

**Report No. PM07/1311T**

**PFM-02-01-02  
(B610964)**

**LAND TRANSPORT NEW ZEALAND**

**THEME AUDIT  
OF  
SAFETY MANAGEMENT SYSTEM UPTAKE**

**Final Report**

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**July 2007**

## **DISCLAIMER**

This is a final report. It has been prepared in the discharge of Land Transport New Zealand's legal responsibility to audit the performance of approved organisations in relation to activities approved by Land Transport NZ.

The findings, opinions and recommendations in the report are based on an examination of a sample only, and may not address all issues existing at the time of the review. So readers are urged to seek specific advice on particular matters and not rely solely on the report.

While every effort has been made to ensure the accuracy of the report, it is made available strictly on the basis that anyone relying on it does so at their own risk without any liability to Land Transport New Zealand.

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**Appendix 1: The Questionnaire**

**Appendix 2: Summary of Responses to Multi-choice Questions**



## **1 EXECUTIVE SUMMARY**

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### **1.1 Introduction**

Safety Management Systems (SMS) have been adopted in various forms by Road Controlling Authorities (RCAs) since the mid 1990s. In 2003 Land Transport Safety Authority (now Land Transport NZ) developed a set of SMS guidelines and a programme to assist RCAs to develop a SMS. Through this programme and through RCAs voluntary adoption of SMS almost all RCAs now have a SMS available.

The purpose of this survey was to ascertain how useful and effective the Safety Management System has been in providing safety outcomes.

A representative sample of twenty RCAs (27% of all NZ RCAs) was selected to take part in the survey. The sample was drawn from RCAs that had developed a SMS at least two years prior to the survey and were part of the Land Transport NZ programme.

The sample closely matched the distribution of authorities in N.Z by size as defined by the peer group system (see Appendix 2). Collectively the surveyed peer groups should be representative of their peer group as a whole. Similarly the sample should be representative of New Zealand RCAs as a whole and the results able to be generalised to all RCAs in New Zealand.

The 20 RCAs in this survey were:

- Peer Groups A-C:** Auckland, North Shore, Tauranga, Invercargill, New Plymouth, Rotorua, and Whangarei.
- Peer Group D:** Franklin, Rodney, South Taranaki, Tasman, Waimakariri, Western Bay of Plenty and Whakatane
- Peer Group E:** Clutha, Gore, Hurunui, Kawerau, Opotiki and Stratford
- Total sample:** 20 of 73 RCAs were sampled. (A 27% sample.)

A questionnaire (see Appendix 1) was sent to each RCA in the survey and was followed up by a personal visit and interview centred on the questionnaire.

### **1.2 Scope**

The project was scoped into three parts as follows:

- Part 1:** Assess the use and effectiveness of Safety Management Systems (SMS) within a sample of up to 20 Road Controlling Authorities (RCA) where an SMS was completed at least 2 years earlier including:
  - a) Develop a questionnaire for RCAs based on:
    - i) Previous theme audits;

- ii) Part 3E "SMS component workbook and checklist" of the "Guidelines for developing and implementing a safety management system for road controlling authorities" November 2005; and
- iii) The 2006 SMS Standards & Guidelines survey report (by Jackett Consulting).

b) Organise follow up visits to selected RCAs.

**Part 2:** Undertake follow up surveys of RCAs & analyse comments received from them.

**Part 3:** Prepare a final report including an interim report to the National SMS workshop 19th June 2007.

## **1.3 Conclusions**

### ***1.3.1 Large Urban Authorities***

Most large urban authorities (Peer Groups A – C) were satisfied they were getting value from their SMS and regarded it as an improvement on their previous systems. Ongoing promotion to contractors and consultants and the extension of the SMS to other areas of council were expected to produce further benefits. Some RCAs were now considering making the SMS available on the Council intranet or internet.

### ***1.3.2 Small Rural Authorities***

Small rural authorities (Peer Group E) were less sure that the SMS, at least in its current form, offered much for them. This is highlighted by the number of negative responses on the value they see in SMS. (See section 4.7 and 4.8)

Some of these authorities commented that complex documentation of processes was not so necessary in small RCAs. While the process of developing a SMS with a consultant was usually regarded as helpful the final product was sometimes a mismatch with their needs. A smaller, easier to maintain, document perhaps with material that would assist contractors might be more suitable.

### ***1.3.3 Delayed implementation***

A number of SMS failed to make the final steps through to implementation after the consultant had formally delivered the document. In most cases this was because the SMS required further local input but the council did not have the resources to do it at the time. The task usually fell to the roading manager who had many other issues to contend with.

Most authorities that have delayed implementation have identified the task and propose to address it in the coming year.

#### **1.3.4 Joint SMS**

While all RCAs who took part in a joint SMS were satisfied with that method of obtaining an SMS there were some issues of ownership apparent in the survey. All three joint SMS in the survey suffered to some extent by the lack of a champion to promote the SMS in their district at the end of the project. A long standing key staff vacancy in one cluster, and the lack of a champion in another cluster meant that implementation of some SMS have not progressed as much as they might.

The most satisfactory arrangement seemed to be where the consultant developing the SMS was the network consultant used by neighbouring authorities. Then standardisation issues could quickly be identified and addressed without any loss of ownership of the SMS.

#### **1.3.5 Standards and Guidelines**

Standards and Guidelines was the area seen as benefiting most from having a SMS. However not all RCAs were satisfied that their listing of standards in the SMS was sufficient or current. One authority observed that their consultants should know what the latest standards are and another authority considered the RCA forum's list more up to date than their own. Yet another authority was concerned about liability council may face in defining their standards so publicly and precisely.

With the Land Transport NZ Standards and Guidelines Manual now out of date and there is no single authoritative source that RCAs can go to get information on the latest standards. This is an area Land Transport NZ may wish to address.

#### **1.3.6 Raising the SMS profile**

A number of authorities, even some who did not have an active SMS, commented that Land Transport NZ could help raise the profile of SMS by keeping it on the agenda in discussions with Council. One authority even suggested that an implemented SMS or similar be a requirement for Minor Safety Works Funding to ensure that funding was well directed.

#### **1.3.7 Deficiency database**

The need to further develop their deficiency database was a goal of most authorities in the survey. Land Transport NZ was seen as having an important role in standardisation and ongoing development in this area. Similarly there were comments that Land Transport needed to remain active in the broader area of standards and guidelines development.

#### **1.3.8 Information sharing**

The SMS project received recognition for its ability to bring RCAs together to exchange information and expertise. Most RCAs believed the process itself was helpful independent of the final document. Land Transport NZ was seen with an ongoing role to foster further exchanges of this nature. Deficiency database development was a case in point.

## **2 RECOMMENDATIONS**

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That Councils with a fully implemented SMS:

- Broaden the influence of the Safety Management System through internal promotion and publicity addressing consultants, contractors and other sections of Council
- Keep the SMS relevant through regular review
- Establish internal SMS audit policies and programmes

That Councils without a fully implemented SMS:

- Establish a timeframe for the implementation the SMS
- Further develop the SMS so that it has a useful role to play within Council.
- Share with Land Transport NZ and other Councils innovative solutions that could make the SMS more relevant to small Councils

That Land Transport NZ:

- Assist RCAs through the development of a standard deficiency database format (with appropriate training).
- Keep SMS on the agenda in discussions with RCAs to ensure they continue to have the support needed to maximise benefit from the system
- Foster the sharing of information and technical expertise between RCAs and between RCAs and central government
- Work at a local level to help address any outstanding SMS issues. In particular, encouraging those RCAs that have yet to fully implement their SMS.
- Consider the development of an alternative SMS format to assist those RCAs in Peer Groups D & E establish an SMS in their area
- Consider providing a single, authoritative source of standards and guidelines that RCAs could either use or reference. Ideally a web-based document.



### **3 QUESTIONNAIRE**

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The questionnaire (see Appendix 1) consisted of 34 questions divided into the following 6 sections;

1. The status of the SMS within Council
2. The benefits of SMS as seen by Council
3. The benefits of single or joint SMS development
4. Audit and the future of SMS
5. The current state of your SMS
6. Implementation of your SMS

Sections 1 to 4 formed Part 1 and addressed changes in process and outcomes.

Sections 5 and 6 formed Part 2 and addressed implementation issues.

The response to each question was recorded during the interview and later entered into a spreadsheet. This was returned to the RCA for confirmation and updating as appropriate.

These updated spreadsheets were then combined into a single database that formed the basis of this report.

### **4 RESULTS**

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A table of the responses to the multi-choice questions is given in Appendix 2. The full response to the questionnaire is summarised in sections 4.1 to 4.6 below.

#### **4.1 The status of the SMS within Council:**

The 6 questions in this section sought to obtain information on how well established the SMS was as a Council document.

75% of RCAs stated that their SMS was an operational document in some form or other while 25% stated their SMS was not implemented. Of those with an operational document two thirds were used as "In House" documents and the remaining third were "Endorsed by Council".

The issue of Council endorsement was somewhat blurred. Around half of the RCAs that stated their SMS was "Not Implemented" the SMS had actually been presented to the Council with the consultant's help at the end of the contract. However for various reasons, often related to the need for further work, the document did not proceed to a stage where it was being used.

25% of RCAs referred to their SMS at least monthly, 55% "6 monthly" and 20% said it was "never" referred to.

Councillor awareness of the document did not seem to be an important ingredient in the success or otherwise of the SMS. Almost half of RCAs reported that some of their Councillors would know of the document but only at a high level.

Not surprisingly Council staff (Roading section) and their consultants were invariably aware of the SMS but only around 50% thought their contractors were. Often material from the SMS would be in contract documents but the SMS itself was also referenced in many contract documents. Some authorities stated they intended to supply copies of the SMS to contractors once it was finished. Greater awareness of the SMS by contractors was seen as a desirable step forward.

## **4.2 The benefits of SMS as seen by Council**

The 11 questions in this section sought to obtain information on the benefits that RCAs see in their SMS.

### **4.2.1 What Council processes have changed as a result of using the SMS?**

Around 35% of authorities stated that no processes had changed because the SMS was simply an amalgamation of existing Council policies and processes. Any benefits were either administrative, long term or came from a sharpened focus.

Others volunteered the following areas where processes may have changed or been sharpened:

- SMS provided a common point of contact to show Council processes
- More formalised processes for Minor Safety Improvements
- Improvements to the peer review and safety audit processes
- Provided focus for developing a safety deficiency database
- Safety Inspections have improved through better focus
- Staff positions have been reorganised around the SMS to provide greater safety input

However, while process changes may have occurred a number of RCAs observed that it is difficult to isolate the effect due to the SMS. . Some changes may still have occurred without the SMS.

### **4.2.2 What are the benefits to Council of these process changes?**

The stated effects of the changes were to:

- Improve prioritisation of projects
- Better identify the correct standards to use
- Help identify processes that give tangible crash reductions
- Provide better quality of information
- Reduce risk associated with knowledge loss through staff departures
- Reduce risk associated with undocumented processes
- Strengthen relationships with neighbours

In 7 (35%) of cases the RCA stated there were no significant effects to report. All but one of the RCAs reporting no change (85%) came from smaller peer group D or E authorities.

**4.2.3 Do you believe that Council had systems providing similar outcomes prior to the introduction of your SMS?**

The majority of RCAs (70%) stated they had systems producing similar outcomes prior to SMS. However most qualified this with statements like, "The systems were in place but the documentation was in many different places" and "Some systems were just in people's heads."

Those authorities answering "No" to this question regarded the systems they had in place prior to SMS to be lacking in formality or structure. Typical of the comments for this group was, "In the past it happened more by good luck than good management".

**4.2.4 What value do you place on the following areas covered by the SMS?**

RCAs were asked to consider the value they placed on the seven areas of SMS listed in Table 1 below.

Table 1: RCA response to the question "What value do you place on the following areas covered by the SMS?"

<b>Priority Order</b>	<b>SMS Area</b>	<b>% RCAs rating area "High"</b>
1	Road Safety Strategy	65%
2	Deficiency Database	65%
3	Road Safety Inspections	55%
4	Standards and Guidelines	55%
5	Management Systems	40%
6	Audit Systems	30%
7	Expertise, Qualifications and Roles	30%

**Road Safety Strategy** ranked highest overall. Within Council documents the Road Safety Strategy may or may not be part of the SMS. Ratings of "low" or "N/A" were sometimes tendered to reflect this. Notwithstanding, Road Safety Strategy was clearly regarded as having high value.

**Deficiency Database** was second only to the Road Safety Strategy in importance. Most RCAs already had some form of deficiency database usually as a spreadsheet but recognised that it needed further development. Typical comments were;

"One exists and there is a desire to improve it"

"We are working on it but we are not there yet"

**Road Safety Inspections** including safety audits and crash reduction studies was usually rated "high" and ranked third overall.

**Standards and Guidelines** was usually rated "high" and ranked fourth overall. Some RCAs commented that standards were something that RCAs found it difficult to keep up to date with and that other organisations (namely consultants or the RCA forum) may be a better source than themselves. The specific comments were;

"Consultants should be using industry best practice."

"The RCA Forum\* standards listing is the primary source of the standards used and referenced by Council. The SMS is second to this."

These comments perhaps highlight the need for a single, authoritative, N.Z. source on current standards and their field of application.

**Management Systems** was typically rated in the "high" to "moderate" area. Not many authorities had a fully operative safety team (as defined in the SMS) but most had various local arrangements serving at least part of the intended function of the safety management team. Typical comments included:

"Did have a safety team but the issues were not relevant to all participants and it didn't last."

"There is no formal meeting of the management team but management structures have been strengthened"

**Audit Systems** was usually rated "moderate" and ranked fifth overall. Typical comments included:

"The best audit is on the ground rather than on paper"

"Supported but low in priority"

**Expertise, Qualifications and Roles** was typically rated "low" and regarded as the least valuable part of the SMS for the reasons given in the selected comments below:

"Like it or not this component is driven by corporate philosophy"

"A resource intensive part of the SMS to maintain"

"These aspects are already held in job descriptions"

#### ***4.2.5 What area of operation listed above has benefited most from having an SMS?***

Overall the area that appeared to benefit most from SMS was Standards and Guidelines (see Table 2.) It is interesting to note that Standards and Guidelines only ranked 4th in terms of value to Council as shown in Table 1.

Table 2: RCA responses to the question "What area of operation that has benefited most from having an SMS?"

<b>Priority Order</b>	<b>SMS Area</b>	<b>% of total responses</b>
1	Standards and Guidelines	35%
2	Road Safety Strategy	20%
3	Road Safety Inspections	15%
4	Deficiency Database	10%
5	Management Systems	5%
	Other ("all", "none" & "don't know")	15%

The response to this question also varied by peer group. The larger authorities (peer group A to C) generally considered that their Road Safety Strategy had benefited most. However smaller rural authorities (peer group E) were almost unanimous that Standards and Guidelines had benefited most.

#### **4.2.6 How do you know what outcomes Council is getting following SMS implementation and what are they?**

No RCA had attempted to measure in any quantitative way the outcomes that could be attributed to their SMS. Most stated that they did not know what, if any, the safety outcomes were. Many pointed out that the SMS was simply a better way of doing what the previous systems did. It did not re-invent anything.

Some RCAs pointed to their system performance measures in the LTCCP and other documents. Most believed they were meeting these measures but were unable to attribute the safety benefits to one particular measure or system.

Western Bay of Plenty D.C. had one of the most advanced set of system performance measures including both risk and user satisfaction measures. However there was still no attempt made to attribute change to any one system.

#### **4.2.7 What areas of safety do you believe your SMS has contributed to most?**

This was an open question seeking an opinion on the areas of safety thought to have benefited most from a SMS. The responses are shown in Table 3 below, grouped into specific areas. The large number of responses (45%) in the "None, few or don't know" category reflects the difficulty many RCAs had in linking an internal management system to specific road safety outcomes.

However the strong scoring for "Delineation" in this question is consistent with the response in section 4.2.5 where "Standards and Guidelines" was considered to have benefited most from an SMS.

Table 3: Areas of safety thought to have benefited most from a SMS

<b>Priorit y order</b>	<b>Area of Safety</b>	<b>% of response s</b>
1	<i>Delineation</i>	25%
2	<i>Walking and Cycling</i>	10%
3	<i>Geometrics</i>	10%
4	<i>Crash reduction studies</i>	5%
5	<i>Minor Safety Programme</i>	5%
	<i>None, few or don't know</i>	45%

#### **4.2.8 When you compare your operation prior to SMS what additional safety outcomes are you getting?**

When asked what additional safety outcomes they were getting compared to their pre SMS systems 50% of RCAs replied that they did not know, that it was unmeasurable or was nil.

The remaining 50% of RCAs contributed a wide range of suggestions including:

- "Contracts are more efficient - safety performance has been raised"
- "More interactions with the public"
- "Increased awareness of safety issues"
- "Better designed roads with more consistency"
- "Safety audit is now at a higher level"
- "Better monitoring and follow up of CRS studies"
- "Now have a programmes approach to network safety inspections"
- "Road works sites improvements"
- "Delineation improvements"

#### **4.2.9 What other agencies have benefited from your SMS use and is this different from your old (pre SMS) approach?**

In decreasing order of importance the other agencies that were thought to have benefited from the SMS were:

1. Consultants – better understanding of the clients needs
2. Partnerships with other road safety providers – better team work
3. Contractors – better safety focus but there is still a lot of room for improvement.

#### **4.2.10 Knowing what you know now would you recommend a Council in a similar position to you develop a SMS?**

Only 4 (20%) of RCAs would not recommend that a similar Council develop a SMS. A further 3 (15%) did not know and 13 (65%) would recommend a similar Council develop a SMS.

Support for a SMS was strongest amongst the larger RCAs (peer group A to C) and rejection strongest in small RCAs (peer group E). No RCAs in peer groups A to C recommended against developing a SMS but 30% of peer groups D and E did.

The reasons given in support of an SMS included:

- "The SMS formalises processes even if they have always been there."
- "It is important to guard against loss of information when someone leaves"
- "The SMS provides a concise one-stop shop on safety issues"
- "The thought processes and sharing ideas have in themselves been helpful"

The reasons against a SMS included:

- "There have been some gains but they do not outweigh the cost"
- "Small RCAs do not have the resources to keep complex documents in shape"
- "The document lacks a proper place in Council"
- Without resources for their implementation systems are of little value

#### **4.2.11 Would you have paid for / contributed to the development of your SMS given what you now know of the system?**

With hindsight 75% of RCAs would have been willing to either pay for or contribute to the development of a SMS in their district. (see Table 4.)

Table 4: Percentage of RCAs who, with hindsight, would have "paid for" or "contributed to" a SMS

<b>Options</b>	<b>% of responses</b>
<i>Paid for</i>	40%
<i>Contributed to</i>	35%
<i>Neither</i>	20%
<i>Don't Know</i>	5%

Some qualifying comments for those who chose "Paid for" are:

- "With hindsight the consultant would be briefed to produce a smaller more workable document"
- "Would have made the document integrate better with other Council documents"
- "Confident the SMS will prove its worth in the long term"

Some qualifying comments for those who chose "Contributed to" are:

- "The SMS was a top down document with shared local and national input – that is how it should be"
- "Both focus and drive are necessary for success with SMS"
- "Wouldn't produce such a complex document again – just pick up a deficiency database."

A typical comment from one who chose "Neither" was:

- "Would do it only if it was mandatory"

### **4.3 The benefits of single or joint development**

The questions in this section sought to obtain information on benefits of RCAs clustering for the development of a SMS. Did clustering for SMS lead to further co-operative ventures with other Councils?

#### **4.3.1 Sampling**

Of the twenty RCAs selected for participation in this survey 60% had developed a single SMS and 40% had developed a joint SMS

#### **4.3.2 Reasons behind the choice of SMS type**

For single SMS development the most common reason was that there were no obvious partners of similar size, urban rural split or Council operation. For some RCAs they were involved in SMS at an early stage and it simply was not offered or considered at that time.

For joint SMS development the reasons for the choice were that it allowed for greater sharing of ideas and experiences, seemed logical for regions that had always had close co-operation, or it was suggested by LTSA and there were possible efficiency gains.

#### **4.3.3 Have you had a previous history of collective agreements (eg maintenance) with neighbouring Councils?**

RCAs with a joint SMS were more likely to have had previous collective agreements. (60% for joint SMS, 45% for single SMS). However there were only 3 separate clusters in the sample so statistically the evidence is still thin. Two of the three clusters (Taranaki and Western Bay of Plenty) had previous collective agreements but the other cluster (Eastern Bay of Plenty/Tauranga) had not.

#### **4.3.4 How successful have any collective agreements been?**

Ten RCAs (50%) have had significant collective agreements with neighbouring RCAs. Of these:

- 60% were rated highly successful
- 30% were rated moderately successful
- 10% were rated "don't know"

#### **4.3.5 Since producing your SMS have you had subsequent collective agreements with neighbouring Councils?**

Only one authority had a collective agreement subsequent to the SMS and this agreement was not attributed to the SMS liaison in any way.



**4.3.6 From your point of view what are the main advantages (and disadvantages) of the type of SMS your Council has chosen?**

For joint SMS development the advantages were in achieving greater consistency between districts and the opportunity it provided for discussion and sharing of ideas

The main disadvantage of a joint SMS was lack of ownership of the final document. This was a specific issue in the Western Bay of Plenty joint SMS. To some extent the Eastern Bay of Plenty / Tauranga SMS mitigated against this by having a joint strategy but separate action plans / worksheets.

Another disadvantage of the joint SMS was the reliance on other RCAs for inputs and resources. This issue arose in the Taranaki joint SMS where a staff vacancy in a key position restricted the application of the SMS throughout the region.

For single SMS development the main advantages were greater ownership of the document and the ability to shape the document to fit Council's needs. The advantages of consistency between neighbours claimed for joint SMS production can still be achieved in single SMS through the use of a common consultant as happened in Southland.

**4.4 Audit and the future of SMS**

The questions in this section examined the audit status of the SMS and what growth or role the RCA would like the SMS to have in future.

**4.4.1 Has the SMS been subjected to an internal and/or external audit(s)?**

Most SMS (80%) had not had an audit of any type, 15% had an internal audit and 5% an external audit.

**4.4.2 Does your Council have plans for an internal or external audit in future?**

Again most (60%) of RCAs had no immediate plans for an audit but 30% planned an internal and 10% an internal and external audit in the future. Most RCAs recognised that an audit was an integral part of the process but for many current priorities were directed at getting the SMS fully operational.

**4.4.3 List in priority order the outcomes (or activities) you would like your SMS to address in future.**

The most common priority was to complete the SMS and get it in a shape where it was delivering fully. For many this meant going through the document to shape and size it to be sustainable within Councils resources. It also meant finding a home for the document so that it did not

duplicate or overlap other systems Council had operating. In most cases the resources required were not great but any resources within Council were difficult to find.

The second most common priority was to develop a deficiency database that could be used to focus on the specific issues of every road in the district. Most RCAs already had a deficiency database of some description but further development was required for it to fully meet their expectations.

Other priorities were:

- Provide an intervention strategy that is easily understood. Eg when to clear loose material at intersections
- Expand the SMS umbrella to include other relevant activities and programmes.
- Personalise the work categories to be more specific rather than generic.
- Produce a "Safety Deliverables Plan" (list of safety activities)
- Better coordinate minor safety improvements with road renewals.
- Include post implementation inspections.
- Include Enforcement and Education

#### ***4.4.4 Can you suggest any areas for improvement to the overall SMS process for either Council or Land Transport NZ?***

For Council the main areas for improvement related to the need for internal resources to fully integrate the SMS into Council's documents. A number of SMS have not progressed beyond the consultant's draft because resources were not available in Council to reshape it to something that met Council's needs. Similarly in some areas implementation of the SMS has been delayed due to a lack of staff resources. Vacant positions have been difficult to fill.

For Land Transport NZ the suggestions were:

- Help develop a deficiency database
- Keep SMS on the agenda in discussions with Council
- Lead information sharing exercises such as the SMS workshop
- Assist with sharing expertise between Councils (eg safety audit teams)
- Improve access to Land Transport regional staff for technical advice and information
- Continue to develop standards and guidelines
- Provide appropriate funding - especially minor works funding
- Appreciate the staffing problems faced by RCAs

## **4.5 The current state of your SMS**

### ***4.5.1 Is your SMS complete? Identify sections / areas still to be completed.***

Most (65%) RCAs stated that their SMS was complete. Where a SMS was not considered complete it was usually because the RCA wanted to redraft it to make it more useful, to add more activity sheets, or to make some minor amendments to the document. Few RCAs were specific over the areas needing completion.

**4.5.2 How many Opportunities for improvement or Status List items have been completed (advanced) since the SMS was approved?**

Most (65%) RCAs had not advanced any opportunities for improvement or status list items since the SMS was approved. However 30% had advanced between 1 and 5 items and 5% had advanced between 6 and 10 items.

**4.5.3 What work towards completion is planned for the coming year?**

Most (65%) of RCAs did plan work on their SMS in the coming year. For many this involved a review or completion of the SMS. It was sometimes conditional on positions being filled or staff resources within Council being available.

Specific areas where work was proposed included:

- Update the road safety action plan and implementation plan
- Increase the number of templates
- Complete the Road Safety Strategy
- Complete risk assessment procedures
- Complete safety deficiency database
- Include the latest contract details and standards

**4.5.4 Since implementation have you modified your SMS to achieve better outcomes and process improvements?**

RCAs were relatively evenly split in their response to the question of whether they had modified their SMS to achieve better outcomes. 45% had modified it and 55% had not. Where modifications had been made it was usually related to a change in format or adding new activity sheets.

**4.6 Implementation of your SMS**

**4.6.1 Rate your Council's success in implementing the SMS over the last 2 years. Address your comments to the following areas.**

RCAs were asked to consider how successful SMS implementation had been in the seven areas listed in Table 5 below. The available ratings were, Good, Average, Poor or None. Table 5 is a priority ordered listing based on the responses.

In responding to the question RCAs had some difficulty in determining whether a success in a particular area was due to the SMS or external factors. For example many RCAs reported increased activity in safety audits (Road Safety Inspections) but also commented that this may driven more by the mandatory application of safety audits than implementation of the SMS. The interpretation of the results in Table 5 and associated comments should bear this in mind.

Table 5: RCA response to the question "Rate your Council's success in implementing the SMS in the following areas." Areas with highest ratings are at the top, lowest at the bottom.

<b>Priorit y order</b>	<b>SMS area</b>	<b>% RCAs rating area "Good"</b>
1	Road Safety Strategy / Action plans	40%
2	Road Safety Inspections	35%
3	Standards and Guidelines	25%
4	Deficiency Database	25%
5	Management Systems	20%
6	Expertise, Qualifications and Roles	15%
7	Audit Systems	10%

**Road Safety Strategy / Action Plans** ranked highest overall. The Road Safety Strategy and action plans were not always part of the SMS but were an area RCAs felt they had a good measure of success.

**Road Safety Inspections** (including safety audits and crash reduction studies) was ranked second overall. Safety inspections are now carried out on a more regular basis.

**Standards and Guidelines** was ranked third overall. It is interesting to note that Standards and Guidelines was the area thought to have benefited most from a SMS yet in terms of implementation it ranks third with just 25% of RCAs regarding their implementation to date as being good.

**Deficiency Database** was ranked fourth overall. Deficiency database was rated higher in terms of its perceived value than it was in terms of implementation success. While most RCAs do have a deficiency database it was clear they are not yet satisfied it is delivering all that it could.

**Management Systems** was ranked fifth overall. This area has not seen a lot of change under a SMS. One RCA commented that "Management Systems worked well prior to SMS and still do."

**Expertise, Qualifications and Roles** was ranked sixth overall. With pronounced staff shortages and an overriding corporate influence in some RCAs it is easy to understand why implementation was low for this area.

**Audit Systems** was ranked seventh overall. Audit systems has really has not progressed very much with the RCAs that were involved in this survey. Their SMS was often still in its infancy. Those RCAs that had already undergone an external audit by Land Transport NZ were excluded from this survey so this result may not be general.

#### **4.6.2 What are the main impediments to full implementation of the SMS?**

The most significant single impediment to full implementation of the SMS is the lack of staff resources within council. Staff resources are needed to make it relevant to council operators, to update it and to keep up with the latest changes to Land Transport rules, standards and guidelines.

The other significant impediment is that of encouraging people to use it. This includes the contractors, the consultants and other sections of council. It is not sufficient just to produce a SMS is has to be actively marketed if it is going to achieve its true potential.

To some authorities, particularly the smaller authorities, the SMS had yet to prove itself as a relevant document. Its need was not firmly established for them and implementation was being impeded by a lack of clarity on where the document sits relative to other council documents.

#### **4.6.3 Can Land Transport NZ further assist the process in any way?**

(Responses to this question have been included section 4.4.4)

### **4.7 The value of the SMS to Council**

The responses to questions 1.1, 2.10, 2.11 and 5.3 give an indication of the value of the SMS to Council. Using these questions each SMS was classified into one of three value groups shown below:

Group 1: The SMS is operational, has value and the RCA is now concentrating on promoting and broadening its influence

Group 2: The SMS is not yet fully operational but the RCA saw value in having it operational. A local task had been set to redraft the SMS to something useful to Council.

Group 3: The SMS is not fully operational and was not seen as an important document to Council. Little energy was being spent in modifying or updating it.

Table 6: The number of surveyed RCAs by value group and peer group.

<b>Value Group</b>	<b>Peer group classification of the RCA</b>			<b>All peer groups</b>
	<b>A-C (Large urban centres)</b>	<b>D (Provincial towns)</b>	<b>E (Small provincial towns)</b>	
Group 1	5	3	1	9
Group 2	2	2	1	5
Group 3		2	4	6
<b>Total</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>20</b>

Note: Peer group classifications are detailed in Appendix 2

The following observations are made on the results shown in Table 6.

- All SMS from large urban centres (Peer groups A to C) were in value group 1 or 2. ie the RCAs saw value in the SMS and their SMS was either fully operational or they had set themselves the task to make it operational.
- The SMS from provincial towns (Peer group D) were relatively evenly divided between the three value groups.
- The SMS from small provincial towns (Peer group E) were predominantly in value group 3. ie their SMS was not fully operational and not seen as an important document to Council.

#### 4.8 Peer group differences

There were other differences between peer group responses that are helpful to examine.

The smaller RCAs saw "Standards and guidelines" as the area benefiting most from the SMS. The larger urban centres saw "Road safety strategy" as benefiting most. (Section 4.2.5)

The smaller RCAs were much more likely than larger authorities to report that there were no process changes brought about by the SMS. (Section 4.2.2 )

The smaller RCAs were much more likely to recommend against a similar authority developing an SMS (Section 4.2.10) or to respond "neither" when asked if they would have contributed to or paid for the development of a SMS (section 4.2.11). (See Table 7 below)

Table 7: The number of surveyed RCAs showing differences in the response to questions 2.10 and 2.11 according to peer group.

Question 2.10	Response	Peer group of the RCA			
		A-C	D	E	Total
Knowing what you know now would you recommend a Council in a similar position to you develop a SMS? Why?	Yes	5	5	3	13
	No		2	2	4
	Don't know	2		1	3

  

Question 2.11	Response	Peer group of the RCA			
		A-C	D	E	Total
Would you have paid for / contributed to the development of your SMS given what you now know of the system?	Paid for	4	3	1	8
	Contributed to	2	3	2	7
	Neither		1	3	4
	Don't know	1			1

The large urban centres (Peer groups A to C) regarded SMS favourably both in terms of recommending it to other similar authorities and in funding or contributing to its development. Although there were some "don't know" responses none of the large urban authorities in the survey gave a negative response to either of these questions.

The small provincial towns (Peer group E) were much more inclined to give a negative response to these questions. A third of all peer group E Councils would not recommend a similar Council develop a SMS and half of them would neither "contribute to" nor "pay for" the development of an SMS knowing what they know now.

It should be noted that NZ local road crashes are distributed:

- 80% to peer groups A to C
- 15% to peer group D
- 5% to peer group E

While peer group E (and to a lesser extent peer group D) appear to have benefited least from SMS they are also the group of RCAs in New Zealand with the smallest crash numbers.

## **5 ACKNOWLEDGEMENTS**

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We are grateful for the time and effort spent by staff working for the territorial local authorities interviewed, in preparing for and taking part in the review. The time they spent in discussion and in obtaining information for us is appreciated.

We wish to thank those Land Transport NZ regional and other staff who helped with the fieldwork for this review and for their contributions to discussions.

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Julian Chisnall  
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Theme Audit of Safety Management System Uptake, 2007



## **Appendix 1: The Questionnaire**

Theme Audit of Safety Management System Uptake, 2007



**Questionnaire:**

**Review of Safety Management Systems, 2007**

Date: \_\_\_\_\_ Signed: \_\_\_\_\_  
 \_\_\_\_\_ Council.

Position: \_\_\_\_\_

Please circle the appropriate response and add additional comment in the space provided.

Part 1

1. <b>Status of the SMS within Council</b>	Circle appropriate responses, please.						Comments
	Council Endorsed		In house		Not implemented		
	Weekly	Monthly	Monthly	6 Monthly	Never		
1.1	What is the status of your SMS?	Yes	No	Don't Know	Don't Know		
1.2	How often do your Council staff refer to your SMS?	Yes	No	Don't Know	Don't Know		
1.3	Are Councillors aware of the SMS – what evidence?	Yes	No	Don't Know	Don't Know		
1.4	Are Council staff aware of the SMS – what evidence?	Yes	No	Don't Know	Don't Know		
1.5	Are your network or in-house consultants (if you use them) aware of the SMS – what evidence?	Yes	No	Don't Know	Don't Know		
1.6	Are your maintenance contractor(s) aware of the SMS – what evidence?	Yes	No	Don't Know	Don't Know		

2. <b>The Benefits of SMS as seen by Council</b>	<b>Circle appropriate responses, please.</b>				<b>Comments</b>
2.1	What Council processes have changed as a result of using the SMS eg activity prioritisation, road safety inspections, safety minor works programme?				
2.2	What are the benefits to Council of these process changes? Eg more effective work-flow, better quality of information.				
2.3	Do you believe that Council had systems providing similar outcomes prior to the introduction of your SMS? If "Yes" please describe.	Yes	No	Don't Know	
2.4	What value do you place on the following areas covered by the SMS?				
2.4a	<i>Road Safety Strategy &amp; Action Plans</i>	High	Moderate	Low	No value
2.4b	<i>Standards and guidelines</i>	High	Moderate	Low	No value
2.4c	<i>Expertise / Qualifications / Roles</i>	High	Moderate	Low	No value
2.4d	<i>Road Safety Inspections (Including Safety Audits)</i>	High	Moderate	Low	No value
2.4e	<i>Deficiency database (Including prioritisation processes)</i>	High	Moderate	Low	No value
2.4f	<i>Management Systems (Including the Safety Team, Safety Management and Intervention Plans)</i>	High	Moderate	Low	No value
2.4g	<i>Audit systems (Including internal and external audits, Opportunities for Improvement)</i>	High	Moderate	Low	No value

		Circle appropriate responses, please.							Comments
		a	b	c	d	e	f	g	
2.5	What area of operation listed above has benefited most from having an SMS?								
2.6	How do you know what outcomes Council is getting following SMS implementation and what are they? (ie what internal measures has Council implemented to measure SMS performance)								
2.7	What areas of road safety do you believe your SMS has contributed to most eg. Walking and cycling, alcohol, speed, signage, delineation, geometric improvements etc.								
2.8	When you compare your operation prior to the implementation of your current SMS what additional road safety outcomes are you getting?								
2.9	What other agencies have benefited from your SMS use and is this different from your old (pre SMS) approach?								
2.10	Knowing what you know now would you recommend a Council in a similar position to you develop a SMS? Why?	Yes	No	Don't Know					
2.11	Would you have paid for / contributed to the development of your SMS given what you now know of the system?	Paid for	Contributed to	Neither					

3.	<b>Benefits of single or joint SMS development</b>	Circle appropriate responses, please.			Comments
		Single	Joint		
3.1	Is your SMS a single Council SMS or joint SMS with other Councils?	Single	Joint		
3.2	What were the main reasons for your Council's choice in the question above?				
3.3	Have you had a previous history of collective agreements (eg maintenance) with neighbouring Councils? If so what?	Yes	No	Don't Know	
3.4	How successful have any collective agreements been?	Highly	Moderately	Not	
3.5	Since producing your SMS have you had subsequent collective agreements with neighbouring Councils?	Yes	No	Don't Know	
3.6	From your point of view what are the main advantages (and disadvantages) of the type of SMS your Council has chosen?	Single	Joint		

4. <b>Audit and the Future of SMS</b>	<b>Circle appropriate responses, please.</b>			<b>Comments</b>
4.1	Internal	External	None	
4.2	Internal	External	None	
				<b>Comments</b>
4.3				
4.4				

Part 2

<b>5. Current state of your SMS:</b>		<b>Circle appropriate responses, please.</b>			<b>Comments</b>	
		Yes	No	Don't Know		
5.1	Is your SMS complete? Identify sections / areas still to be completed (Opportunities for improvement or Status List items)?	None	1 - 5	6 - 10	>10	
5.2	How many Opportunities for improvement or Status List items have been completed (advanced) since the SMS was approved?	None	As detailed			
5.3	What work towards completion is planned for the coming year?	Yes	No	Don't Know		
5.4	Since implementation have you modified your SMS to achieve better outcomes and process improvements?					



6. <b>Implementation of your SMS</b>	<b>Circle appropriate responses, please.</b>			<b>Comments</b>
6.1 Rate your Council's success in implementing the SMS over the last 2 years. Address your comments to the following areas:				
6.1a Road Safety Strategy & Action Plans	Good	Average	Poor	None
6.1b Standards and guidelines	Good	Average	Poor	None
6.1c Expertise / Qualifications / Roles	Good	Average	Poor	None
6.1d Road Safety Inspections (Including Safety Audits)	Good	Average	Poor	None
6.1e Deficiency database (Including prioritisation processes)	Good	Average	Poor	None
6.1f Management Systems (Including the Safety Team, Safety Management and Intervention Plans)	Good	Average	Poor	None
6.1g Audit systems (Including internal and external audits, Opportunities for Improvement}	Good	Average	Poor	None
6.2 What are the main impediments to full implementation of the SMS?				
6.3 Can Land Transport NZ further assist the process in any way?	Yes	No	Don't Know	



## Appendix 2: Summary of Responses to Multi-choice Questions

The tables below show responses in terms of the peer group of the RCA concerned. Peer groups are defined as:

- Group A:** Major urban areas with some rural areas on the outskirts (population >97,500 and/or rural crashes < 25%)
- Group B:** Major urban areas with some rural areas on outskirts (population >40,000–97,500 and/or rural crashes < 35%)
- Group C:** Large provincial towns and hinterland (population 35,000–75,000 and/or rural crashes < 55%)
- Group D:** Provincial towns and hinterland (population 20,000–75,000 and/or rural crashes > 55%)
- Group E:** Small provincial towns, low traffic volumes (population < 20,000 and/or rural crashes > 55%)

The peer grouping and the 20 RCAs in this survey are:

- Groups A-C:** Auckland, North Shore, Tauranga, Invercargill, New Plymouth, Rotorua, Whangarei. (7 of 25 = 28% of all NZ)
- Group D:** Franklin, Rodney, Sth Taranaki, Tasman, Waimakariri, Western BoP, Whakatane (7 of 22 = 32% of all NZ)
- Group E:** Clutha, Gore, Hurunui, Kawerau, Opotiki, Stratford (6 of 27 = 22%)

**Total sample:** (20 of 74 = 27% of all NZ)

<b>Part 1:</b>		<b>Options</b>	<b>No. of Responses</b>			<b>%</b>
<b>1 Status of the SMS within Council</b>						
1.1 What is the status of your SMS?	Council endorsed	A-C	D	E	Total	%
	In house	2	1	2	5	25%
	Not implemented	4	4	2	10	50%
		1	2	2	5	25%
1.2 How often do your Council staff refer to your SMS?	Weekly	A-C	D	E	Total	%
	Monthly		1		1	5%
	6 Monthly	2	1	1	4	20%
	Never	4	3	4	11	55%
		1	2	1	4	20%
1.3 Are Councillors aware of the SMS – what evidence?	Yes	A-C	D	E	Total	%
	No	3	3	3	9	45%
	Don't know	3	2	3	8	40%
		1	2		3	15%
1.4 Are Council staff aware of the SMS – what evidence?	Yes	A-C	D	E	Total	%
	No	7	6	6	19	95%
			1		1	5%
		A-C	D	E	Total	%

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1.5 Are your network or in-house consultants (if you use them) aware of the SMS – what evidence?	Yes	6	7	4	17	85%
	N/A	1		2	3	15%

		A-C	D	E	Total	%
1.6 Are your maintenance contractor(s) aware of the SMS – what evidence?	Yes	4	5	1	10	50%
	No	3	2	4	9	45%
	N/A			1	1	5%

**2 The Benefits of SMS as seen by Council**

		A-C	D	E	Total	%
2.3 Do you believe that Council had systems providing similar outcomes prior to the introduction of your SMS? If "Yes" please describe.	Yes	5	5	4	14	70%
	No	1	1	2	4	20%
	Don't know	1	1		2	10%

2.4 What value do you place on the following areas covered by the SMS?		A-C	D	E	Total	%
2.4a Road Safety Strategy & Action Plans	High	5	5	3	13	65%
	Moderate	1	1	1	3	15%
	Low			2	2	10%
	No value		1		1	5%
	N/A	1			1	5%

		A-C	D	E	Total	%
2.4b Standards and guidelines	High	6	2	3	11	55%
	Moderate	1	2	3	6	30%
	Low		2		2	10%
	No value		1		1	5%

		A-C	D	E	Total	%
2.4c Expertise / Qualifications / Roles	High	2	2	2	6	30%
	Moderate	3	1	1	5	25%
	Low	2	3	2	7	35%
	No value		1	1	2	10%

		A-C	D	E	Total	%
2.4d Road Safety Inspections (Including Safety Audits)	High	5	3	3	11	55%
	Moderate	2	3	2	7	35%
	Low			1	1	5%
	No value		1		1	5%

		A-C	D	E	Total	%
2.4e Deficiency database (Including prioritisation processes)	High	5	5	3	13	65%
	Moderate	1	1	1	3	15%
	Low	1		1	2	10%
	No value		1	1	2	10%

		A-C	D	E	Total	%
2.4f Management Systems (Including the	High	3	3	2	8	40%

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Safety Team, Safety Management and Intervention Plans)	Moderate	2	2	2	6	30%
	Low	2	1	1	4	20%
	No value		1	1	2	10%

		A-C	D	E	Total	%
2.4g Audit systems (Including internal and external audits, Opportunities for Improvement}	High	3	2	1	6	30%
	Moderate	3	1	2	6	30%
	Low	1	3	2	6	30%
	No value		1	1	2	10%

		A-C	D	E	Total	%
2.5 What area of operation listed above has benefited most from having an SMS?	a	3	1		4	20%
	b	2		5	7	35%
	d	1	1	1	3	15%
	e	1	1		2	10%
	f		1		1	5%
	all		1		1	5%
	None		1		1	5%
	Don't know		1		1	5%

		A-C	D	E	Total	%
2.10 Knowing what you know now would you recommend a Council in a similar position to you develop a SMS? Why?	Yes	5	5	3	13	65%
	No		2	2	4	20%
	Don't know	2		1	3	15%

		A-C	D	E	Total	%
2.11 Would you have paid for / contributed to the development of your SMS given what you now know of the system?	Paid for	4	3	1	8	40%
	Contributed to	2	3	2	7	35%
	Neither		1	3	4	20%
	Don't know	1			1	5%

**3 Benefits of single or joint SMS development**

		A-C	D	E	Total	%
3.1 Is your SMS a single Council SMS or joint SMS with other Councils?	Joint	2	3	3	8	40%
	Single	5	4	3	12	60%

		A-C	D	E	Total	%
3.3 Have you had a previous history of collective agreements (eg maintenance) with neighbouring Councils? If so what?	<b>Joint SMS</b>					
	Yes	2	2	1	5	63%
	No		1	2	3	38%
	<b>Single SMS</b>					
	Yes	2	1	2	5	42%
	No	3	3	1	7	58%

(For Q3.3 = "Yes")	A-C	D	E	Total	%

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3.4 How successful have any collective agreements been?	Highly	2	1	3	6	60%
	Moderately	2	1		3	30%
	Don't know		1		1	10%

		A-C	D	E	Total	%
3.5 Since producing your SMS have you had subsequent collective agreements with neighbouring Councils?	Yes		1		1	5%
	No	6	6	6	18	90%
	N/A	1			1	5%

**4 Audit and the Future of SMS**

		A-C	D	E	Total	%
4.1 Has the SMS been subjected to an internal and/or external audit(s)?	External			1	1	5%
	Internal	1	2		3	15%
	None	6	5	5	16	80%

		A-C	D	E	Total	%
4.2 Does your Council have plans for an internal or external audit in future?	External	1			1	5%
	Internal	2	2	2	6	30%
	Internal / External			1	1	5%
	None	4	5	3	12	60%

**Part 2:**

**Options      No. of Responses      %**

**5 Current state of your SMS:**

		A-C	D	E	Total	%
5.1 Is your SMS complete? Identify sections / areas still to be completed (Opportunities for improvement or Status List items)?	Yes	4	3	6	13	65%
	No	3	4		7	35%

		A-C	D	E	Total	%
5.2 How many Opportunities for improvement or Status List items have been completed (advanced) since the SMS was approved?	6-10			1	1	5%
	1-5	3	2	1	6	30%
	None	4	5	4	13	65%

		A-C	D	E	Total	%
5.3 What work towards completion is planned for the coming year?	As detailed	5	4	4	13	65%
	None	2	3	2	7	35%

		A-C	D	E	Total	%
5.4 Since implementation have you modified your SMS to achieve better outcomes and process improvements?	Yes	4	4	1	9	45%
	No	3	3	5	11	55%

**6 Implementation of your SMS**

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6.1 Rate your Council's success in implementing the SMS over the last 2 years.  
Address your comments to the following areas:

		A-C	D	E	Total	%
6.1 <i>Road Safety Strategy &amp; Action Plans</i> a	Good	2	5	1	8	40%
	Average	4	1	2	7	35%
	Poor	1		1	2	10%
	None		1	2	3	15%

		A-C	D	E	Total	%
6.1 <i>Standards and guidelines</i> b	Good	2	2	1	5	25%
	Average	4	1	3	8	40%
	Poor	1	1		2	10%
	None		3	2	5	25%

		A-C	D	E	Total	%
6.1 <i>Expertise / Qualifications / Roles</i> c	Good	1	2		3	15%
	Average	4	1	3	8	40%
	Poor	1	1	1	3	15%
	None	1	3	2	6	30%

		A-C	D	E	Total	%
6.1 <i>Road Safety Inspections (Including Safety d Audits)</i>	Good	3	4		7	35%
	Average	3	2	3	8	40%
	Poor	1		1	2	10%
	None		1	2	3	15%

		A-C	D	E	Total	%
6.1 <i>Deficiency database (Including e prioritisation processes)</i>	Good	3	2		5	25%
	Average	1	2	2	5	25%
	Poor	2		2	4	20%
	None	1	3	2	6	30%

		A-C	D	E	Total	%
6.1f <i>Management Systems (Including the Safety Team, Safety Management and Intervention Plans)</i>	Good	2	2		4	20%
	Average	2	2	2	6	30%
	Poor	3	1	2	6	30%
	None		2	2	4	20%

		A-C	D	E	Total	%
6.1 <i>Audit systems (Including internal and g external audits, Opportunities for Improvement)</i>	Good	2			2	10%
	Average		2	1	3	15%
	Poor	4	2	3	9	45%
	None	1	3	2	6	30%

