

Workshop Summary

**Land Transport New Zealand
Safety Management Systems**

Workshop

Brentwood Hotel, Wellington

22 June 2005

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Summary – Key Points

A.1 Workshop Purpose

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

The workshop:

- Provided an opportunity for the participants to celebrate what has been achieved to date and to learn from the experiences of those involved.
- Successful and unsuccessful methods to implement a SMS were explored.
- Any difficulties that those who had implemented their SMS had noted were requested.
- A draft revision of the development and implementation guidelines were introduced.
- The workshop also allowed Land Transport NZ to identify issues that need to be confronted to further assist RCA to implement their SMS.

A.2 Actions arising

- Land Transport NZ will continue to assist with development of SMS with the remaining RCAs that do not already have one.
- Land Transport NZ will continue to support and assist RCAs with their implementation programmes and will especially contribute to innovative methods of implementation.
- Land Transport NZ will work with RCAs to identify and develop new or revised standards or guidelines.
- Land Transport NZ will continue to work with RCAs to develop guidelines on deficiency database prioritisation processes.
- Land Transport NZ will continue to assist RCAs to prepare a SMS delivery plan.¹
- Land Transport NZ will continue to identify and promote best practice SMS.
- Land Transport NZ will continue to support RCAs monitoring, reviewing, and evaluating their SMS.
- Land Transport NZ will continue to share skills and knowledge by arranging the annual SMS workshop for all participants to identify and discuss common issues.
- Any others?

¹ Electronic examples are available and can be supplied upon request.

APPENDICES

Discussion Material from the Workshop

Appendix A [Agenda - Safety Management Systems Review Workshop]

When: 22 June 2005 Starting 9:00 am until 4:00 pm.

Where: Brentwood Hotel, Wellington.

Facilitator: Mark Gordon/Bill Greenwood.

Presenters:

Bill Greenwood	Land Transport NZ
Ian Appleton	Land Transport NZ
Ian Duncan	Land Transport NZ
Lyndon Hammond	Land Transport NZ
Alan Dixon	Ministry of Transport
David Scarlett	Land Transport NZ
Jeff Kaye	Fulton Hogan
George Jasonsmith	Waimakariri District
David Lane	Palmerston North City
Kit O'Halloran	North Shore City
Neville Bishop	Southland District
Kevin Thompson	Rotorua District
Andrew Mc Killop	Hamilton City
Allan Shadbolt	Otorohanga District
Greg Ingham	Far North District
Steve Murrin	Marlborough Roads
Edwin Dearham	Waitakere City Council
Joshua Robertson	New Plymouth District
Mark Gordon	Maunsell

Secretary: Antoni Facey

Agenda:

Time	Item	Presenter
8:30	Morning tea	
9:00–9:10	Welcome , ground rules, safety briefing, introduction, etc.	<i>Bill Greenwood</i>
9:10–9:30	Land Transport NZ ; who we are now and how this impacts on SMS.	<i>Lyndon Hammond</i>
9:30–9:45	Standards and guidelines update.	<i>Lyndon Hammond</i>
9:45–10:00	RISA Project Update	<i>Ian Appleton</i>
10:00–10:15	SMS Project Update	<i>Bill Greenwood</i>
10:15–10:25	Trial results from implementation programmes. Integrate SMS, AMP and contracts	<i>George Jasonsmith</i>
	Coffee break	
10:25–10:45	Trial results from implementation programmes. Adding processes to activity sheets.	<i>David Lane Kit O'Halloran</i>
10:45–10:55	Trial results from implementation programme - Combined use of SMS development and implementation guidelines.	<i>Edwin Dearham</i>
10:55–11:15	Delivery Plan for SMS	<i>Mark Gordon</i>
11:15–11:35	Trial results from implementation programme - Trials of Risk Manager Programme	<i>Neville Bishop Greg Ingham</i>
11:35–12:00	Deficiency Database and Prioritisation Process Projects.	<i>Ian Duncan</i>
Noon	Lunch	<i>All</i>
1:00–1:20	Trial results from implementation programme – C I Monitoring Workbook trials.	<i>David Scarlett Kevin Thompson Andrew Mc Killop</i>
1:30–1:55	SMS Continuous Improvement	<i>Bill Greenwood</i>
2:05–2:40	Break into Peer groups for discussion on and sharing of each others SMS.	<i>All</i>
2:40–3:00	Trial results from implementation programme - Safety Management and Intervention Plans	<i>Steve Murrin Joshua Robertson</i>
	Coffee Break	
3:00–3:15	Safety Management Plans and Safety Intervention Plans	<i>Jeff Kaye</i>
3:15–3:25	Trial results from implementation programme - Developing evaluation trials.	<i>Allan Shadbolt</i>
3:25–3:40	Network Performance project	<i>Alan Dixon</i>
3:40–3:55	Roundup and the future for SMS	<i>Mark Gordon Bill Greenwood</i>
3:55	End	

Appendix B [List of attendees]

Name	Representing
Karen Hay	Auckland City
Sarah Stephen	Auckland City
Alister McCaw	Bay Roads
Jag Pannu	Central Hawkes Bay District
Julie Muir	Central Otago District
Ken Stevenson	Christchurch City
Ron Minnema	Dunedin City
Greg Ingham	Far North District
Murray Hasler	Gore District
Andrew McKillop	Hamilton City
Alan Parsons	Hastings District
Gene Thomsen	Hauraki District
Frank Leadingham	Hurunui District
Rebecca Loader	Hutt City
Geoff Strand	Kapiti Coast District
Colin Giles	Manawatu District
Bruce Conaghan	Manukau City
Steve Murrin	Marlborough Roads
Abu Hasanuzzaman	Masterton District
Neville Boag	Matamata-Piako District
John Wright	Napier City
Josh Robertson	New Plymouth District
Kit O'Halloran	North Shore City
Alan Shadbolt	Otorohanga District
David Lane	Palmerston North City
Alan Roland	Papakura District
Gordana Savic	Porirua City
Abdul Zaytoun	Porirua City
Graeme Bean	Rodney District
Kevin Thompson	Rotorua District
Trevor Mein	South Waikato District
Neville Bishop	Southland District
Wayne Thompson	Tauranga City
Ray Cook	Transit NZ.
Patrick Hanaray	Upper Hutt City
John Kendall	Waikato District

Name	Representing
George Jasonsmith	Waimakariri District
J P Snyman	Waipa District
Edwin Dearham	Waitakere City
John Jones	Wanganui District

Name	Representing
Antoni Facey	Antoni Facey Consulting
Shane Turner	Beca
Jeff Kaye	Fulton Hogan
Mark Gordon	Maunsell
Mike Smith	MWH
David Wanty	MWH
Same Wilkie	MWH
Robert Swears	Opus
Harriet Fraser	TDG
Peter Ollivier	TSE

Name	Representing
Bill Greenwood	Land Transport NZ
Ian Appleton	Land Transport NZ
Tim Selby	Land Transport NZ
Allan Dixon	Ministry of Transport
David Scarlet	Land Transport NZ
Ian Duncan	Land Transport NZ
Lyndon Hammond	Land Transport NZ
John Garvitch	Land Transport NZ
John Janssen	Land Transport NZ
Wayne Osmers	Land Transport NZ
Colin Goble	Land Transport NZ

Appendix C [Summary of Proceedings / Presentations]

The following is a summary of each presentation. Where a PowerPoint or other handout was provided, these are provided on the workshop CD.

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

C.1 Lyndon Hammond – Land Transport NZ – Who we are now (Presentation 01 Lyndon Hammond)

Land Transport NZ is the amalgamation of Transfund NZ and LTSA. Land Transport NZ is the bridge between the Government and those who “make things happen” on the roads, ie RCA's.

The basic functions of Land Transport NZ are:

- Promoting and funding
- Informing and assisting
- Regulating and monitoring

The principal objectives of Land Transport NZ are

- Safety
- Sustainability.

Focus areas are:

- Travel demand management
- Environmental
- Cycling and walking
- Land use

Changes being made at Land Transport NZ include:

- New cross-modal funding structure
- Broadly based funding allocation structure rather than reliance on Benefit/Cost analysis
- Stronger focus on working with the transport sector

Safety Administration Programme will merge with the National Land Transport Programme.

The desired outcomes include:

- Improved transport system integration
- Improved vehicle and transport system safety
- Improved efficiency & effectiveness of network management
- Improve integration of land and transport planning

- Reduce environmental impacts associated with transport

Q:	Can Land Transport NZ regions work without planning resources at the regional level?
A	Transfund brought some skills in this into the merger into Land Transport NZ and we (Land Transport NZ) will be upskilling and further developing our staff as needed.

C.2 Lyndon Hammond – Standards and guidelines (Manual of Traffic Signs and Markings (MOTSAM)) (Presentation 02 Lyndon Hammond)

Traffic Control Devices (TCD) Rule has identified a desire from RCAs for a document that meets all RCAs needs for legislation, policy and practise guidance with respect to the rule, as there is a perception of a gap between existing legislation and policies and practices of RCAs. The standards and guidelines steering group recommend a revision of MOTSAM to present the legislation in a practical way for RCA's to use.

The revision of MOTSAM will cost \$1.5-2.0 million, and will take at least 3 years unless more funding can be found.

Currently MOTSAM is an amalgam of specification, guideline and policy. It is proposed to separate specifications from guidelines leaving legislation and policy to individual RCA's.

A representative advisory group will be established to guide the development process.

Land Trsnport NZ is currently trying to find gaps through SMS surveys and fill the gaps using a revision of MOTSAM.

The new document would provide detailed specifications for;

- signs;
- markings;
- traffic signals;
- other devices;

...relate closely to the TCD rule and other legislation and will aim to be best practice. RCA's will be encouraged to adopt the new manual.

Q:	Will Code of Practice for Temporary Traffic Management (COPTTM) be done similarly?
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A:	No. It will be a chapter in the manual.
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C.3 Ian Appleton – RISA project update (Presentation 03 Ian Appleton)

RISA stands for Road Infrastructure Safety Assessment. RISA only relates to infrastructure and not traffic volumes, etc. Currently, it only works for rural roads.

RISA arose from the Safety Audit of Existing Roads (SAER). SAER is not the best tool to link on road features to "risk" or a good measure of performance.

RISA compares the road being studied to a reference road. I.e. if the answer is 1.2, the road is 20% less safe than the reference road. The exposure content should relate to the number of accidents. It is an evidence based system with the fieldsheets based on research.

The methodology used for RISA is currently under review.

Potentially, RISA can be used to compare "what if" scenarios to see where best risk reduction comes from. It will be able to compare similar RCA's and test the effectiveness of the SMS.

The future is to include urban roads and intersections in the programme. This is more difficult because there is less research on infrastructure safety benefits of these.

C.4 Bill Greenwood – SMS project update (Presentation 04 Bill Greenwood)

SMS improves systems by sharing ideas from other RCA's, which in turn leads to consistency when constructing, maintaining, operating and managing the network and contributes to the achievement of clear safety goals.

SMS is useful for succession planning and ensuring knowledge and expertise is retained.

SMS provides systematic audit processes.

Noted that the ARRB Risk Manager Workshop is being held 11th August 2005 to get feedback and provide updates.

Specific SMS implementation projects undertaken this year include:

- Integration of SMS, AMP and contracts
- Adding processes to activity sheets
- Delivery planning trials
- Combine SMS development and implementation trials
- Risk manager trials
- Monitoring workbook trials
- Safety management and intervention plan developments
- Developing evaluation trials.

Land Transport NZ acknowledge a need to get the Road Safety Engineering Expertise Report underway but this has been deferred for a wider study, which will include traffic and transport planning.

C.5 George Jasonsmith - Integration of SMS, AMP and contracts

Objective: Make the SMS live. It should be practical and useful to the RCA.

Council has accepted a new maintenance contract. All performance standards are now in one section of the contract with activity sheets from the SMS. Once SMS is complete, activity sheets will be taken from the contract and the contract will refer to the SMS. Hence, the contractor will continuously use the SMS.

SMS is not only for safety interventions. Everything done on a road has a safety outcome so an activity sheet is appropriate for each.

Similarly, the Activity Management Plan will refer to the SMS.

The document should not be too big but will be readable.

Copies of activity sheets can be provided by Land Transport NZ.

C.6 Kit O'Halloran – Adding processes to activity sheets (Presentation 05 Kit O'Halloran)

SMS process involves verifying that every aspect of our work affecting road safety has been attended to.

Safety deficiencies can arise from:

- Deterioration of infrastructure
- Deficient design of capital projects
- Unsafe traffic management during construction
- Additions to the network from developers/subdividers

Deterioration of assets is remedied by appropriate maintenance contractor. Operation and management of the contracts is a critical part of the SMS.

SMS will require all capital improvements to have a safety audit process.

Road opening permits will be required for all openings (including other Council departments i.e. tree planting within road reserve). COPTTM compliant traffic management plans will be required.

All privately constructed infrastructure intended to be vested in the Council will require safety audits.

SMS will hold an up to date register of all auditors both internal and external.

SMS will develop a deficiency database and hazard register focussed entirely on safety.

North Shore City Council will hold a seminar to explain the SMS to interested parties including utility operators.

C.7 David Lane – Adding processes to activity sheets

The Palmerston North City Council SMS was not considered user friendly so information was put into flowcharts. This appears to have more acceptance and staff have responded well to them. There are some problems in specialised areas ie RAMM.

Palmerston North City Council SMS is included in the development guideline. A copy of an example flow chart and the supporting commentary is appended.

C.8 Edwin Dearham and Mark Gordon – Combined use of SMS development and implementation guidelines

Need to get buy-in from other Council departments. The attached PowerPoint presentation has extracts from the Councils presentation to others.

Council staff need to understand that the SMS is to integrate information and current practices for the benefit of all Council staff. They need to understand that it is needed to protect the Council against potential claims by detailing processes, etc.

Council needs to demand all departments get involved in the SMS. It was good to do buy-in during the SMS development. By knowing how the SMS will be implemented, you can ensure that the SMS is developed to allow implementation.

C.9 Mark Gordon – Delivery plan

The time to prepare a delivery plan is during stage 2 of the SMS development process. This facilitates planning to get the buy-in of all staff and ensure no-one is missed out. Need to think about how to get each department/group/person to buy-in and plan to achieve it.

A delivery plan allows progress to be tracked to maintain momentum. If momentum is lost and the project allowed to drift, the SMS becomes downgraded and its importance lost.

Delivery plans will be an important part of the future process for developing and implementing an SMS.

A draft copy of a delivery plan is given in the agenda and in both the reissued development and implementation guidelines. An electronic copy is also available.

C.10 Neville Bishop – Trials of ARRB's Road Safety Risk Manager programme

Could not integrate Road Safety Risk Manager (RSRM) with CAS.

Most projects in Southland District are based on an area wide strategic treatment and not really suited to using RSRM. There are not enough crashes reported on the local road network in Southland to justify site specific Crash Reduction Studies.

Southland District have not been using the programme frequently enough to remember how to use it properly without the need for downtime relearning the software. Need to use RSRM regularly to get the best from it.

Southland District is investigating using an ARRB consultant to run RSRM on safety projects annually and see a use for RSRM to assess options i.e.placing more edge marker posts on an out of context curve versus individual chevrons versus diamond chevrons with advisory speed sign versus armco guardrail versus wire rope barrier. Southland want to consider each option to enable then to find the best one. RSRM output is risk reduction per dollar spent.

Therefore Southland District will use RSRM only on projects at present and will not incorporated it directly into their SMS.

C.11 Greg Ingham - Trials of ARRB's Road Safety Risk Manager programme (Presentation 07 Greg Ingham)

SMS is part of the Activity Management Plan and Long Term Community Consultation Plan.

Will update maintenance contract specification and future Requests For Tender (RFT) to recognise the SMS.

RSRM enables ranking of projects but is cumbersome and complicated. Needs to be simplified. Projects are ranked on Risk Reduction Cost Ratio (RRCR).

Trialled RSRM on 2 sites. Could not make it work. There are 4 areas of input:

- Investigation details
- Hazard assessment
- Treatment assessment
- RRCR

Input into RSRM is subjective therefore difficult to get output that can be compared across sites. Trialling RSRM on more sites over the next few months.

Data input into RSRM has too many variables and variability in choice of variables.

Identified that there is a need more training in the use of RSRM.

RSRM is a good concept but needs more work on operation/interface of the programme.

C.12 Ian Duncan – Deficiency database and prioritisation process (Presentation 08 Ian Duncan)

The deficiency database is one of the main benefits from an SMS.

Must be able to measure what you want for something to be defined as a deficiency. Cf RISA project.

A hazard is not a deficiency. A hazard is something that cannot be rectified ie environmental problems like ice or rock falls.

Need to define how to determine a deficiency.

Deficiency database can be a very long list. Some projects may not be fundable but having a list covers your back legally. Having an operational hazard identification and prioritisation process provides RCAs with protection before the coroner's court. In stating that RCAs must be able to show how complaints and issues are received and considered by their system.

A deficiency prioritisation process should quantify the risk of the deficiency, treatment options and costs, post treatment risk and risk reduction cost achieved per unit cost. A deficiency database and prioritisation process will provide a logical targeting of resources to achieve best possible financial return and better forward planning.

Need for guidelines on preparing and prioritising a deficiency database was a key issue identified by RCAs. Such a database could possibly be part of RAMM.

C.13 Andrew McKillop - C I Monitoring Workbook trials (Presentation 09 Andrew McKillop)

Took the opportunity to review and update the SMS after a years operation.

Found the roading team were not using the SMS much. Need to get the safety culture into the roading team and others. Asset managers and safety engineers have different perspectives that must be brought together.

Many changes to legislation and Government agencies that had not been included in SMS.

Have a better understanding now of the Council's business than when the SMS was first written.

Council has a number of systems that interrelate:

- Asset activity management plan
- Quality assurance systems
- Information/inventory system (Maximo)
- SMS

Moving forward, Council will complete the review of the SMS (June 2005), introduce SMS into all work procedures, develop a transport management system and provide additional staff training and awareness.

C.14 David Scarlet – Continuous Improvement Monitoring Workbook trials (Presentation 10 David Scarlet)

Purpose of continuous improvement monitoring is to keep the SMS current and relevant and check it is working.

Hurunui District Council was one of the first SMS to be developed.

Hurunui SMS is designed as a guidebook to other documents. Most specifications are held within the roading maintenance contracts.

Findings:

- SMS needs to have an owner within the RCA.
- The possibility of a majority of long serving staff retiring within 2 – 3 years means documented systems are required
- Need to identify Council standards and guidelines.
- Deficiency database existed but most staff did not know of it's existence or contribute to it.
- Need to develop policies for land uses e.g. forestry, dairy, etc.
- Need to develop policies for speed humps and stock crossings.
- Need better control of subdivisions.
- Need to develop work activity sheets as none were included in initial document.
- Size of RCA is an issue. Small RCA's can share informally between the few staff in same office and formal procedures in SMS is less useful.

Future audits should focus on a few issues or areas of the SMS only. Process works best when RCA staff are enthusiastically involved.

C.15 Kevin Thompson - C I Monitoring Workbook trials

Has undertaken a complete review of the document. Good to have question and answer session to test the flow of the document.

No new processes were needed for the SMS. Just mapped existing.

However the review did highlight the need for improved document controls.

Need to update the SMS more regularly. Have long term contracts so it fits into an external review.

SMS is considered to be of benefit.

C.16 Bill Greenwood – SMS continuous improvement (Presentation 11 Bill Greenwood)

Continuous improvement can now be called audit without upsetting people.

The three stages of audit are review, monitoring and evaluation.

Review is to check the words of the SMS (for example during the development phase the Stage 3 review) prior to sign off. It is also checking the wording after any major updates of the SMS. Review is based on Appendix F of the development guidelines.

Monitoring is to check that the RCA is delivering what has been written. Monitoring is generally based on Appendix E of the implementation guidelines. This can sometimes be done by the safety team internally but also needs to be external sometimes.

Evaluation ensures results are being achieved on the network by using RISA, existing road audits and inspections and the Network performance Project (when completed).

Land Transport NZ staff would like to be involved in these three processes to develop and exchange knowledge, skills and experience.

C.17 Steve Murrin – Safety Management (SMP) and Intervention (SIP) Plans (Presentation 12 Steve Murrin)

Marlborough Roads has recently rewritten its SMS to align with new maintenance contracts.

The SMP and SIP have been included in the one document. This gives a single comprehensive document and is more consistent with the SMS. It allows for easier updating and amending without having to check cross references thus minimising the possibility of errors.

It allows contractors to include the SIP in their quality plans and consistent documentation and service delivery.

SMS has 62 templates covering Management systems and Operational systems. These are colour coded to ensure different users know which part of the template applies to them. Examples are shown in the presentation.

C.18 Joshua Robertson - Safety Management Plans and Safety Intervention Plans

This is a joint SMS with 2 other RCA's. It was signed off last year. Each RCA has separate sections where there are different standards or guidelines applied by each RCA.

Started to work on developing a SMP but the Council has started restructuring so development stopped. The SMP is being modelled on a previous one.

The SMS does not have (but needs) a deficiency database and prioritisation process.

C.19 Jeff Kaye – Safety Management and Intervention Plans (Presentations 13 and 14 Jeff Kaye)

There are two implementations; making SMS accepted within the organisation and making it work to achieve results on the road.

A Safety Management Plan (SMP) is a document that details the *"Consultants"* day to day focus on managing safety on the road network. The consultant can be either internal or external.

The SMP has several parts:

- Inputs from reports including safety audits, inspections, crash reduction studies, etc and data from CAS, public complaints, local knowledge, etc.
- Controls. Judgement must be exercised to verify the hazard and propose the most practical solution.
- Prioritisation of hazards.
- Sort remedial actions by funding category and budget constraints.
- Outputs are a programme for remedial works.
- Review and monitor effectiveness of remedial works using crash data and Land Transport NZ Crash Reduction Monitoring System.

The SMP:

- Could be included in the SMS
- Appended to the SMS
- Could be a stand alone document.

The SMP should be part of the consultant's project quality plan

The Safety Intervention Plan (SIP) is a document that details the *"Contractors"* day to day focus on maintaining and in some cases improving safety on the road network.

The SIP should include work activity sheets for all activities carried out on the road.

The SIP:

- Could be included in the SMS
- Appended to the SMS
- Could be a stand alone document.

The SIP should be part of the contractor's project quality plan.

C.20 Allan Shadbolt – Developing evaluation trials (Presentation 15 Allan Shadbolt)

Otorohanga District Council commissioned a survey to assess the effectiveness of their maintenance operations on unsealed roads and whether it needs any improvements due to the changing practices of farming. The survey showed that their practices were generally good with a few improvements identified.

An advantage of having a method based maintenance contract rather than a performance based contract is that the contract can be changed during the term of the contract to reflect these improvements.

Prices for the survey will be negotiated in future based on an agreed brief rather than an open tender process.

C.21 Alan Dixon – Road Network Performance Project (RNPP).

The RNPP arose from the SMS project to measure the effects of the SMS. Progress has been slowed due to the reorganisation of the Ministry of Transport and Land Transport NZ.

The future of the RNPP is likely to be a joint approach with others in the industry. Watch this space.

C.22 Bill Greenwood – Roundup (Presentation 16 Bill Greenwood)

The website is already in place. www.landtransport.govt.nz/roads/sms/index.html All files are in PDF format but different formats can be supplied on request.

SMS is an ongoing process and implementation is the key to success. Land Transport NZ will continue to fund implementation when it is not normal operational activity.

Safety Champions need support and Land Transport NZ is committed to assist. Forming a cross functional Safety Team involving network management, maintenance and planning personnel is very effective for obtaining wider buy-in. Staff time is short and skills need to be shared.

New standards and guidelines need to be developed. Land transport NZ will work with RCAs to identify and develop new or revised ones.

Willing compliance partnerships between Land Transport NZ and RCA's tend to work best.

Land Transport NZ will assist with preparing delivery plans and provide resources for RCAs presentations.

Land Transport NZ will continue to support innovative implementation projects.

Land Transport NZ will continue to develop guidelines regarding deficiency database prioritisation processes.

C.23 Group discussions of SMS issues

- SMS linkage to Activity Management Plans is important i.e. audits of developments and subdivisions.
- SMS is cost effective quality.
- Problem: Different forms of SMS. Need to rationalise and promote a best practice format. Land Transport NZ to consider if a best practice SMS can be produced for others to follow.
- Ensure that district plans includes safety for developments. Then can manage developments with compliance certificates.
- Should SMS develop into a land use planning tool?
- How does SMS relate to quality assurance programmes? Can they be combined in some way to eliminate duplication and simplify both or should they cross reference?
- Uptake of SMS is dependant on the size of the department. Smaller units have better success.
- Ensure staff are well trained in using SMS and understand the reasons behind it.
- Too many templates in some SMS.
- SMS helps RCA's focus money to maximise the safety benefits.
- Good Safety Management Team is very important in implementing a successful SMS.
- Hard to measure success of SMS when national campaigns muddy the waters. Need to be able to measure local effects of SMS.

- Deficiency database gives a good defensible position against litigation.
- Does SMS add benefits beyond QA? How can this be measured?
- Resourcing and restructuring are making implementation difficult.
- Need realistic expectations of what an SMS can achieve.
- Need simplified tools to assist with implementation.
- Are Regional Councils an RCA that should have an SMS?
- Need web page to share tools for SMS development and implementation.
- Where in the RCA's hierarchy of documents is the SMS? How does it relate to consent procedures?
- How can different projects be compared and prioritised i.e. pedestrians/footpaths versus roads?
- If maintenance contracts include reference to the SMS, the SMS is more likely to be used.
- SMS is not being used. Implementation looks difficult for small RCA's. Need second stage buy in or will need to resell the SMS.
- Do not refer to SMS often but when hard questions are asked or new staff come in it is useful.
- Deficiency databases must be practical.
- SMS is a strategic document not a day to day document.
- SMS champion is under resourced.
- Difficult to get buy in with Parks and Reserves and Planning departments.
- High cost of implementation.
- Time taken to develop the SMS is more than expected.
- Linkage with LTCCP. How is it or should it be linked?
- Too much detail in front end of SMS.
- Transit NZ to review SMS this year.
- Hidden costs are greater than expected, especially for smaller RCA's.

Appendix D [Palmerston North City Council Flowchart Example]

Activity: Policy and Planning

Subject: Crash Reduction Studies

Description/Purpose: To investigate, on a regular basis, crashes on the road network and recommend remedial action to reduce the number and/or severity of crashes

Safety Issues	<ul style="list-style-type: none"> ▪ Existing crashes on the road network.
Background	<ul style="list-style-type: none"> ▪ Crash reduction studies are carried out on a regular basis to review the operation of the road network. The review is in general conducted by a team consisting of the RCA, Land Transport NZ and an independent consultant. An assessment of historical crash numbers is completed with the aim of implementing remedial measures to reduce the number or severity of crashes.
	<ul style="list-style-type: none"> ▪ Local Government Act ▪ Traffic Regulations ▪ Transport Act ▪ Traffic Control Devices Rule
Policies	<ul style="list-style-type: none"> ▪ LTCCP ▪ Transportation Management Plan ▪ PNCC Asset Management Plan
Standards	<ul style="list-style-type: none"> ▪ Nil
Guidelines	<ul style="list-style-type: none"> ▪ Accident Investigation Procedures – TNZ/LTSA 1991 ▪ Guide to Traffic Engineering Practice, Part 4: Treatment of Crash Locations – Austroads 2004 ▪ New Zealand Guide to Treatment of Crash Locations – Consultation Document, LTSA 2004 ▪ Accident Investigation Monitoring System – Coding Manual ▪ Accident Investigation Monitoring Analysis – Land Transport NZ
Frequency	<ul style="list-style-type: none"> ▪ Formal crash reduction studies are to be carried out on a three (3) yearly basis in conjunction with Land Transport NZ. ▪ PNCC on a yearly basis completes a review of crashes on the road network.

<p>Process</p>	<p>The study is to be conducted in general accordance with Land Transport NZ's Accident Investigation Procedures (presently under review). The process includes, Data Collection, Preliminary Analysis, Preparation for Filed Investigations, Field Investigations, Consolidation of Proposals, Reporting. Public Consultation, Implementation, Monitoring and Evaluation follow the study.</p> <ul style="list-style-type: none"> ▪ The sites are to be selected based on an assessment of the following factors: <ul style="list-style-type: none"> • The numbers of crashes • The severity and/or social cost of crashes • The change or growth in crash rate • A comparison with the expected crash rate • The potential to reduce crashes • The commonality between crashes • Any prior treatment ▪ The study team is to consist of representatives from PNCC, Land Transport NZ and an appropriately qualified independent consultant. Police, Transit NZ and/or Road Safety Coordinators may also be invited. ▪ The study team is to investigate possible causes and deficiencies at each location then recommend, in general, low cost engineering solutions. ▪ A report is to be prepared and submitted to Council on the outcome of the investigations. ▪ Land Transport NZ monitoring forms are to be completed to document recommended remedial works. ▪ The proposed remedial works are to be designed and entered into Minor Safety Programme or capital works programme. ▪ Provide Land Transport NZ with details of works undertaken to monitor the effectiveness of remedial works. Details include date of works completion and nature and extents of improvements (forms included in Accident Investigation Procedures).
	<ul style="list-style-type: none"> ▪ Study to be completed by 9 months prior to the financial year for construction to enable budgeting and design work to be completed. A review of progress is to be conducted 6 months and 3 months prior to the financial year for construction.
<p>Emergency Maintenance</p>	<ul style="list-style-type: none"> ▪ N/A
<p>A. Routine Maintenance</p>	<ul style="list-style-type: none"> ▪ N/A
<p>Capital Works</p>	<ul style="list-style-type: none"> ▪ Minor Safety Program or Capital Work Programme
<p>Audit Requirement</p>	<ul style="list-style-type: none"> ▪ RCA provide details of works for Land Transport NZ monitoring ▪ Actions entered into Minor Safety Program ▪ Formal records to be kept of the formal studies (3 yearly) and annual reviews.
<p>Relevant Links</p>	<ul style="list-style-type: none"> ▪ Deficiency Analysis

Primary responsibility: Senior Transportation Engineer

SMS 1 – Crash Reduction Studies

