

**Part 4-D: Palmerston North City safety management system**





# **Safety Management System**



# Preface

Every year over 100 people are injured from crashes on the road network in and around Palmerston North. The social cost of these crashes is estimated at over \$30 million each year. The social cost is only part of the problem. For some families the reality of road crashes is the loss of a loved family member or the life changing experience of coping with permanent injuries.

Council aspires for Palmerston North to be an exciting city in which to live, learn, work and play. Quality of life depends very much on the level of safety that our community experiences. Council is committed to enhancing our roading network to improve its safety. This will be achieved through the use of safety standards that are equivalent to world's best practice.

This Safety Management System sets out a framework to help achieve this objective. Improving safety is not easy. Rather it challenges us to understand our strengths and identify our weaknesses, so that we can improve safety through life-long learning and industry research. Safety will be improved through equipping our people with the skills and knowledge to deliver the best results, through having the right systems in place to address all safety aspects, through having access to the most suitable standards and through having the dedication and commitment necessary to deliver the outcomes that will contribute to improved safety.

This document is a living document. It contains references to critical processes, policies, standards and organisations that support the development of a safer roading network. It describes a system designed by the people who are to use it and sets a challenge to staff to be systematic, focussed, responsive and data-driven to achieve the best possible results. Used properly, this framework will ensure effective decision-making, efficient use of resources and value for money

***Council is committed to having the right people doing the right things at the right time in our quest for improved safety. We will be recognised as a leader in road safety, committed to reducing the devastating impacts that road crashes have on our residents and visitors to our region.***



## Palmerston North City Council Safety Management System

This is an agreement between the Land Transport Safety Authority and Palmerston North City Council to certify that the Safety Management System enclosed herewith is endorsed by both parties as being in accordance with the LTSA "*Guideline for Developing a Safety Management System*".

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Signed on behalf of Palmerston  
North City Council

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Signed on behalf of Land  
Transport Safety Authority

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Name:  
Position:  
Date:  
(PNCC Seal)

Name:  
Position: Regional Manager  
Date:

Witnessed by:

Witnessed by:

Name:  
Position:  
Date:

Name:  
Position:  
Date:

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# Record of Amendments

This document is a controlled Palmerston North City Council document. It is reviewed and updated in accordance to Section 8. Amendments are recorded on this Amendment Control Sheet.

<b>Amend. No.</b>	<b>Subject</b>	<b>Effective Date</b>	<b>Updated By</b>	<b>Date</b>



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# Foreword

This Safety Management System (SMS) provides a general overview of the processes for managing the Palmerston North City road network to improve safety.

It defines the roles of the major stakeholders and documents road safety strategies, policies, standards, procedures, staff expertise, management, and audit systems for Palmerston North City. The focus of this document is on the desired outcomes, with regard to safety on the road network, rather than the method used to achieve these outcomes.

The Road Safety Strategy will form direction for the Safety Management System, and is to be developed by Road Safe Central. The Road Safety Strategy will set out the goals of Palmerston North City in terms of road safety, and the approach the SMS will take to achieve them.

Templates for various roading activities that impact on road safety are included as an appendix. These document relevant legislation, standards, policies, procedures and guidelines. Staff, consultants and contractors use the templates to ensure the appropriate standards and procedures are applied to achieve the safety targets for specific roading activities.



# Introduction

## **1.1 Palmerston North City Council**

Palmerston North City Council provides and maintains a network of roads and footpaths for the safe and efficient movement of pedestrians, road users and cyclists.

The network includes 483 km of roads and 84 bridges. Being primarily an urban network, there are 465 km of footpaths, 7,370 streetlights and 3160 parking spaces.

Traditionally Palmerston North City has had a great deal of pride in the visual appearance of their city. This is reflected by the existence of 10,600 street trees, which unfortunately, in some locations, now present a safety hazard.

Palmerston North City Council also promotes and advocates for the ongoing improvement and maintenance of urban passenger transport systems and to increase the provision of cycling facilities.

Refer to figure 1 below for the Palmerston City Council staff structure.



Proposed City Networks Unit Structure

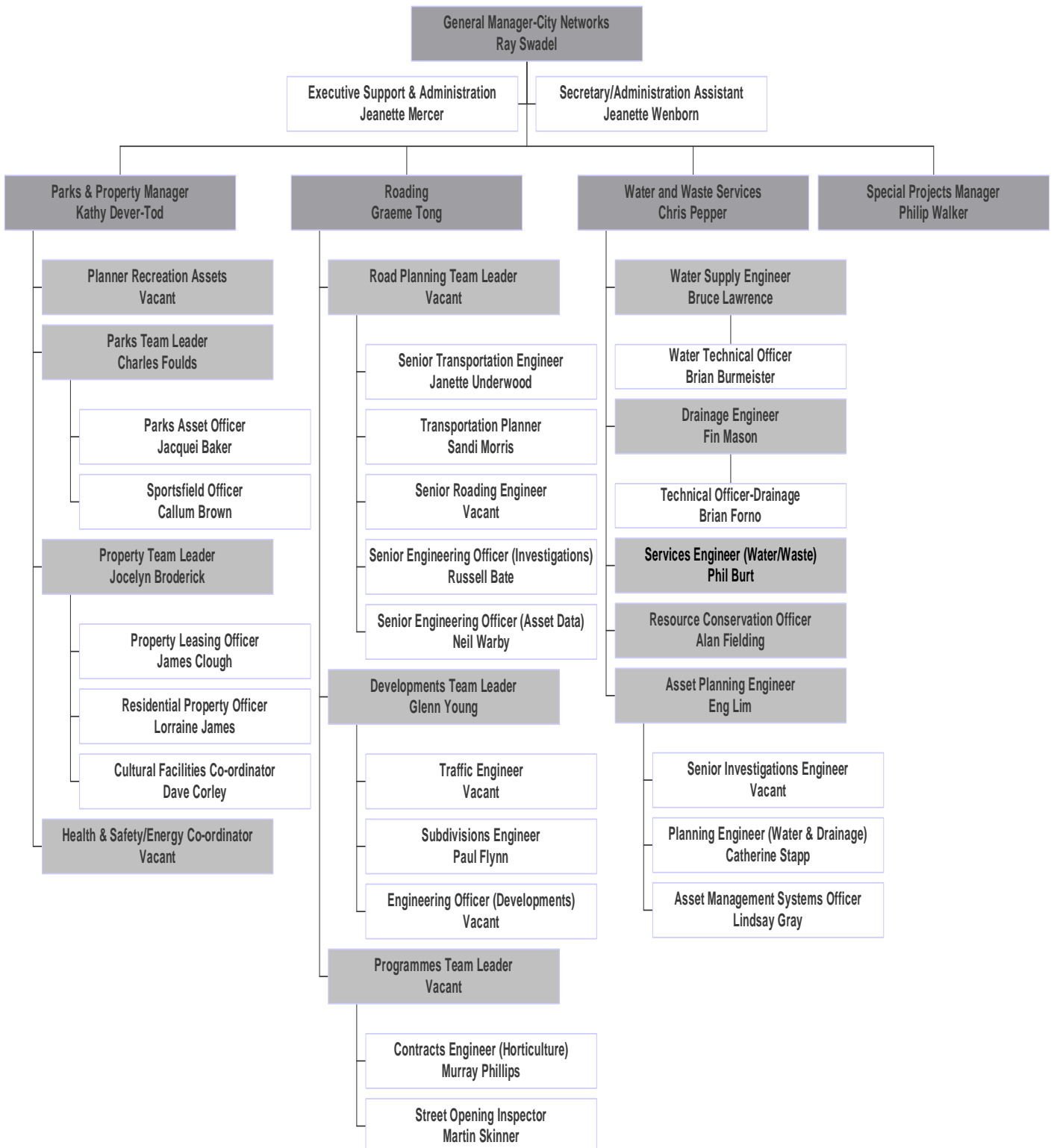


Figure 1 Palmerston North City Council Staff Structure

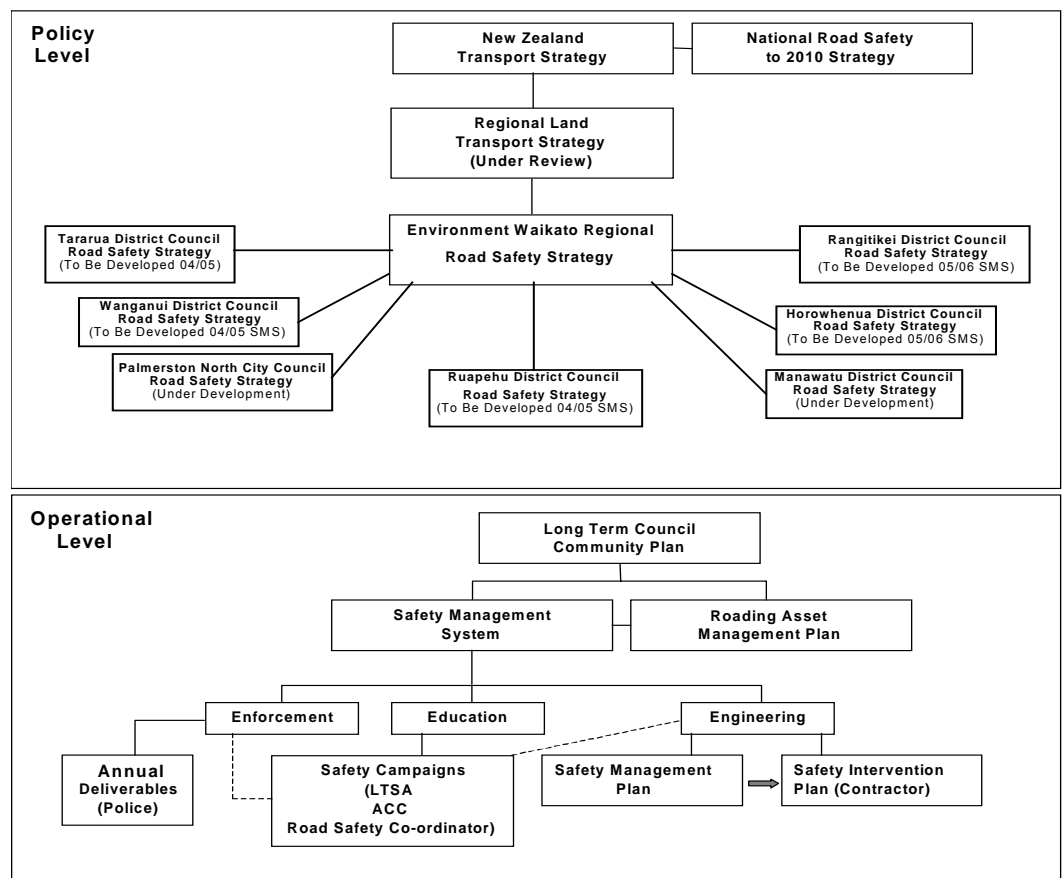
## 1.2 Safety Management Systems – Regional Policy Document

This Safety Management System will become a policy document, once adopted by council, which provides a systematic approach to safety on Palmerston North City's roading network.

The Palmerston North City Council Safety Management Plan will be closely linked to the Asset Management Plan. The Asset Management Plan will drive the Land Transport Community Consultation Plan.

The flowchart below identifies how the Palmerston North City Council Road Safety Strategy fits into the regional and national strategies and targets. The Council Road Safety Strategies will feed into the Regional Road Safety Strategy to ensure consistency.

**Figure 2 National SMS Strategy Structure**



### **1.3 Safety Management Systems – LTSA Model**

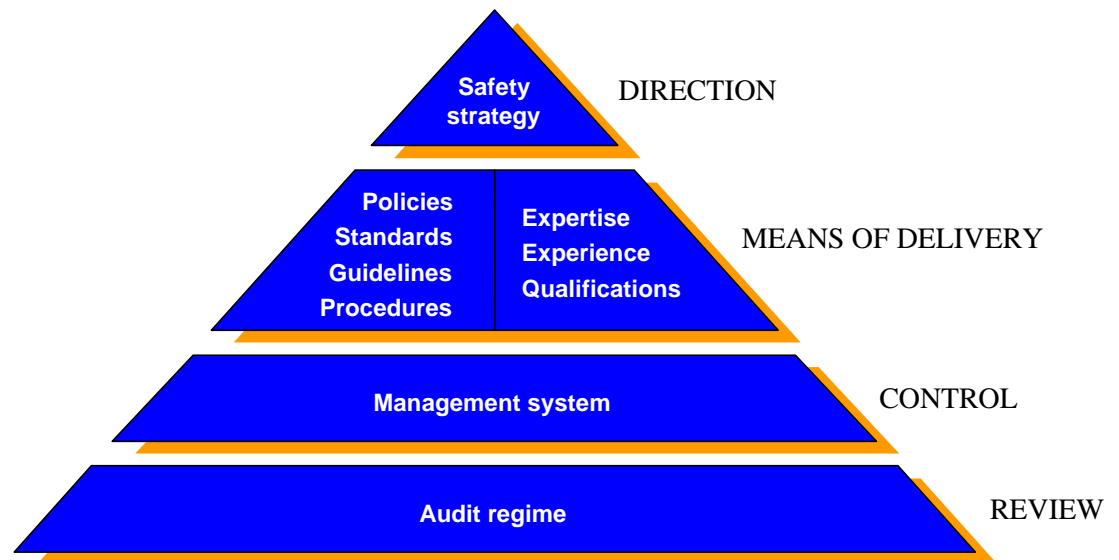
The Safety Management System was developed in conjunction with the LTSA, following LTSA Trial Guidelines for developing a Safety Management System for Road Controlling Authorities in response to the 2010 Road Safety Targets.

Palmerston North City Council has adapted the LTSA configuration and recognises the evolving nature of road safety initiatives, Safety Management Systems and Safety Intervention mechanisms. Palmerston North City Council's model provides a framework for the management of road activities that have an impact on road safety and ensures council staff and external contractors practice a consistent approach.

The five-element structure shown in figure 2 describes the layered management system that the SMS is based upon.



**Figure 3 SMS Structure Pyramid**



### **1.4 Stakeholders**

The SMS intention is to build on the existing relationships to foster a collective and collaborative approach to road safety on the Palmerston North City Council roading network.

To be effective the Safety Management System requires inputs from a variety of stakeholders. Primary groups who will be principally involved with delivery of the road safety goals are Palmerston North City Council staff, elected members, Land Transport Safety Authority, Road Safe Central, Police, local community groups, consultants and network contractors. Secondary groups will include Transfund, Road Transport Association, Regional Councils, and the Automobile Association. A list of stakeholders is shown on Table 1.

The aim of these groups is to comment on and develop the SMS to ensure a consistent and appropriate method for achieving a safe road network.

Palmerston North City Council staff will undertake a management role to direct external groups in safety management of the road network and establish a safety culture necessary for effective delivery of the SMS. Within council the Roothing Manager will act as champion for the SMS will ensure that the SMS is a living and constructive document.

**Table 1 Stakeholder Groups**

<b>Category</b>	<b>Group</b>	<b>Contact</b>
Internal	Palmerston North City Council	
	CEO	
	Mayor and Councillors	
	Ward Committees (6)	
	City Networks	
	City Enterprises	
	Contractors	
	City Future	
	City Contact	
	City Corporate	
Government Agency	Ambulance Service	
	Fire Service	
	LTSA*	
	ACC*	
	Mid Central Health	
	NZ Automobile Assn*	
	NZ Police*	
	Transfund	
	Transit*	
	Neighbouring Local Authorities (within Region)	
	Horizons Regional Council	Regional Road Safety Coordinator
Heavy Transport Operators	Central Area Road Transport Association (CARTA)	
Interest Groups	Federated Farmers	
	Plunket	
	DPA Disabilities Assn.	
	Schools	

Category	Group	Contact
	Cycle clubs/cycle action groups	
	Massey University	
	UCOL	
	Linton Army Camp	
Public Transport Services	Buses –	
	Madges	
	Transit	
	Intercity	
	Newmans	
	Taxis	
	Tranzrail (Freight and Passenger)	
Rental Car Firms		
School Bus Operators	Madges	
	Transit	
Service Groups	Lions	
	Rotary	
	Probus	
	Grey Power	
Tourist Operators		
Utility Services	Gas (Powerco – Siemens for contract maintenance)	
	Power (Powerco)	
	Sewage	PNCC
	Stormwater	PNCC
	Water	PNCC
	Telephone	

\* Representative present at Road Safe Central quarterly meetings

## 1.5 Benefits

A consistent approach to safety management of the road network as offered in this SMS will in turn provide benefits such as:





- ▶ Ensuring safety is considered in all decisions concerning construction, maintenance, and management, of the road network. This facilitates achievement of goals and targets identified in the Palmerston North City Road Safety Strategy and the 2010 Road Safety Targets.
- ▶ Implementation of road management procedures will be consistent and efficient
- ▶ Risk management is documented providing protection from litigation
- ▶ Road safety knowledge and expertise needs are documented and can be made available
- ▶ The documentation provides clear guidance for all staff and can be used for training new employees
- ▶ Development, review and auditing of the road network are undertaken in a systematic way
- ▶ Better safety for all road users

## **1.6 The Safety Management System Manual**

This manual documents Palmerston North City Council's Safety Management System and describes how road safety issues are considered in the operation and management of the Palmerston North City roading network.

Audit procedures for the continual improvement and development of this system are discussed in Section 8 of this manual.

# Road Safety Strategy

The Road Safety Strategy is a key strategic document and sets the direction for road safety in respect of the management and operation of Palmerston North City's road network. It sets out Palmerston North City Council's longer term safety objectives, acknowledges regional and national road safety plans, reinforces the relationship between education, engineering and enforcement, and acknowledges that desired safety outcomes must be balanced with funding ability.

This Road Safety Strategy has been developed and forms part of the City's Safety Management System. Consultation with internal stakeholders and external Government agencies has been completed.

## Recommended Actions

- 1. Consultation with external stakeholders regarding Road Safety Strategy is to be considered.**
- 2. Road Safety Strategy to be finalised and presented to Council for adoption.**

## 1.7 Vision

***“To consistently achieve a level of safety, equal to or better than equivalent peer group districts within New Zealand”***

Palmerston North City Council's vision should be aligned with that of Horizons Regional Council. It is understood that Horizons have commenced development of a Land Transport Strategy. It is likely that a Regional Road Safety Strategy will be developed following completion of that process.

## 1.8 Key Stakeholders and Partners

The key stakeholders and partners in the community who will contribute to achieving the vision are listed in table 1 of the previous section and include government agencies road industry associations and community groups.

Each one of these groups will have their own objectives in relation to road safety with the overall target of helping to meet the government's "Road Safety to 2010" objective of reducing annual road casualties to no more than 300 deaths and 4,500 hospitalisations by 2010.



## 1.9 Safety Outcomes

The Road Safety Strategy (RSS) sets out key safety areas that Palmerston North can target to reduce the number of fatalities and severity of crashes on its road network.

Primarily, the key safety areas are identified by reviewing the LTSA's Annual Road Safety Reports and any relevant road safety strategies being developed and implemented regionally. It is also expected that there will be influences on these safety areas from feedback during the consultation being undertaken as Palmerston North progresses with its Long Term Council Community Plan (LTCCP). The LTCCP contains the following target for road safety performance:

Road Safety:

- To hold the number of reported injury crashes at or below the five-year average for Palmerston North:

**Fatal Crashes.** 4.8 per annum

**Serious Injury Crashes.** 25 per annum

**Minor Injury Crashes.** 99 per annum

- To hold the number of reported cyclist casualties at or below the five-year average for Palmerston North:

**Cyclist Casualties.** 21 per annum

It is essential that all the stakeholders establish a safety culture in order for the safety outcomes to be achieved.

Examples of measures that will continue to contribute to the safety outcomes are:

- Consistent and unified approach to road safety by all stakeholders
- Implementation of the Safety Management System and its Safety Management Plan and Safety Intervention Plan components.
- Implementation of safety campaigns and enforcement strategies that complement the engineering functions of Council.
- Planned focused spending of available funds on projects that have been identified on the deficiency database and subsequently prioritised for funding.

As safety improvement projects are carried out in conjunction with education and enforcement, it is likely that some of the key safety areas may change and it will be important to monitor and review this aspect through the regular review and audit procedure for the SMS.

## 1.10 Key Safety Areas

Palmerston North falls into the LTSA Peer Group B of local authorities for safety comparison.

The 1999 – 2003 Annual Road Safety Report shows that Palmerston North City is already one of the safer districts in New Zealand.

For urban local roads Palmerston North has less crashes per 100 million vehicles kilometres travelled than any other District within its peer group. This is well below the average for group B and below the all New Zealand average. For rural local roads Palmerston North has the second highest crash rates within its peer group, and this accounts for \$5.0 million social cost, about 12.9% of total road trauma. Crash rates per 100 million kilometres travelled on State Highways are close to the New Zealand and peer group averages.

In spite of this good safety record in comparison with similar districts, the social cost of crashes in the Palmerston North City in 2003 was \$38.7 million.

### 1.10.1 Intersections

Intersection crashes constitute the bulk of all crashes occurring within Palmerston North City. Each year, 60% of all urban crashes occur at intersections, well above the national average. Analysis of crash data reveals that there is a reported injury crash at a City intersection every fifth day. There are 6 intersection crashes for every urban alcohol crash, and 5 intersection crashes for each urban speed crash. Strategies to address this problem are essential to achieving improved road safety outcomes.

**Urban:** In the urban areas of Palmerston North, crossing turning crashes are over represented and as a percentage of urban crashes are higher than the peer group and all NZ. This factor also showed an increase in 2002 and 2003.

**Rural:** In the rural areas crossing turning crashes represent over 20% of rural crashes and are significantly higher than and the rate for all NZ

#### **Goal:**

To reduce the number of intersection crashes on urban roads to no more than 55% of all urban crashes.

#### **Strategies:**

- Develop programme for installation of controls at all uncontrolled intersections, with priority given to through roads accessing collector, principal or arterial roads.



- Intersections identified with a specific crash history, to be included in Crash Reduction studies
- Council will work with other road safety agencies to educate road users on safety issues and road rules at intersections.
- Targeted enforcement where failure to give way/stop identified as an issue. Enforcement should also be targeted at drivers running orange and/or red traffic signals
- Signalised intersections will be monitored to assess changes in the level of safety or efficiency.
- Priority will be given to improving intersections with a poor safety record.
- Sight lines to and from vehicles stopped at the intersection control lines shall be maintained at all times to ensure drivers views to or from approaching traffic is not impeded in any way. This may include restrictions on parking close to intersections and removal of vegetation or other obstacles impeding a drivers line of sight

#### **1.10.2 Loss of control**

Loss of control and head on crashes occur at about national average rates. These crashes, however, contribute to high severity injuries and offer significant potential for reducing the number of fatal and serious crashes.

##### **Goal:**

To reduce loss of control and head on crashes to a level that is consistently below peer group average.

##### **Strategies:**

- Crash blackspots are identified and treated
- Council maintenance programmes will ensure road signage and delineation is maintained at required performance levels
- Council staff will liaise with staff from other safety agencies to ensure regular communication concerning identified problem areas

#### **1.10.3 Pedestrians and cyclists**

Pedestrians and cyclists are vulnerable road users. There is a need to maintain a safety focus for these road users. Although they are not over represented in the statistics, there has been an upward trend in recent years for crashes involving both pedestrians and cyclists.



**Goal:**

To reduce pedestrian and cyclist crashes to a level that is consistently below peer group average.

**Strategies:**

- Continued development of the Principal Cycle Network including road markings to clearly identify cycle lanes
- Dedicated cycle facilities will be upgraded to the most recent standards. This will include off road facilities and smooth widened road shoulders where appropriate to accommodate cycling traffic
- Council staff will continue to liaise with cycle advocacy groups as part of Council's community consultation activities
- Opportunities for promotion of cycling events will be actively supported
- All traffic signal installations will adequately cater for cyclists and pedestrian's needs
- The needs of less able pedestrians will be considered as part of all roading projects
- Council will provide adequate opportunities for discussion of pedestrian's safety needs

**1.10.4 Alcohol**

Alcohol crashes occur at levels similar to the peer group average in both urban and rural areas. While the numbers of reported crashes has been trending down, this activity remains important for the overall safety goals of the City. Maintaining current levels of safety is a high priority.

**Goal:**

To maintain alcohol crashes at a level that is consistently below peer group average

**Strategies:**

- Enforcement of alcohol laws, including the Liquor Control By-Law, will be maintained at current levels
- Council will support opportunities to promote desirable behaviour among drinkers, including moderation, use of designated drivers or alternate means of transport, and appropriate host responsibility practices
- Council will ensure that any Council activities involving alcohol observe appropriate host responsibility practices



### **1.10.5 Speed**

Driving at a speed regarded as too fast for the conditions (as opposed to driving above the speed limit) remains a significant safety issue within the City. Such driving contributes to nearly 25% of rural crashes and over 10% of urban crashes. Speed remains one of the perceived concerns most frequently reported to Council staff.

#### **Goal:**

To maintain speed related crashes at a level that is consistently less than peer group average

#### **Strategies:**

- Council will ensure there is regular communication with road safety partners about speed related problems.
- Enforcement of speed limits will be maintained at similar levels to those currently provided
- Council will undertake regular monitoring and collection of speed data and this will be provided routinely to our road safety partners
- Council's programme for traffic calming will be continued at least at current levels
- Council will adopt appropriate traffic engineering solutions to ensure a driver's perception of the speed environment is consistent with the speed limit on any section of road within the city boundary. Appropriate speed limits will be set in accordance with national speed limit setting rules
- Council will monitor the performance of speed environment and traffic calming measures to assist development of a consistent best practice approach

## Means of Delivery

The objectives of the Road Safety Strategy will be delivered by means of consistent policies, standards, procedures, and guidelines and by personnel appropriately qualified and experienced.

To ensure that consistent policies, standards, procedures and guidelines are used for design and operational purposes, templates appropriate for PNCC have been created for each road activity with a safety component. These templates are defined in Section 5 and included in appendix C.

Required standards of qualified and experienced personnel for each of the road activities are outlined and defined in Section 6 and a matrix included in appendix F.





# Standards Guidelines and Procedures

## 1.11 Design and Operational Templates

Templates for various roading activities are attached in appendix C.

The templates provide design and operational direction including maintenance within the road reserve and document relevant legislation, standards, policies, procedures and guidelines. Staff, consultants and contractors use the templates to ensure the appropriate standards and procedures are applied to achieve the safety targets for specific roading activities. Judgement must be used in application of the standards and guidelines and any departures from them must be reported in writing (with appropriate justification) to the Road Asset Manager. This will then provide documented evidence of departures from the SMS, which will:

- Identify required changes specific to PNCC
- Provide a record of those items to be reviewed as part of the review and audit process

The road activities are divided into three components, Policy and Planning, Maintenance, and District Asset.

A full list of standards, guidelines and procedures is included in appendix E.

### Recommended Actions

- 3. Template suitability and safety appropriateness to be monitored and any required templates added, or those requiring it, changed.**
- 4. Legislation, policy, procedure, standard and guideline versions and copy status to be kept up to date (Part of Audit Procedure – Refer Section 8)**
- 5. Audit and contract requirements to be kept up to date (Part of Audit Procedure – Refer Section 8)**

## 1.12 Road Safety System Components

Palmerston North City road safety system can be categorized under three components. Those with a primary road safety focus such as:

- ▶ Crash Reduction Studies
- ▶ Safety Audits
- ▶ Temporary Traffic Management



- ▶ Minor Safety Programme
- ▶ Hazard Register
- ▶ Deficiency Analysis

Secondary, such as

- ▶ Network Inspections
- ▶ 10 Year Forward Works Programme

The third component are the relationships between external road safety partners to ensure a consistent and united approach nationally and locally. Road safety partners include:

- ▶ Land Transport Safety Authority
- ▶ New Zealand Police
- ▶ Transfund New Zealand
- ▶ Accident Compensation Corporation
- ▶ Road Safety Co-ordinating Committees
- ▶ Transit

### **1.13 Safety Management Plan**

A Safety Management Plan documents the methodology for the collection, analysis and management of safety deficiencies within the City's roading network.

Palmerston North City Council do not use a Network Management Consultant, all of the work is done in house by the business unit.

#### **Recommended Action**

6. **To document development and implementation of a Safety Management Plan.**

### **1.14 Safety Intervention Plan**

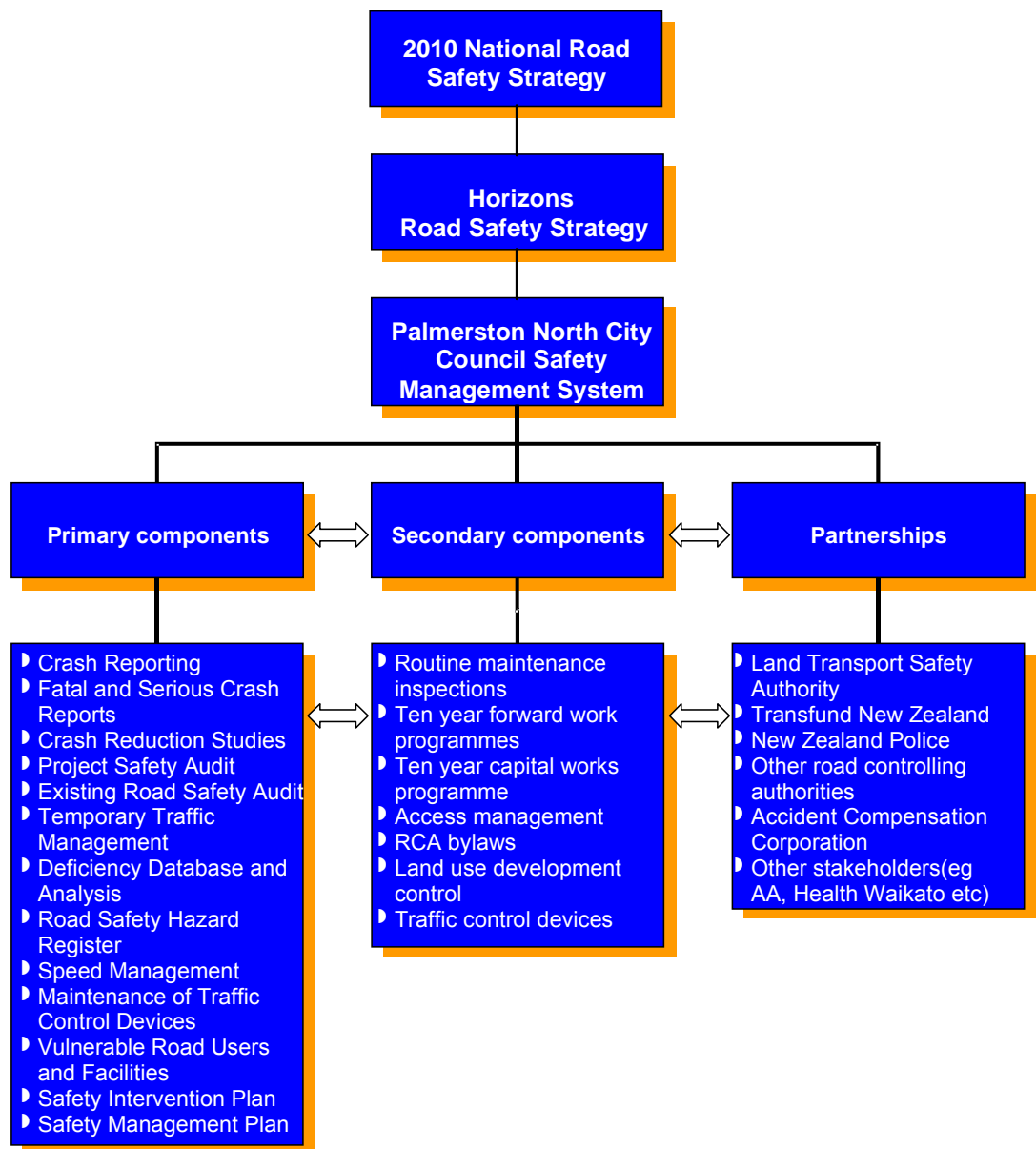
The purpose of the Safety Intervention Plan is to provide guidance to maintenance contractors, through partnering, to achieve the following:

- ▶ Guide to all physical works contractors involved in maintenance in Palmerston North City for programming of safety related maintenance works
- ▶ Basis for contractors to develop internal systems that will help to achieve their safety related contract responsibilities
- ▶ Minimise the number of safety deficiencies on the network

#### **Recommended Action**

7. **To document development and implementation of a Safety Intervention Plan.**





# Roles and Responsibilities

## 1.15 Safety Management Team

All roading and asset management staff are to abide by and encourage ownership of the SMS. This includes the PNCC in house business unit, which carries out a network management role.

## 1.16 Safety Managers/Champions

The Road Asset Manager is responsible for encouraging a safety culture and ensuring that team members use the SMS appropriately and as such will “champion” the system.

To ensure buy in from other groups within Council, and external contractors it is important to identify champions within other teams at Council and within the external contract teams. It will be the responsibility of the Road Asset Manger to identify these people and organise and deliver workshops and presentations to maintain the momentum of the SMS and ensure understanding and adoption by the other parties.

### Recommended Action

- 8. To identify champions within other groups within Council and external contractors and deliver workshops and presentation to “sell” the benefits and get “buy in”. Presentations to include Council Politicians.**

## 1.17 Safety Culture, Training and Development

A safety culture is to be encouraged by all council staff at all times.

Ongoing training and development is seen as playing an integral role to meet Road Safety Strategy targets. All road safety staff should be suitably trained and skilled to deal with issues that are likely to arise on the road network. Training requirements of the SMS should be reviewed annually and required training carried out or the additional trained staff as required should be obtained. Training such as:

- ▶ Temporary Traffic Management Courses (minimum requirement of L1 STMS)
- ▶ TNZ Safety Engineering workshop
- ▶ LTSA AIS System and CAS web based crash analysis system
- ▶ Other appropriate safety training or conferences identified

## 1.18 Safety Roles and Competence

The respective principal roles are defined as:



**Palmerston North City Council** – Manage the safety process, including identification of safety related deficiencies and monitoring of solutions and audit and control the management process.

**Network Contractors** – Maintain and improve the network. Minimise safety deficiencies via proactive intervention.

It is the responsibility of the Road Asset Manager and the individual staff involved to ensure that staff training and competency records are kept up to date. Staff training and competency records are to be contained within appendix F. The competency matrix included in appendix F indicates required levels of competency, training and experience.



# Management Systems

Day to day implementation of the Safety Management System relies on management systems and procedures necessary to achieve the Safety Management objectives.

## **1.19 Procedures**

Council procedures outline the standard council method for carrying out the roading activity to achieve a safer road network. These are specific for the roading activity and provide direction for the implementation and operation of the activity.

Where Council Procedures for activities are noted as “To be Developed” specific advice should be sought from the Road Asset Manager.

Council procedures are included in appendix D

### **Recommended Action**

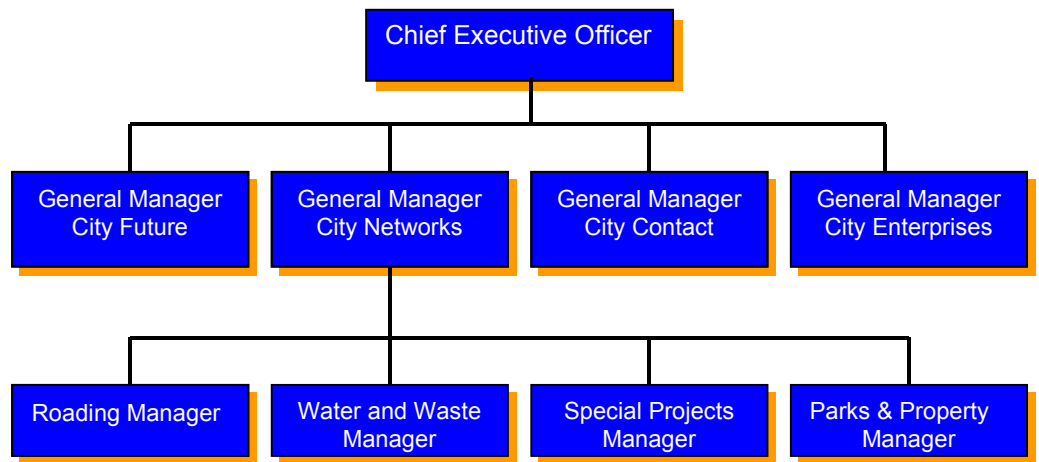
**9. Develop procedures for “To be developed” activities. Refer to Recommended Actions for full list of procedures to be developed.**

## **1.20 Management Responsibilities for the Safety Management System and Road Safety Strategy**

The Road Asset Manager is responsible for all five components of the SMS; Road Safety Strategy, the means of delivery – standards, guidelines and policies and roles and responsibilities, management systems, and the auditing systems. This includes the overall implementation and development of the SMS as well as the auditing process of the SMS.

All Palmerston North City Council staff are responsible for then applying the SMS procedures to their activities.

A close working relationship is required with the network contractors to maximise the benefits of the SMS. The systems used by the network contractor and Palmerston North City Council must be consistent to facilitate effective work programming and implementation. In particular regular input into Palmerston North City Council’s Minor Safety Programme and 10 Year Forward Works Programme.



### 1.21 Continuous Improvement Opportunities

Continuous development of the Safety Management System is essential to provide up to date “best practice” solutions to road safety problems. Continual development is dependent on the identification, implementation and monitoring of improvement opportunities.

Although the Roding Asset Manager is primarily responsible, all staff members and contractors need to have a sense of ownership and are expected to make suggestions for improvements as they arise.

Any non-compliance with the procedures and standards contained within the SMS are to be recorded as part of the monitoring of staff compliance with the SMS. The ongoing development process forms provide a place for improvement suggestion or comments to be recorded, and define how these suggestions are dealt with within Council. appendix G includes monitoring of staff compliance with SMS, and ongoing system development process forms.

# Audit Systems

## 1.22 Audit Purpose

The SMS will be audited by the Roading Asset Manager to ensure that the SMS remains a developing and functional document. Areas to be audited include progress to targets, suitability of targets, funding needs, safety trends monitoring, monitoring of amendments, relevance of standards, policies and guidelines, adequate application of guidelines and procedures and adoption of improvement recommendations.

## 1.23 Audit Requirements

Review Palmerston North Recommended Actions

- ▶ Progress towards achieving actions
- ▶ Adequacy of funding
- ▶ Review of adequacy of actions
- ▶ Revising and adding to actions

Review of Road Safety Strategy (once developed)

- ▶ Progress towards achieving goals
- ▶ Adequacy of funding
- ▶ Service level and guideline appropriateness vs safety record
- ▶ Consistency with national 2010 Road Safety targets
- ▶ Consistence with regional road safety strategy (once developed)

Review of Safety Management Manual

- ▶ Progress towards achieving strategic goals
- ▶ Appropriateness of procedures and templates for achieving strategic goals
- ▶ Adequacy of funding
- ▶ Review design and operational templates for consistence relevance
- ▶ Review council procedures for consistence relevance
- ▶ Specific safety audit requirements for each activity included in templates
- ▶ Review competency matrix and competency register
- ▶ Review staff competence and training development



- ▶ Review SMS for consistency in systems, fitness for purpose, sufficiency of resources and opportunities for improvement system

### **1.24 Auditors**

Auditors may be internally or externally appointed and must be suitably experienced in road safety engineering and independent auditing of compliance with safety or quality management systems.

### **1.25 Audit Report**

Auditors will report on:

- ▶ Review of previous audits, including progress towards existing recommended action plan.
- ▶ Areas of non-compliance with the safety management system.
- ▶ A summary of recommended actions required to address areas with high non-compliance.
- ▶ Recommendations for the development of new or updated standards, guidelines, procedures, specifications, and strategies.
- ▶ Progress towards stated road safety strategy targets with comment on how well the SMS addresses each safety issue, noting areas for improvement.

Audits reports are to be kept within the SMS in appendix H.

### **1.26 External Audits**

The LTSA propose to arrange for external auditing of the SMS every three years. This will involve an external auditor from a different local authority. Part of this external auditing system may require personnel from Palmerston North City Council to travel to other local authorities in order to audit their SMS.

### **Recommended Action**

**10.To document development and implementation of an Audit Checklist**

Appendix A  
Definitions



## Definitions and Abbreviations

After Hours	The period outside the stated normal working hours.
Black Spots	<p>Black spots are identified as the top 10 sites or routes with the highest crash rate (per site or per kilometre) of non-injury and injury crashes.</p> <p>Sites with more than 2 crashes per year.</p> <p>In urban areas, <math>\geq 5</math> reported injury crashes within a 70m x 70m area during a 5-year period.</p> <p>In rural areas, <math>\geq 3</math> (but preferably <math>\geq 5</math>) reported injury crashes within a 510m x 510m area during a 5-year period.</p> <p>A Crash Reduction Study may be carried out for sites with more than one crash in the last five years.</p>
Council	Palmerston North City Council.
Deficiency	Any issue or problem related to the road reserve that is identified to the Rooding Manager by Council staff, consultants, contractors, or the public.
Emergency Event	An event that will or has the potential to require emergency work as a remedial measure.
Emergency Services	Police, Ambulance, Fire, Civil Defence and Rescue services.
Emergency Work or Urgent Work	Works arising from storm damage, floods, snowfall, debris, slips, under slips, motor vehicle accidents, natural disasters, civil defence and rural fire emergencies, fallen trees and other similar events.
Fault	Any area/item of the network that does not comply with the maintenance standards specified in the Contract Documents.
LTCCP	Long Term Council Community Plan.
Legal Road	Any road corridor owned and maintained by Palmerston North City Council.
Level of Service	The standard that any maintenance activity must be completed to as a minimum requirement under the contract as specified in the Technical Specification (Level of Service) of the General Specification.
Network	The network includes but is not limited to all roadway berms, traffic islands, surfaces, pavement and road furniture, bridges, stormwater structures, water tables, guardrails and signs and encompassing the road land bounded by existing fences or road land boundaries within the Palmerston North area.
Private Property Land and Other Land	Land or property owned by parties other than the Palmerston North City Council.
Projects	Any roading work, or any work carried out within the road reserve aimed at improving the roading network level of service.
RCA	Road Controlling Authority.



## Definitions and Abbreviations

Road	Area of sealed carriageway.
Road Furniture	All facilities, objects, signs, post and assets within the legal road.
Road Reserve	Area from road reserve boundary to road reserve boundary.
Route	A well used road(s) between two locations.
Routine Maintenance	Maintenance work undertaken by the Contractor where approval of the Engineer is not required prior to the commencement of the physical works.
RSS	Road Safety Strategy.
Site	The location within the network of any task or work activity.
Sites	With respect to Crash Reduction Studies a site is:  In urban areas, a 70m x 70m area.  In rural areas, a 510m x 510m area.
SMS	Safety Management System.
Stakeholder	All groups or individuals who have some 'stake' or interest in the roading network as listed in Section 2.4 of this SMS.
TLA	Territorial Local Authority.
Utility Operators or Utility Service Providers	All those service providers providing utility services within Palmerston North City, including gas, telephone, telecommunication, electricity, water, stormwater, wastewater, including Palmerston North City Council.



Appendix C  
Design/Operational Templates



## **Design and Operational Templates**

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<b>Reference</b>	<b>Template Description</b>
<b>Policy and Planning</b>	
1	Crash Reduction Studies
2	Project Safety Audit
3	Existing Road Safety Audit
4	Network Inspections
5	Application, approval and Installation of Temporary Traffic Management
6	Temporary Traffic Management Audits
7	Deficiency Analysis
8	Road Hierarchy
9	Traffic Counting
10	RAMM Data
11	DTIMS
12	Hazard Register
13	Speed Management
14	Maintenance of Traffic Control Devices
15	Design and Installation of Traffic Control Devices
16	Land Use Planning and Regulatory Controls
17	Street Lighting
18	Landscaping and vegetation control
19	Vulnerable Road Users
20	Deep Drains, Irrigation Channels and Swale Drains
21	Cycle Facilities
22	Footpaths
23	Vehicle Crossings
24	Guardrails
25	Pedestrian Crossings and other Pedestrian Facilities



<b>Reference</b>	<b>Template Description</b>
26	Road Closures



Appendix D  
Council Procedures





Appendix E

## Standards, Guidelines and Policies

PNCC Policies

PNCC Procedures

PNCC Standards and Guidelines

Policies and Procedures

Standards

Guidelines



# List of Standards and Guidelines

Group	Subject	Legislation	Commonly used Guidelines	Additional Standards / Guidelines	Examples of Local Policies
Planning	Land Use Planning and Controls	Resource Management Act (1992)	NZS 4404:2004 Land Development and Subdivision Engineering	Guide to Traffic Engineering Practice series, general, Austroads	District Plan
		Local Government Act (2002)	RTS 6: Guidelines for Visibility at Driveways	Draft State Highway Geometric Design Manual (2000-03)	Land Use and Regulatory Control Procedures
				Guide to Traffic Engineering Practice, Part 5: Intersections at Grade	
				Planning Policy Manual (1999), TNZ	
				RTA Guide to Traffic Generating Developments	
				RTS 3: Guidelines for Establishing Rural Selling Places	
				RTS 6: Guidelines for Visibility at Driveways	
				RTS 7: Advertising Signs & Road Safety: Design and Location Guidelines	
			TNZ Planning and Policy Manual		
	Landscape	Local Government Act (2002)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	RSS 15 - Roadside Hazard Management, LTSA	Asset Management Plan
			Guidelines for Planting for Road Safety (1991), TNZ	TNZ Standards	Roadside Planting Procedures
			NZS 4404:2004 Land Development and Subdivision Engineering		
	Road Network Planning	Local Government Act (2002)	Guide to Traffic Engineering Practice series, general, Austroads	Transit NZ Planning for a safe and efficient highway network (1994)	Asset Management Plan
		Resource Management Act (1992)	LTSA RTS Standards general	Guide to Traffic Engineering Practice series, general, Austroads	District Plan
		Transit NZ Act (1989)	NZS 4404:2004 Land Development and Subdivision Engineering	Draft State Highway Geometric Design Manual (2000-03)	Roading Policies
		Standards and Guidelines Manual, Transfund	LTSA RTS Standards general		
		TNZ Guidelines	NZS 4404:2004 Land Development and Subdivision Engineering		
			Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads		
			TNZ Standards		
Structures	Asset Creation, Development &	Local Government Act (2002)	Accounting Regulations and Standards	Guide to Traffic Engineering Practice series, general, Austroads	Asset Management Plan Policy



Management	Resource Management Act (1992)	NZ Asset Management Asset Valuation and Depreciation Guidelines		Regional Land Transport Strategy
	Transit NZ Act (1989)	International Infrastructure management Manual, 2002, NAMS		
Bridges & Culverts	Resource Management Act (1992)	Bridge Inspection and Maintenance Manual (SP/M/016), TNZ	Waterways Design: A guide to the Hydraulic Design of Bridges (AP-23/94), Austroads	Asset Management Plan – Bridges and Culverts
	NZ Building Code (1992)	Bridge Manual (SP/M/022) 2nd Ed, TNZ	Draft State Highway Geometric Design Manual (2000-03)	Policy for Upgrading Handrails
	Health and Safety in Employment Act (1992)		TNZ M/01 Roading Bitumens, 1995	To have two way bridges on all sealed roads
			TNZ M/23 Road Safety Barrier Systems	
Carriageway Pavements	Local Government Act (2002)		Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Asset Management Plan - Roading Policies
	Resource Management Act (1992)		NRB TR8 – Manual for maintenance of unsealed roads	District Plan
	Transport Act (1962 & 1997)		Road Condition Rating and Roughness Manual (PFM 6); Transfund, 1997	
	Traffic Regulations (1976)		TNZ C/03 Repair Potholes	
			TNZ C/04 Digout Repairs in Flexible Pavements	
			TNZ C/05 Repair of Surface Openings and Minor Surface Levelling	
			TNZ C/06 Repair of Surface Defects	
			TNZ C/07 Repair of Edge Break	
			TNZ C/08 Adjusting Service Covers	
			TNZ C/09 Emergency Work	
			TNZ C/10 Maintenance of Unsealed Shoulders	
			TNZ C/11 Unsealed pavements : Repair of Potholes	
			TNZ C/12 Unsealed Pavements : Surface and Shape Restoration	
			TNZ C/13 Unsealed Pavements : Digout Repairs	
			TNZ C/14 Unsealed Pavements : Supply and Place Maintenance Aggregate	
		TNZ C/15 Removal of Surface Detritus		
		TNZ P4, P7, T11		
		TNZ Specifications and guidelines for maintenance of road networks		
Drains, Catchpits and Sumps	Resource Management Act (1992)	Draft State Highway Geometric Design Manual (2000-03)	Guide to the Design of Road Surface Drainage, NAASRA	Asset Management Plan



	Local Government Act (2002)	NZS 4404:2004 Land Development and Subdivision Engineering	Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads	Ensure all sump grates are cyclist friendly and have grating at right angles to kerb line with no dropoffs
	Transport Act (1962 & 1997)		TNZ C/15 Removal of Surface Detritus	Roadside Drains should preferably be behind the fence or sufficiently far from the road that vehicles can stop before entering the drain
	Transit NZ Act (1989)		TNZ C/16 Maintenance of Stormwater Structures	
	Traffic Regulations (1976)		TNZ C/21 Vegetation Control	
Kerb and Channel (inc vehicle crossings)	Resource Management Act (1992)	NZS 4404:2004 Land Development and Subdivision Engineering	Guide to Traffic Engineering Practice, Part 10: Local Area Traffic Management	Asset Management Plan
			Guide to Traffic Engineering Practice, Part 13: Pedestrians	Footpath Policy
			Guide to Traffic Engineering Practice, Part 5: Intersections at Grade	Footpath Strategy and Standards (Incl drainage)
			Guide to Traffic Engineering Practice, Part 9: Arterial Road Traffic Management	
			NZS 3661 - Slip resistance of pedestrian surfaces	
Over-Weight/ Over-Dimension Loads	Heavy Motor Vehicle Regulations (1974)	Bridge Inspection and Maintenance Manual (SP/M/016), TNZ	Load Pilot Driver Code, 2004, LTSA	Encourage overweight vehicles to travel on State Highway network wherever possible
		Overweight Permit Manual, TNZ	LTSA Fact Sheet 13: Maximum permitted vehicle weights and dimensions	Overweight Policy
Road construction & design (inc barriers)	Local Government Act (2002)	AS/NZS 3845:1999 Road Safety Barrier Systems	ARRB Sealed Local Road Manual, 1995	District Plan
	Resource Management Act (1992)	Draft State Highway Geometric Design Manual (2000-03)	Bridge Inspection and Maintenance Manual (SP/M/016), TNZ	Roading Policies
		NZS 4404:2004 Land Development and Subdivision Engineering	Bridge Manual (SP/M/022) 2nd Ed, TNZ	Footpath Policy
		TNZ M/23 Road Safety Barrier Systems	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Asset Management Plan
			Guide to Traffic Engineering Practice, Part 13: Pedestrians	Guardrail Procedures
			Guide to Traffic Engineering Practice, Part 5: Intersections at Grade	
			Guide to Traffic Engineering Practice, Part 6: Roundabouts	
			Highway Surface Drainage: Design Guide for Highways with a Positive Collection System, NRB	



				<b>Pavement Design: A Guide to the Structural Design of Road Pavements, Austroads (plus) New Zealand supplement (May 2000)</b>	
				<b>RTS 11: Guidelines for Urban Roadside Barriers and Alternative Treatments</b>	
				<b>Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads</b>	
				<b>Safety Barriers: Consideration for the revision of safety barriers on Rural Roads, NAASRA</b>	
	<b>Slips and Retaining structures</b>	<b>NZ Building Code (1992)</b>			<b>Regional Policy Statement</b>
		<b>Resource Management Act (1992)</b>			<b>All new structures require specific design and building permit</b>
	<b>Stock Crossings and Underpasses</b>	<b>Transit NZ Act (1989)</b>	<b>Code of Practice for Temporary Traffic Management (SP/M/018), TNZ</b>	<b>Bridge Manual (SP/M/022) 2nd Ed, TNZ</b>	<b>Landowner funds all maintenance costs, except structural repairs which are not due to his use of the underpass</b>
			<b>Culvert Manufacturer's Guidelines for Design and Installation</b>	<b>Manual of Traffic Signs and Markings: Part 1 - Traffic Signs (Ed. 4)</b>	
			<b>Transfund Programme &amp; Funding Manual: Clause 7.4.20 Stock Underpasses</b>		
			<b>Transit NZ Stock Underpass Procedures Manual 2001</b>		
	<b>Utilities / Road Reserve</b>	<b>Local Government Act (2002)</b>	<b>Code of Practice for Temporary Traffic Management (SP/M/018), TNZ</b>	<b>LTSA and TNZ Road and Traffic Standards</b>	<b>Street Opening Policy</b>
		<b>Resource Management Act (1992)</b>	<b>Manual of Traffic Signs and Markings: Parts I and II</b>	<b>TNZ M/23 Road Safety Barrier Systems</b>	<b>District Plan</b>
		<b>Telecommunications Act (2001)</b>			<b>Consent for Works on the Road</b>
		<b>Electricity Act (1992)</b>			<b>Roading Policies</b>
		<b>Gas Act (1992)</b>			
		<b>Health and Safety in Employment Act (1992)</b>			
		<b>Transit NZ Act (1989)</b>			
		<b>Transport Act (1962 &amp; 1997)</b>			
		<b>Traffic Regulations (1976)</b>			
<b>Systems</b>	<b>Accident Notification System</b>	<b>Traffic Regulations (1976)</b>		<b>Accident Investigation System Manual, LTSA</b>	<b>Police and Local Accident Reports</b>
				<b>Annual LTSA Road Safety Report</b>	<b>Emergency Procedures Manual</b>
				<b>Code of Practice for Temporary Traffic Management (SP/M/018), TNZ</b>	
				<b>LTSA RTS Standards general</b>	



				State Highway Asset Management Manual	
				TNZ Standards	
Annual Plan and Strategic Plan Process	Local Government Act (2002)			Guide to Traffic Engineering Practice series, general, Austroads	Regional Land Transport Strategy
	Transit NZ Act (1989)			LTSA RTS Standards general	Annual Plan
Crash Reduction Studies	Traffic Regulations (1976)	Accident Investigation Procedures, TNZ/MOT,1991		Accident Investigation Monitoring System - Coding Manual, LTSA	Crash Reduction Studies Procedures
				Accident Investigation System Manual, LTSA	Undertake Crash Reduction Study at least once every 4 years
				Guide to Traffic Engineering Practice, Part 4: Road Crashes	
				LTSA RTS Standards general	
				Policy Guidelines for Traffic Accident Reduction and Prevention, TNZ/MOT	
				TNZ Standards, Criteria and Guidelines Manual	
Emergency Response	Traffic Regulations (1976)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ		TNZ C/09 Emergency Work	Emergency Procedures Manual
	Transport Act (1962 & 1997)				Policies for Road Stopping, Snow Clearing
	Transit NZ Act (1989)				
Hazard Registers / Safety Databases	Local Government Act (2002)	Standards and Guidelines Manual, Transfund		Asset Management Manual, Chapter 2, Transfund	Network Maintenance Contracts
	Resource Management Act (1992)			Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Asset Management Plan
				Manual of Traffic Signs and Markings: Parts I and II	District Plan
				RTS 5: Guidelines for Rural Road Marking and Delineation	
Public services / consultation	Local Government Act (2002)			Guide to Traffic Engineering Practice series, general, Austroads	Policy Manual
	Transit NZ Act (1989)			LTSA Guidelines general	Delegation Manual
	Transport Act (1962 & 1997)			NZ Road Code	
	Traffic Regulations (1976)			NZS 4402: 1986 Methods for Testing Soils for Civil Engineering Purposes	
				Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads	
				Safety Audit Policy and Procedures (1993), TNZ	
				Standards and Guidelines Manual, Transfund	
			TNZ Standards		



Road Safety Plans and Strategies	Traffic Regulations (1976)		LTSA Guidelines for developing a Safety Management System for Road Controlling Authorities	Road Safety Plan
			NZ Road Safety Plan Guidelines, 2004, LTSA	Regional Land Transport Strategy
			NZ Road Code	Road Safety Strategy
			TNZ SH Safety Management system Manual	
Safety Audits	Local Government Act (2002)	Guidelines for Auditing Existing Roads, Transfund	Guide to Traffic Engineering Practice series, general, Austroads	Asset Management Plan – Risk Section
		Safety Audit Policy and Procedures (1993), TNZ	Road Safety Audit, Austroads 1994	Existing Road Safety Audit Procedure
		Safety Audit Policy and Procedures (2004), TransfundNZ	Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads	
			TNZ Maintenance Specifications	
Safety Inspections	Resource Management Act (1992)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Waterways Design: A guide to the Hydraulic Design of Bridges (AP-23/94), Austroads	Asset Management Plan
	Local Government Act (2002)		Bridge Inspection and Maintenance Manual (SP/M/016), TNZ	Roading Policies,
	Transit NZ Act (1989)		Draft State Highway Geometric Design Manual (2000-03)	Manage unofficial signs
	NZ Building Code (1992)		Guide to Traffic Engineering Practice, Part 5: Intersections at Grade	Manage lighting overspill (glare)
			Guide to Traffic Engineering Practice, Part 6: Roundabouts	
			Guidelines for Auditing Existing Roads, Transfund	
			Highway Surface Drainage: Design Guide for Highways with a Positive Collection System, NRB	
			NZS 4404:2004 Land Development and Subdivision Engineering	
			Road Safety Audit, Austroads 1994	
			Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads	
			Transit New Zealand Safety Certification procedures	
			TNZ Standards, Criteria and Guidelines	
Traffic Counting Program			“A Guide on Estimating AADT and Traffic Growth, and a Traffic Count Monitoring Programme Basis”, Transit New Zealand	GK5000 Traffic Recorder/ Classifier, Fred Daggs Quick Guide to Traffic Counting & Classifying
			Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Strategic Planning Requirements



				Local Authority RAMM Operation Database Manual		
				Project Evaluation Manual, Transfund		
Traffic Management	Carriageway Surface & Friction	Local Government Act (2002)		Guide to the selection of road surfacings, 2000, Austroads	Asset Management Plan	
		Resource Management Act (1992)		Bituminous Sealing Manual, Transit New Zealand, 1993	Road snow clearing policy	
		Transport Act (1962 & 1997)		Code of Practice for Temporary Traffic Management (SP/M/018), TNZ		
		Traffic Regulations (1976)		Local Authority RAMM Operation Database Manual		
				Road Condition Rating and Roughness Manual (PFM 6); Transfund, 1997		
				RRU Bulletin 79 - Guidelines for Selection, Design and Construction of Thin Flexible Bituminous Surfacing in NZ		
				RSS 10 - Skid Resistance, LTSA , 1998		
				SCRIM Deficiency Report, User Guidelines, TNZ 1998		
				TNZ C/10 Maintenance of Unsealed Shoulders		
				TNZ C/15 Removal of Surface Detritus		
				TNZ C/22 Frost & Ice Gritting and Snow Clearance		
				TNZ Standards and Specifications for Testing and Evaluation		
			TNZ T3: Measurement of Texture by Sand Circle Method			
		Delineation	Traffic Regulations (1976)	Manual of Traffic Signs and Markings: Parts I and II	Bridge Manual (SP/M/022) 2nd Ed, TNZ	District Plan
			Local Government Act (2002)	RTS 5: Guidelines for Rural Road Marking and Delineation	RSMA Compliance Standard for Traffic Signs (2003)	Rural Delineation Policy?
			Transport Act (1962 & 1997)		TNZ C/18 Maintenance of Edge Marker Posts	Asset Management Plan,
					TNZ C/20 Erection and Maintenance of Traffic Signs, Chevrons, Markers & Sight Rails	
					TNZ M/12 Raised Pavement Markers	
					TNZ M/14 Edge Marker Posts	
				TNZ P/16 Installation of Edge Marker Posts		
	Detritus Sweeping and Vegetation control	Local Government Act (2002)	Manual of Traffic Signs and Markings: Part 1 - Traffic Signs (Ed. 4)	Guidelines for Planting for Road Safety (1991), TNZ	Regional Policy Statement	
				NZS 4404:2004 Land Development and Subdivision Engineering	Weed Pest Strategy	





				NZS 8409: 1995 Agrichemical Uses Code of Practice	District Plan
Intersection Control (Incl Traffic Signals)	Local Government Act (2002)	AS/NZS 2144:2002 Traffic signal lanterns		Draft State Highway Geometric Design Manual (2000-03)	Code of Practice for Development
	Resource Management Act (1992)	Guide to Traffic Engineering Practice, Part 7: Traffic Signals		Guide to Traffic Engineering Practice, Part 5: Intersections at Grade	Asset Management Plans
	Transport Act (1962 & 1997)	Road Design Guidelines RD-1 Intersections at Grade RD-2 Roundabouts		Guide to Traffic Engineering Practice, Part 6: Roundabouts	Policy not to use the Rural Right Turn Lane Type B in Austroads
	Traffic Regulations (1976)			Manual of Traffic Signs and Markings: Parts I and II	
	Traffic control devices rule			New Zealand On-road Tracking Curves, LTSA	
				RTS 1: Guidelines for the Implementation of Traffic Control at Crossroads	
				RTS 9: Guidelines for the Signing and Laying out of Slip Lanes	
				Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads	
				State Highway Control Manual (SM012), TNZ	
				AS2353 - 1999 Pedestrian push button assemblies	
				Guide to Traffic Engineering Practice, Part 8: Traffic Control Devices	
				Guide to Traffic Engineering Practice, Part 9: Arterial Road Traffic Management	
				NZS 5431:1973 Specification for Traffic Signals, Section 18: Warrants for traffic signals	
			RTS 14: Guidelines for Installing Pedestrian Facilities for People with Visual Impairment		
Parking (Inc Bus Stops)	Traffic Regulations (1976)	Guide to Traffic Engineering Practice, Part 11: Parking		Draft State Highway Geometric Design Manual (2000-03)	District Plan
	Local Government Act (2002)			Highway Surface Drainage: Design Guide for Highways with a Positive Collection System, NRB	Asset Management Plan
				Manual of Traffic Signs and Markings: Parts I and II	District Plan, Appendix F sets out required manoeuvring and parking dimensions
				Rural Road Design: A Guide to the Geometric Design of Rural Roads, Austroads	
				TNZ M/23 Road Safety Barrier Systems	
Road Closures	Local Government Act (2002)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ			Temporary Traffic Management



		Transport Act (1962 & 1997)	Manual of Traffic Signs and Markings: Part 1 - Traffic Signs (Ed. 4)		Road Stopping Policy
		Resource Management Act (1992)			Asset Management Plan
		Traffic Regulations (1976)			District Plan
		Transport (Vehicular Traffic – Road Closures) Regulations (1965)			
Road Lighting		Transport Act (1962 & 1997)	AS/NZS 1158 Road lighting series	Guide to Traffic Engineering Part 12 : Roadway Lighting	Roadway Street Lighting Policy
		Local Government Act (2002)	NZS 6701: Code of Practice for Road Lighting	NZS 4404:2004 Land Development and Subdivision Engineering	Asset Management Plan
		Traffic Regulations (1976)			Street Lighting Procedures – prioritise upgrades and improvements/requests from public to fit criteria
Road Signage		Traffic Regulations (1976)	Manual of Traffic Signs and Markings: Part 1 - Traffic Signs (Ed. 4)	Draft State Highway Geometric Design Manual (2000-03)	District Plan
		Local Government Act (2002)	RSMA Compliance Standard for Traffic Signs (2003)	Guide to Traffic Engineering Practice, Part 1: Traffic Flow	Asset Management Plan
		Transit NZ Act (1989)	RTS 5: Guidelines for Rural Road Marking and Delineation	Quality Standard TQS1: 1995 for High QA Level Contracts, TNZ	signage policy
		Transport Act (1962 & 1997)		RTS 2: Guidelines for Street Name Signs	Consolidated Bylaw
		Traffic Control Devices Rule		RTS 7: Advertising Signs & Road Safety: Design and Location Guidelines	Parking restriction selection types policy
		Resource Management Act (1992)		TNZ C/20 Erection and Maintenance of Traffic Signs, Chevrons, Markers & Sight Rails	
Roadmarking				TNZ Standards for Design, Construction & Materials	
		Traffic Regulations (1976)	Manual of Traffic Signs and Markings: Part 2 – Markings (Ed. 3 Interim Update)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Asset Management Plans
		Traffic control devices rule	RTS 5: Guidelines for Rural Road Marking and Delineation	Guide to Traffic Engineering Practice, Part 14: Bicycles	Flush Medians policy
			LTSA and TNZ Road and Traffic Standards	TNZ P/12 Pavement Marking	Keep Clear marking policy
				TNZ P/14 Installation of Raised Pavement Markers	Broken Yellow Lines for intervisibility at driveways policy
				TNZ specifications - E/3 1995; E/4 1994; M/7 1993; M12 1986; M/20 1994; Q/3 1995; T/8 1996; TQS/2 1995	Remark existing markings in March/May and October/November each year



	Speed Limits	Transport Act (1962 & 1997)	Land Transport Rule: Setting of Speed Limits (2003)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	Asset Management Plan
		Traffic Regulations (1976)	Speed Limits New Zealand (2003), LTSA	Manual of Traffic Signs and Markings: Parts I and II	
		Land Transport Rule: Setting of Speed Limits (2003)			
	Temporary Traffic Management	Health and Safety in Employment Act (1992)	Code of Practice for Temporary Traffic Management (SP/M/018), TNZ	AS/NZS 1906 Series (1993-97): Reflective materials	Roading Policies
		Traffic Regulations (1976)	OSH documents	Manual of Traffic Signs and Markings: Parts I and II	Street Opening Policy
		Local Government Act (2002)	Contractors health and safety procedures	Safe Handling of Bituminous Materials, BCA	Asset Management Plan
		Transport Act (1962 & 1997)		TNZ handbook "Working on the Road"	Special Events Guidelines for Road Usage
		Land Transport Rule: Setting of Speed Limits (2003)		Transfund Interim Procedures for Safety Audit of Traffic Control at Roadwork Sites: Feb. 1999	Health & Safety Policy
		Transit NZ Act (1989)			Road Closures Procedures
	Vulnerable Users	Cycle Facilities	Traffic Regulations (1976)	Guide to Traffic Engineering Practice, Part 14: Bicycles	Bridge Manual (SP/M/022) 2nd Ed, TNZ
Local Government Act (2002)			Guidelines for Cycle Audit and Cycle Review, IHT	New Zealand Cycle Design Guide, Draft, 2003, TNZ	Roading Policies
				Guide to Cycle Facilities, NRB/UTC	Cycle & Walking Strategy
				Manual of Traffic Signs and Markings: Parts I and II	Road Safety Plan
				NZS 4404:2004 Land Development and Subdivision Engineering	Strategic Cycle Plan
				The National Cycle Network: Guidelines and Practical Issues: Issue 2 (Ove Arup, 1997)	Cycleway Policy and Action Plans
Pedestrian Crossings		Traffic Regulations (1976)	AS/NZS 3661 series (1993-94): Slip resistance of pedestrian surfaces	Guide to Traffic Engineering Practice, Part 7: Traffic Signals	Pedestrian crossings are established where pedestrian and vehicle numbers meet the warrant
			Guide to Traffic Engineering Practice, Part 13: Pedestrians	NZS 4404:2004 Land Development and Subdivision Engineering	Roading Policy
			LTSA Fact Sheet 26: Kea Crossings - School Crossing Points, 2003		
			Manual of Traffic Signs and Markings: Parts I and II		
			NZS 6701: Code of Practice for Road Lighting		
			TR 11: Recommended Practice for Pedestrian Crossings		



			<b>Draft Guide to Pedestrian Crossing Facilities (2001), TRAFINZ</b>		
<b>Pedestrian Facilities</b>	Traffic Regulations (1976)	<b>Draft Guide to Pedestrian Crossing Facilities (2001), TRAFINZ</b>	<b>AS/NZS 3661 series (1993-94): Slip resistance of pedestrian surfaces</b>	<b>Asset Management Plan</b>	
	Local Government Act (2002)	<b>Guide to Traffic Engineering Practice, Part 13: Pedestrians</b>	<b>Guide to Traffic Engineering Practice, Part 14: Bicycles</b>	<b>Walking and Cycling Strategy</b>	
	Transport Act (1962 & 1997)	<b>Manual of Traffic Signs and Markings: Parts I and II</b>	<b>Guide to Traffic Engineering Practice, Part 7: Traffic Signals</b>	<b>Pedestrian Strategy</b>	
	Resource Management Act (1992)	<b>RTS 14: Guidelines for Installing Pedestrian Facilities for People with Visual Impairment</b>	<b>LTSA Fact Sheet 26: Kea Crossings - School Crossing Points, 2003</b>	<b>Multilane road pedestrian crossing policy</b>	
			<b>NZ Road Code</b>	<b>Footpath Strategy</b>	
			<b>NZS 4121:2001, design for access and mobility – buildings and associated facilities</b>		
			<b>NZS 4404:2004 Land Development and Subdivision Engineering</b>		
			<b>NZS 6701: Code of Practice for Road Lighting</b>		
			<b>NZS 6701: Code of Practice for Road Lighting</b>		
			<b>TR 11: Recommended Practice for Pedestrian Crossings</b>		
<b>Traffic Calming</b>	Traffic Regulations (1976)	<b>Guide to Traffic Engineering Practice, Part 10: Local Area Traffic Management</b>	<b>Guidelines for Local Area Traffic Management, Western Australia Main Roads Department</b>	<b>LATM Policy and Guidelines</b>	
	Transit NZ Act (1989)	<b>Guide to Traffic Engineering Practice, Part 9: Arterial Road Traffic Management</b>	<b>Manual of Traffic Signs and Markings: Parts I and II</b>	<b>Code of Practice for Development</b>	
			<b>RTS 15: Guidelines for Urban - Rural Thresholds</b>		



Appendix F

## Expertise, Qualifications and Roles

Staff Training and Competency Matrix

