

*Workshop Summary*

# **Land Transport New Zealand Safety Management Systems Workshop**

**Miramar Golf Club, Wellington**

**21 June 2006**

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# Summary – Key Points

## A.1 Workshop Purpose

The workshop was for staff from RCA's, Land Transport NZ and consultants that had been actively involved in developing and implementing Safety Management Systems. All groups are at different stages of development with some beginning to implement the SMS and others only just completing development of the SMS. Some are well advanced with implementation.

The workshop purpose was to:

- Provide an opportunity for the participants to celebrate what has been achieved to date.
- Learn from the experiences of those involved in developing and implementing SMS.
- Explore successful and unsuccessful methods to implement a SMS.
- Understand any difficulties that those who had implemented their SMS had noted.
- Allow RCA's an opportunity to hear what Land Transport NZ's new structure is and how SMS fits into the strategic thinking of Land Transport NZ.
- Allow Land Transport NZ to identify issues that need to be confronted to further assist RCA's to implement their SMS.

## A.2 Actions arising

- Land Transport NZ to take ownership and begin development of new standards and guidelines for problem areas as requested by RCA's. Includes new MOTSAM within 2 years.
- Land Transport NZ to assist financially with some implementation projects.
- Land Transport NZ to take back ownership and development of the Network Performance Project.
- Land Transport NZ to clarify that project safety audit is required.
- Land Transport NZ to produce a brochure and default spreadsheet for use by RCA's when developing a deficiency database and hazard register.
- Land Transport NZ to consider if a proforma document control method can be developed for those that do not have a method in place.
- Land Transport NZ to consider if delivery of SMS can be considered a minor safety project.
- Land Transport NZ to continue to develop RISA as a tool for RCA's to use to ensure improvements in road standards are consistent across boundaries.
- Land Transport NZ to develop guidelines on defining road hierarchies.
- Land Transport NZ to continue with external audits and include other RCA's staff in the audit team for experience.
- Land Transport NZ to support projects for using RAMM and GPS in deficiency databases.
- Land Transport NZ will encourage the last 6 TLA's to develop SMS this year. Then other RCA's (ie Department of Conservation, etc) will be encouraged to develop SMS also.

## **APPENDICES**

### **Discussion Material from the Workshop**

## Appendix A Agenda

**When:** 21 June 2006 Starting 9:00 am until 4:00 pm.

**Where:** Miramar Golf Club, Wellington. Pedestrian access from the airport is via the Golf Club's SOUTH driveway.

**Facilitator:** Bill Greenwood, Land Transport NZ.

|                    |                |                           |
|--------------------|----------------|---------------------------|
| <b>Presenters:</b> | Richard Braae  | Land Transport NZ         |
|                    | Bill Greenwood | Land Transport NZ         |
|                    | Ian Appleton   | Land Transport NZ         |
|                    | Ian Duncan     | Land Transport NZ         |
|                    | Mike Jackett   | Consultant                |
|                    | Jeff Owen      | Christchurch City Council |
|                    | Mike Smith     | Consultant                |
|                    | Nick Cantlon   | Hamilton City Council     |
| <b>Secretary:</b>  | Antoni Facey   | Facey Consultants Ltd     |

|               |   |                         |
|---------------|---|-------------------------|
| 8:30          | Morning tea   |                         |
| 9:00 – 9:10   | <b>Welcome</b> , ground rules, safety briefing, introduction, etc.  | Bill Greenwood          |
| 9:10 – 9:30   | <b>Land Transport NZ:</b> who we are <b>now</b> and how this impacts on SMS.  | Richard Braae           |
| 9:30 – 9:45   | Matters arising from last workshop  | Bill Greenwood          |
| 9:45 – 10:00  | <b>SMS</b> and <b>Network Performance</b> Project Update  | Bill Greenwood          |
| 10:00 – 10:15 | <b>Standards and guidelines</b> update.   | Mike Jackett            |
| 10:15 – 10:45 | <b>Road Infrastructure Safety Assessment</b> Project Update   | Ian Appleton            |
|               | Coffee break  |                         |
| 11:00 – 11:30 | <b>Deficiency Database Prioritisation Project</b> Update  | Ian Duncan              |
| 11:30 – Noon  | <b>Expert systems example</b> – Christchurch City-Deficiency Database Prioritisation Project online   | Jeff Owen<br>Mike Smith |
|               | Lunch   |                         |
| 1:00 – 1:30   | <b>Expert systems example</b> – Hamilton City-Car SMS and SIP Quick Check Sheet.  | Nick Cantlon            |
| 1:30 – 1:50   | <b>SMS audits</b> Update.   | Bill Greenwood          |
| 1:50 –2:45    | <b>Break into Peer groups</b> for discussion on and sharing of implementation and auditing procedures. <ul style="list-style-type: none"> <li>• What has worked getting buy-in and delivery of your SMS?</li> <li>• What has not worked and why?</li> <li>• What else can be tried? And how?</li> <li>• What has worked doing SMS reviews, monitoring &amp; evaluations?</li> <li>• What has not worked and why?</li> <li>• What else can be tried? And how?</li> </ul> | All                     |
|               | Coffee Break  |                         |
| 3:00 – 3:40   | <b>Feedback from groups</b> and discussion on preferred audit and implementation regimes.   | All                     |
| 3:40 – 3:55   | <b>Roundup</b> and the future for SMS.  | Bill Greenwood          |
| 3:55          | End   |                         |

## A.2 Workshop Objective

RCA's 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 provide updates on new developments that can be included in or otherwise affect an SMS.
- To discuss how RCA's are implementing their SMS.
  - To identify what methods of implementation are successful.
  - To identify what methods (if any) should be avoided.
- To discuss how best to audit and evaluate the effectiveness of the SMS.
- To identify what further support Land Transport NZ can provide.

## Appendix B List of Attendees

| Name             | Representing                    |
|------------------|---------------------------------|
| Sarah Stephen    | Auckland City                   |
| Pat Loader       | Buller District Council         |
| Julie Muir       | Central Otago District Council  |
| Jeff Owen        | Christchurch City Council       |
| Chris Bopp       | Clutha District Council         |
| Roy Johnston     | Dunedin City Council            |
| Allan Shadbolt   | Far North District              |
| Dawn Inglis      | Franklin District Council       |
| Geoff Cobb       | Gisborne District Council       |
| Murray Hasler    | Gore District Council           |
| Dave Evans       | Grey District Council           |
| Nick Cantlon     | Hamilton City                   |
| Alan Parsons     | Hastings District               |
| Gene Thomsen     | Hauraki District                |
| John Whyte       | Hurunui District                |
| Lyle Earl        | Hutt City Council               |
| Jane Ballantyne  | Invercargill City Council       |
| Blair King       | Kaipara District Council        |
| Geoff Strand     | Kapiti Coast District           |
| Colin Giles      | Manawatu District               |
| Bruce Conaghan   | Manukau City                    |
| Steve Murrin     | Marlborough Roads               |
| Neville Boag     | Matamata-Piako District         |
| Tim Mills        | Meridian Energy                 |
| Stephen Bowden   | New Plymouth District Council   |
| Mike Russell     | North Shore City                |
| Ian Smith        | Otorohanga District Council     |
| Glenn Connolly   | Palmerston North City Council   |
| Gordana Savic    | Porirua City Council            |
| Gareth Hughes    | Rodney District                 |
| Kevin Thompson   | Rotorua District                |
| Lee Wright       | Selwyn District Council         |
| Trevor Mein      | South Waikato District          |
| Brian Barnes     | Tararua District Council        |
| Ray Cook         | Transit New Zealand             |
| Patrick Hanaray  | Upper Hutt City                 |
| Tony Peake       | Waikato District                |
| Ken Stevenson    | Waimakariri District            |
| Rob Moffatt      | Waimate District Council        |
| J P Snyman       | Waipa District                  |
| Paul Schischka   | Waitakere City                  |
| Rui Leitao       | Wanganui District Council       |
| Wayne Davison    | Whangarei District Council      |
|                  |                                 |
| Glen Prince      | MWH                             |
| Mike Smith       | MWH                             |
| Denise Anderson  | MWH                             |
| Cliff Griffiths  | GHD                             |
| Robert Swears    | Opus                            |
| Tm Selby         | Opus                            |
| Georg Jasonsmith | Maunsell                        |
| Dave Petrie      | TDG                             |
| Antoni Facey     | Facey Consultants Ltd           |
| Bruce Vincent    | Duffill Watts and TSE Ltd       |
| Rosie Dempster   | Land Transport New Zealand/Beca |
|                  |                                 |
| Bill Greenwood   | Land Transport New Zealand      |
| Ian Appleton     | Land Transport New Zealand      |
| David Scarlet    | Land Transport New Zealand      |
| Ian Duncan       | Land Transport New Zealand      |
| John Garvitch    | Land Transport New Zealand      |
| John Janssen     | Land Transport New Zealand      |

| <b>Name</b>       | <b>Representing</b>        |
|-------------------|----------------------------|
| Colin Goble       | Land Transport New Zealand |
| Rebecca Loader    | Land Transport New Zealand |
| Marianne McMillan | Land Transport New Zealand |
| David Eyre        | MOT                        |
| Andrew McKillop   | Land Transport New Zealand |
| Richard Braae     | Land Transport New Zealand |
| Eddie Annand      | Land Transport New Zealand |
| Michael Doole     | Land Transport New Zealand |

## **Appendix C Summary of Proceedings/Presentations**

The following is a summary of each presentation.

Copies of the presentations or the items referred to in the presentations are available either from the appropriate RCA or Land Transport NZ.

### **C.1 Richard Braae – Land Transport NZ – Who we are now and how that impacts on SMS (Presentation 02 Richard Braae)**

Land Transport NZ is the amalgamation of Transfund NZ and LTSA.

Richard leads the Partnership and Programmes team with about 120 staff.

Partnership and Programmes is split into 7 teams; 4 regional teams and 3 National Office teams (programme management, performance monitoring and communications).

The four functional areas of Partnership and Programmes are:

- Assist and advise
- Evaluate and allocate
- Monitor and audit
- Inform and educate

The principal objectives (vision) of Partnership and Programmes are to focus on:

- Land use management,
- Good asset management,
- Good network management, and
- Road users.

To achieve the vision, Land Transport NZ and RCA's work together by thinking about:

- How to influence outcomes
- How to measure the outcomes
- Their land transport programmes
- Safety and sustainability.

The focus on safety includes:

- Monitoring outcomes
- Road safety action plans
- Set out expectations in NLTP agreements
- Implement SMS

The performance monitoring team will test the systems that are being developed and used to ensure they are robust and then test the outcomes on the road to ensure that they are delivering safety for road users.

### **C.2 Bill Greenwood – Matters arising from last workshop (Presentation 03 Bill Greenwood)**

Small RCA's have difficulty in implementing SMS.

- Land Transport NZ can assist with implementation projects and there is still a small amount of money available for innovative implementation projects.
- Assist with clustering which has been used by some small RCA's to share resources and ideas and has been successful.

Deficiency database – still confused about it.

- Good protection from litigation if used properly.
- Must be practical for each RCA.
- Land Transport NZ has prepared a report on deficiency databases. Available on the website.
- A project is trying to include a deficiency database as a part of RAMM.

Monitoring and audit of SMS. Land Transport NZ will assist:

- With internal monitoring and review of SMS.
- By undertaking an external audit of SMS after 3 years of operation.
- By undertaking RISA evaluation of RCA networks.

SMS database needed to get ideas from those that have preceded.

- Hardcopy and electronic versions of notable SMS on the website or available in Land Transport NZ SMS guidelines. Also implementation tools.

How can SMS be linked to District Plans?

- Consider requirement in TLA consent process for developments and subdivisions to be safety audited at all stages by the developer.

Is there a preferred format for SMS?

- No. Each RCA operates differently and no one format will fit all.
- "Best Practice" comes from continuous improvement of each SMS and those new ideas being shared with others at meetings like this.

Some SMS have too many activity sheets.

- See above. Each RCA has different requirements and some need many sheets.
- Where potential rationalisation of sheets is seen during the continuous improvement process, some can be deleted.

Should SMS develop into a land use planning tool?

- Maybe if it is structured to do so.
- Land use planning can refer to the SMS where appropriate.

SMS can be used as part of a quality system to avoid duplication.

Some RCA's have used the Road Safety Strategy from the SMS to use in their LTCCP consultation for the road safety aspect.

Uptake of SMS is not always what it should be.

- May need a Road Safety Team rather than a "Champion". Also helps with continuity if a person leaves.
- May need to revisit the buy-in aspects of the delivery plan to see if some improvement can be made there. All staff need to understand the issues and reasons for the SMS and what it can achieve.

### **C.3 Bill Greenwood – SMS and Network Performance projects update (Presentation 04 Bill Greenwood)**

61 TLA's have operational SMS with 11 of those developed this year. 9 RCA's have SMS under development at the moment. The remaining 5 TLA's will be encouraged to start this year.

Meridian Energy have developed an SMS with partial support from Land Transport NZ.

SMS implementation trials currently underway are:

- Hurunui & Franklin SMS Work Activity Sheets.
- Hamilton City in-car SMS.
- Hamilton City Safety Intervention Plan (SIP) Quick Check Sheets.
- Waimakariri integration of SMS, SMP & AMP.
- Central Otago integration of SMS & SIP.
- South Canterbury integration of DD & RAMM.
- Manukau systems audit.

When Land Transport NZ was formed, the Network Performance Project went to MoT. It is no longer in their work programme. Land Transport NZ are trying to take back the project.

To deliver a consistent road network, we need:

- Agreed road hierarchy definition.
- Agreed road standards.

The standards and guidelines survey has interviewed 20 RCA's to determine what standards and guidelines are used currently. Also, what standards and guidelines should be developed. These are prioritised and Land transport NZ will consider which can be developed and prepare a programme for this. Land Transport NZ will update their Standards and Guidelines Manual and take "ownership" of standards and guidelines.

It is hoped to develop a MOTSAM like document for the TCD Rule within 2 years.

### **C.4 Mike Jackett – Standards and guidelines update (Presentation 05 Mike Jackett)**

Survey objectives were to obtain information on what standards are being used in SMS and which are the key standards. The interviews were to learn about gaps in standards to better direct efforts in development of new standards.

Some SMS had many different ways of labelling the same standards-up to 11 different names for MOTSAM in the 20 SMS's. This must be corrected for editing and updating the SMS properly.

A list of theme areas where new standards and guidelines are needed was developed based on feedback from the surveys. The list was given priority points and this list will be considered by Land Transport NZ for future development when considering funding and work priorities.

### **C.5 Ian Appleton – Road Infrastructure Safety Assessment**

Transfund NZ wanted to use existing road safety audit as a performance measure. This method was too subjective and would not work when comparing different teams across different RCA's.

RISA was intended to be an objective measurement of the effects of infrastructure on road safety. Only road features that have a researched crash rate are used. These are combined to form a reference road that actual roads are compared to. In theory, this allows roads to be rated based on objective measurements.

The model is only calibrated for sealed rural roads and probably not motorways. It is not good at intersections yet and work is only just starting on urban roads.

There are problems with the “black box” and the method is very labour intensive. Electronic and video data may be useful for automating the process.

## **C.6 Ian Duncan – Deficiency database prioritisation project (Presentation 07 Ian Duncan)**

Deficiency database and prioritisation process report was released November 2005.

Considering releasing a simple brochure to summarise the report. This will probably be a PDF on the website. Need to decide how to notify appropriate people when it is there.

Examples of deficiency database spreadsheets have been released on the website.

The difference between a hazard register and a deficiency database was clarified. A hazard register is a list of issues arising usually from environmental problems that cannot be practically or economically corrected. A deficiency database is a list of issues that can be corrected with engineering and should include all known potential safety projects.

## **C.7 Jeff Owen/Mike Smith – Expert systems example; Christchurch City deficiency database prioritisation project online (Presentation 08 Mike Smith)**

Needed to evaluate projects across many types of road user and project types.

Evaluates only minor safety projects that failed to gain a fundable BCR.

Can assess different options for a project.

Uses a group consensus of experts to determine weightings for different factors including tangible and intangible factors.

Currently being used to prioritise projects for future programmes.

Land Transport NZ owns the system.

## **C.8 Nick Cantlon – Expert systems example; Hamilton City – car SMS and SIP quick check sheet (Presentation 09 Nick Cantlon)**

In car version of SMS document. Several versions but not yet satisfied – still too detailed. Includes condensed version of COPTTM.

Quick reporting sheets have been developed for non engineers. These are both inside and outside RCA. Accompanied by a booklet showing types of deficiency to be reported and relative urgency.

Also used to report good points to use in future designs.

Councils have many documents/processes (Activity Management Plans, QA and process manuals, strategic plans). SMS details are often duplicated in other manuals. Intend to integrate all and create a one stop shop for all enquiries. Possibly using an electronic document with links to others.

## **C.9 Bill Greenwood – SMS audits update (presentation 10 Bill Greenwood)**

Continuous improvement/auditing is Review/Monitor/Evaluate. Done in partnership with RCA's. Trying to identify what is not working and see what can be done to improve it.

Review - audit the document at stage 3 of the development process.

Monitoring – audit compliance with the document.

Evaluate – audit the delivery to ensure it is making a difference on the road.

A number of issues have been found with the limited number of external audits carried out so far.

- Need a safety team rather than a champion.
- Gaps, OFI need to be identified.
- Document control is not always good.
- Safety audits not always carried out as required by Land Transport NZ funding agreements.
- Deficiency databases needed.
- Need to evaluate networks.

Considering adding safety expertise into technical reviews.

Need to include feedback from road safety theme audits carried out annually by Land Transport NZ.

## **C.10 Peer group discussions**

### **Implementation:**

Safety teams and buy in

- Endorse the need for safety team rather than champion. Safety team needs a good leader. Need to identify who should be involved and their roles ie RCA staff, network manager, maintenance contractors, etc. Need regular meetings of the team.
- Loss of champion has resulted in less implementation and buy in.
- Road Safety Coordinator or consultant could be involved as SMS Coordinator. Many councils have not resourced the SMS champion/team.
- RCA's management team needs to buy in to SMS including Planning and Reserves Depts. Also need political support.
- Safety teams need to be both "inter" and "intra" organisation. Safety means different things to different people - at all levels in the organisation.
- Implementation can be a low priority for local councillors – SMS is another book on the shelf with costs implications.
- Implementation may need promotion and reprioritising: Use brochure/flyer: possible rebranding in long term ?
- Motivation of the internal team can be a problem. Contractors also need ongoing buy in to SMS.
- Buy-in also needed from Service providers – Electricity, Drainlayers, Telephone – Roadshare NZUAG.
- Contractors need to be educated in Traffic Management and Road Openings.

- Sometimes RCA's need to be pushed from outside with implementation.
- Need to make people aware of how SMS will affect people in their day to day jobs. Understanding why the SMS is useful is the key.

### Gaps, documents and plans

- Need to manage gaps, delivery plans and OFI's. Clearly identify responsibility and timeframe for each item. RCA's to review progress annually. Recognise that it is a living document.
- Document control is important but need an easy straightforward process that others can adopt. Should be based around ISO requirements. Development of a template for RCA's would be useful. Perhaps have current version on website and require this one only to be used without printing.
- SMS, technical standards, MOTSAM should be sitting together in electronic format.
- As gaps are identified, documentation needs changing to "fill" the gaps –every 6 to 12 months. Delivery plan should be reviewed annually.
- The updating process should include oral seminars/training at all levels including Police.
- Road Safety Action Plans need to be developed with more agencies ie ACC, police, etc. Important for culture change. Need to follow through on the plans.
- Delivery plans and Road Safety Action plans need to show gaps and how to address the gaps.
- RSAPs can be region wide – agreed by management group.
- RSAPs to include education/engineering/enforcement/environment. Can be contentious.
- Not all see RSAP as part of an SMS.
- RSAP need to be intelligence based. Some data is unreliable.
- Heavy policing on state highways is moving traffic and accident problem to local roads. Now need more policing on local roads. Police to use classification counts/speed data to find target areas.
- Funding and resourcing (people) issues can slow implementation.
- Can the delivery plan and implementation be funded as a minor safety project?

### Links to other documents

- Need a refined version of the SMS to use with quick check sheets for on road use by all staff. Must not interfere with the persons main job.
- Linkage to other documents still difficult.
- Link SMS to LTCCP and AMP by May 2008.
- LTCCPs should set the scene for more targeted resources and allow focus to change to concentrate on SMS delivery.
- SMS should be reviewed prior to placing of new maintenance contract.
- Continue sharing experiences.
- Need consistency across boundaries.
- Clustering is important.
- Need brochure to assist with getting buy in.

- AMP, LTCCP and speed limit bylaws have all taken priority over SMS implementation. Need time to ensure implementation can be completed properly without interruptions.
- Despite no formal implementation, work is still being done.
- SMS could eliminate political interference.
- Need more commitment to resourcing road safety coordinators.
- Still building deficiency database and hazard register.
- Should very low volume roads be maintained?
- Right individuals need to be identified and made aware of their role/ responsibilities.
- Refine documents to suit each work area.

### **Audits:**

- Clarify guidelines when safety audits are needed including development applications and use as a resource consent condition. Problems with the close off process for safety audits.
- Safety audits are not practical or affordable.
- Safety Audits of Existing Roads are needed.
- Uptake of Safety Audits differs depending on risk/complexity/ \$ value.
- Need continual random audits of capital works, minor safety projects and operators on networks. Also need night-time inspections each 6 or 12 months.
- Need for 3-5 yearly external audits is acknowledged but only for processes. Difficult to identify safety gains. These should be included in technical audits. Need to identify accountability for issues found.
- Should also include another TLA representative in the audit team. Also include from different parts of the organisation and include people from TLA's that have not yet been audited as observers.
- Audits often have good value, but recommendations from audit are often impracticable and not affordable due to lack of roading metal.
- What is Network evaluation/network deficiency survey ?
- Hazard register/deficiency database is mostly undertaken by the management contractor.
- Review the SMS before new maintenance contracts are let.
- Need contractors to be educated in traffic management and road openings.
- Should also do internal reviews and self audits regularly ie SMS is a living document.
- Network evaluation is required. Some merit in RISA for consistent road standard throughout NZ. Need to acknowledge some outcomes to achieve best practice infrastructure will take time. Evaluate against standards and guidelines in the SMS.
- Also annual safety inspections.
- Need clear definition of road hierarchies. Very important in urban areas.
- Fewer surprises, complaints and crashes implies success?
- Large one off cost for first SMS monitoring.
- Network evaluation – suggest benchmarking survey – to get consistent standard throughout NZ. Use existing road audits and annual safety inspections.

- Good linkages to other documents with consistent KPIs will assist auditing.
- For early SMSs there can be a large cost to update at first review
- RCAs need to continue sharing experiences.
- Network audits may identify problems with utilities and their contractors and – they need their own SMS.
- 

**Other things to include:**

- Use pocket RAMM and GPS technology in deficiency database.

**C.11 Bill Greenwood – Roundup and the future for SMS (Presentation 11 Bill Greenwood)**

Development of the SMS is an ongoing process and includes continuous improvement to the document.

Implementation is critical to the success of the SMS.

Clustering can be useful for small RCA's to share skills and staff time.

Safety champions and teams need support from staff in their own organisations, the community and Land Transport NZ.

Land Transport NZ will take ownership of standards and guidelines and will develop new ones to meet industry requirements.

6 new SMS to be developed by TLA's next year. Working with DoC to try and develop one with them as well.

Land Transport NZ will support RCA's with delivery of their SMS. This includes preparing delivery plans, presentations to staff and Councillors and filling gaps in their SMS.

Land Transport NZ will assist with funding of 7 innovative implementation projects this year. The projects are not part of the RCA's normal operations and knowledge from these will be shared with other RCA's.

Land Transport NZ will continue to carry out SMS audits in the next year. Land Transport NZ will also continue to develop methodologies for network evaluation.