon Hammond is LTSA Project Manager for the Assessment of Standards and Guidelines. The purpose of this project is to develop and undertake a process to collate, review and assess the policies, standards, procedures and guidelines included in SMS.

The project is to revise and update Appendix E of the SMS Development Guidelines.

The first stage of the project was a desktop analysis of the contents of what standards and guidelines are available. Lyndon Hammond and Mike Jackett then spent time visiting RCA's who were in the demonstration round of SMS to discuss their policies, standards, procedures and guidelines. Any areas where new standards and guidelines are required were noted and local policies and initiatives were recorded. Some local initiatives can be adopted by other RCA's where no national standard or guideline exists.

The project does not make any determination about the appropriateness of any standard or guideline but records that they are used and should be considered for use and adoption by other RCA's.

During the RCA visits, a number of new standards were found that could either update or supplement the existing list in Appendix E. The list will be kept on the LTSA website so that RCA's can easily access the most up to date version when revising their SMS.

Appendix E is intended to be a living document meaning that it will be updated continuously to include new standards and guidelines that may be released during its lifetime. RCA's are encouraged to advise the LTSA of any new or revised standards or guidelines that they are adopting for inclusion in Appendix E. Otherwise, they will be picked up during one of the regular audits and included in Appendix E.

A problem arising during the project was the lack of standard terminology. The example of water table, water channel, side drain, etc makes it difficult to ensure consistent standards are applied throughout the country. Some standardisation of terminology has been attempted.

The number of times a guideline or standard is referenced can be obtained from the database.

Some guidelines and standards are not considered by RCA's to meet their needs.

Priority areas where national standards and guidelines are required to be changed or edited to meet their needs are:

- Road signage
- Intersection controls
- Barriers
- Traffic calming
- Temporary traffic management
- Roadmarking
- Landscaping
- Carriageway surface friction
- Road safety plans and strategies
- Land use management
- Pedestrian facilities

Priority areas for local initiatives are:

- Emergency response
- Road safety plans and strategies
- Road network planning
- Hazard registers/deficiency database
- Landscaping

- Temporary traffic management
- Public enquiry/consultation
- Asset creation, development and management
- Land use management
- Detritus sweeping and vegetation control

The standards template will be revised and standards, policies and guidelines will be split into 38 subjects in 5 categories. The 5 categories are:

- Planning
- Structures
- Systems
- Traffic management
- Vulnerable users

A.7 The future for SMS

LTSA will continue to develop the SMS guideline and learn more about SMS through the shared experience of RCA's.

Key issues to be addressed by the LTSA are:

- Inconsistent terminology and definitions
- Implementation activities and strategies
- Continuous marketing of SMS to RCA staff and politicians
- Investigation of resourcing/funding of SMS

Partnership roles:

- LTSA/Transfund
 - Promote consistency between RCA's and SMS's
 - Assist RCA's to market the SMS
 - Help with assessment of SMS by developing KPI's etc.
 - Assist RCA's to keep learning
 - Provide guidance to RCA's
- RCA's
 - Clarify the responsibilities of the RCA and their staff and management
 - Review their experience critically
 - Provide feedback to the LTSA and other RCA's on what works and what doesn't work.
 - Just do it!
- Consultants
 - Continue to learn
 - Share knowledge with each other, LTSA and RCA's

All partners must keep up to date. Best practice is changing and developing. We must continue to share our experience and learn from each other.

A.8 Action Points

Based on the above information, the following action points have been developed to address the issues that were raised at the workshop:

1. LTSA SMS Project Coordinators to identify opportunities to have regular regional meetings for all parties to discuss SMS issues
2. LTSA SMS Project Manager in conjunction with Transfund to develop KPIs and other criteria for evaluation purposes.
3. LTSA SMS Project Manager to provide guidelines on Road Safety Strategies and the relationships between key documents such as SMS, RS2010, Asset Management Plans etc.
4. LTSA Project Manager to emphasise contracts with consultants to ensure that they are clear that the consultants role is to facilitate the development of the SMS document, and ensure that the RCA has ownership throughout the process.
5. LTSA SMS Project Manager to develop a definition for safety culture and current best practice.
6. SMS Project Manager to review the standard definitions and terminology that has been included in trial Implementation Guidelines and include any additional terms or changes that are needed.
7. SMS Project Manager to investigate potential funding and financial benefits to RCAs from successful SMS implementation.
8. Everyone to review the example presentations provided in the Implementation Guidelines – appendix C on the CD Rom which have been provided to assist RCAs to help achieve ‘buy-in’ of their SMS internally and externally.
9. RCAs to identify opportunities for LTSA to assist them obtain ‘buy-in’ of their SMSs.
10. SMS Project Manager to list all current SMS by peer groups on the LTSA website with Regional LTSA Contacts for those seeking more information about a particular SMS..
11. Everyone to trial implementation guidelines and provide feedback to SMS Project Manager for use in upgrading the guidelines.
12. SMS Project Manager to include additional case studies of implementation in guidelines as they become available.
13. SMS Project Manager to report on activity Evaluation and SMS Review options to the next SMS Workshop.
14. LTSA SMS Project Manager to list Appendix E on the LTSA website and update regularly to reflect the work that has been undertaken in the assessment and development of Standards and Guidelines.
15. RCAs to update LTSA SMS Project Manager on new or updated standards and guidelines they are using.

APPENDICES

Appendix A Agenda

Safety Management Systems Review Workshop

When: 15 July 2004 Starting 9:30 am until 3:30 pm.

Where: Brentwood Hotel, Wellington.

Facilitator: Bill Greenwood/Peter Croft.

Presenters: Denise Anderson
Raiyo Nariman
Lyndon Hammond

Secretary: Antoni Facey

Agenda:

9:00	Morning tea	
9:30 – 9:40	Welcome, ground rules, safety briefing, etc.	Bill G
9:40 – 10:15	Introductions and appoint chairperson. Identify key issues to be covered during the workshop?	All RCAs within peer groups
10:15 – 10:45	SMS Implementation Buy-in , planning and operations programmes	Denise Anderson
10:45 – 11:15	Break into Peer groups for discussion on: <ul style="list-style-type: none">• Guidelines, how can we improve them?• What are the challenges to Implementation of SMS?• What further help from the LTSA is desired?	All
11: 15 – 11:45	Report back from groups	Group scribes
11:45 – 12:00	Summary of discussion	Bill
Noon	Lunch	All
1:00 – 1:30	SMS Implementation Continuous Improvement	Raiyo Nariman
1:30 – 2:00	Break into Peer groups for discussion on and use of parts of the Continuous	All

Improvement workbook:

- Crash Reduction studies
- Safety Audits
- Problem Analysis and Key Safety Issues
- Management of SMS
- Land Use Planning and Control

2:00 – 2:30	Report back from groups	Group scribes
2:30 – 2:40	Summary of discussion	Raiyo/Bill
2:40 – 3:00	SMS Standards and Guidelines Assessment Project Report	Lyndon Hammond
3:00 – 3 :30	The future for SMS.	Peter
3 :30	End	

Workshop Objective

RCAs that have developed SMS and some of their consultants will attend the workshop.

The workshop has the following objectives:

- Celebration of what has been achieved.
- To get further feedback on the SMS Development Guideline from RCAs and consultants.
 - To identify what has worked well.
 - To identify what hasn't worked well.
- To get feedback on the 'trial use' SMS Implementation Guideline documents and specifically discusses the proposed continuous improvement regime.
- To discuss how RCA's are implementing their SMS.
 - To identify what methods of implementation are successful
 - To identify what methods should be avoided.
- To get feedback on what difference SMS are making.
- To identify what further support LTSA can provide

Presentations

Denise Anderson is a consultant with MWH Dunedin. Denise has been involved with a number of the RCAs SMS development and implementation projects and has co-authored the 'trial use' Implementation Guidelines. Denise will make a presentation on the implementation guidelines.

Raiyo Nariman is a lecturer specializing in risk management. He has extensive knowledge of risk management both locally and internationally. Raiyo is co-author of the

'trial use' SMS Implementation Guidelines and will present a paper on the proposed continuous improvement processes included in the guidelines.

Lyndon Hammond is the LTSA Project Manager involved with the assessment of standards and guidelines currently use in SMS. The project will report on the possible need for new or amended standards and guidelines to the Standards and Guidelines Steering Group and the RCA Forum. Lyndon will report on progress with this project.

Appendix B List of Attendees

Name	Representing	City
Maxe Janssen	North Shore City Council	North Shore
Karen Hay	Auckland City Council	Auckland
Bruce Conaghan	Manukau City Council	Manukau
Andrew McKillop	Hamilton City Council	Hamilton
Gordana Savic	Porirua City Council	Porirua
Abdul Zaytoun	Porirua City Council	Porirua
Dave Gamble	Consultant	Dunedin
David Scarlet	LTSA	Christchurch
Marten Oppenhuis	MWH	Christchurch
Tom Greenwood	Invercargill City Council	Invercargill
Shane Turner	Beca	Christchurch
Wayne Davison	Whangarei District Council	Whangarei
Kevin Thompson	Rotorua District Council	Rotorua
Josh Robertson	New Plymouth District Council	New Plymouth
Patrick Hanaray	Upper Hutt City Council	Upper Hutt
Brian Ward	Timaru District Council	Timaru
Mark Gordon	Maunsell	Christchurch
Chris Hewitt	LTSA	Auckland
Ian Duncan	LTSA	Dunedin
Murray Noone	Rodney District Council	Orewa
Phillipa Robinson	Bay Roads	Tauranga
Else Tutert	Taupo District Council	Taupo
George Jasonsmith	Waimakariri District Council	Rangiora
Chris Bopp	Clutha District Council	Balclutha
Ian Marshall	Southland District Council	Invercargill
Simon Robson	Hastings District Council	Hastings
Jeff Kaye	Opus	Christchurch
John Janssen	LTSA	Auckland
Ian Appleton	Transfund	Wellington
Steve Elkington	Tasman District Council	Richmond
Steve Murrin	Malborough Roads	Blenheim
Alex Finn	Thames Coromandel District Council	Thames
Chris Clarke	Waipa District Council	Te Awamutu
Gene Thomsen	Hauraki District Council	Paeroa
Allan Wallace	Franklin District Council	Pukekohe
Gary Clark	Duffill watts	Wellington
Alan Dixon	LTSA	Wellington
Ann Fosberry	GHD Tauranga	Tauranga
Colin Giles	Manawatu District Council	Feilding
John Kendall	Waikato District Council	Ngaruawahia
Neville Boag	Matamata-Piako District Council	Matamata
Allan Shadbolt	Otorohanga District Council	Otorohanga
Pat Loader	Buller District Council	Westport
Trevor Mein	South Waikato District Council	Hamilton
Dave Petrie	TDG	Wellington
Tim Selby	LTSA	Wellington
Peter Croft	LTSA	Wellington
Bill Greenwood	LTSA	Wellington
Lyndon Hammond	LTSA	Wellington
Robyn Denton	LTSA	Hamilton
Mike Jackett	Consultant	Wellington
Antoni Facey	Consultant	Timaru
Raiyo Nariman	Consultant	Christchurch
Denise Anderson	MWH	Dunedin

Appendix C Presentation by Denise Anderson

Contact the safety management system project manager for copies of this PowerPoint presentation.

Appendix D Presentation by Raiyo Nariman

Contact the safety management system project manager for copies of this PowerPoint presentation.

Appendix E Presentation by Lyndon Hammond

Contact the safety management system project manager for copies of this PowerPoint presentation.