

THE  
DEVELOPMENT OF  
A  
SAFETY  
MANAGEMENT  
SYSTEM  
FOR  
MARLBOROUGH  
ROADS

# Introduction

- Road Safety to 2010 identified the development of "Safety Management Systems" for Road Controlling Authorities as one of the prime means of improving Road Safety.
- The LTSA appointed a new Project Manager for SMS Development ~ **Bill Greenwood**~ in December 2002.
- Opus commissioned by the LTSA to assist Marlborough Roads to develop a "Safety Management System" ~ **June 2003**.

# Introduction

- The Marlborough Roads Safety Management System (SMS) was developed as a “demonstration” SMS.
- The SMS was developed in terms of the: **LTSA Guidelines for Developing a Safety Management System for Road controlling Authorities.**
- The Marlborough Roads Interim “Safety Management System” was completed early **September 2003.**
- The Marlborough Roads SMS was subjected to a Stage 3 Review ~ **15 December 2003.**

# What is a SMS ?

- A high level over “Umbrella” document.
- The SMS describes how Marlborough Roads will manage all Road Safety aspects that will or could affect the safety performance of the road network under their control.
- Includes the 3 “E’s”
  - Engineering
  - Education, and
  - Enforcement.

# What is a SMS ?

- However the main focus is on "Engineering".
- The **SMS** covers:-
  - Design
  - Management, and
  - Maintenance functions.

## For State Highways and Local roads

- In the event of any potential claims against Marlborough Roads and the Marlborough District Council the **SMS** would be used demonstrate the method to manage safety issues on the road network
- How does the SMS fit into " the scheme of things" ????

# Long Term Road Safety Direction ~ 5 to 10 Years

NZ Land Transport Strategy

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graph TD; A[NZ Land Transport Strategy] --> B[Road Safety 2010]; B --> C["Regional Land Transport Strategy 2001 - 2006  
And Marlborough Roads - Road Safety Strategy"];
```

Road Safety 2010

Regional Land Transport Strategy 2001 - 2006  
And Marlborough Roads - Road Safety Strategy

# Means of Achievement for Road Safety (Systems and Processes)

Regional Land Transport Strategy 2001 - 2006  
And Marlborough Roads - Road Safety Strategy

Marlborough Roads  
Safety Management  
System

Marlborough Roads - Road Safety Plan



# Operational Achievement of Road Safety

**Marlborough Roads  
Safety Management  
System**

**Network Management**

Safety Management Plan  
*A complementary Document*

**Network Maintenance**

Safety Intervention Strategy  
*A complementary Document*

**Capital Projects**

*Contract Documents*



# Alignment of SMS

NZ Land Transport Strategy

National Direction

Road Safety to 2010

Regional Land Transport Strategy 2001-2006  
and Marlborough Roads - Road Safety Strategy

Unitary Authority

Joint Road Safety Committee

Marlborough Roads  
SMS

Marlborough Roads - Road Safety Plan

Engineering Specific + Education & Enforcement

Education & Enforcement Specific + Engineering

Network Management

Network Maintenance

Capital Projects

Safety Management Plan

Safety Intervention Strategy

# Main Users of the SMS

- Marlborough Roads Staff
- Marlborough District Council Staff
- Transit NZ - for this Network area
- NZ Police
- Consultants ~ Network and Project ~  
*The SMS will be the prime Road Safety reference in Requests for Tender and Contract Documents.*
- Contractors ~ Network and Project ~  
*The SMS will be the prime Road Safety reference in Requests for Tender and Contract Documents.*

# Structure of the SMS

*Direction*

*Safety  
Strategy*

*Means of  
Delivery*

*Policies  
Standards  
Procedures  
Guidelines*

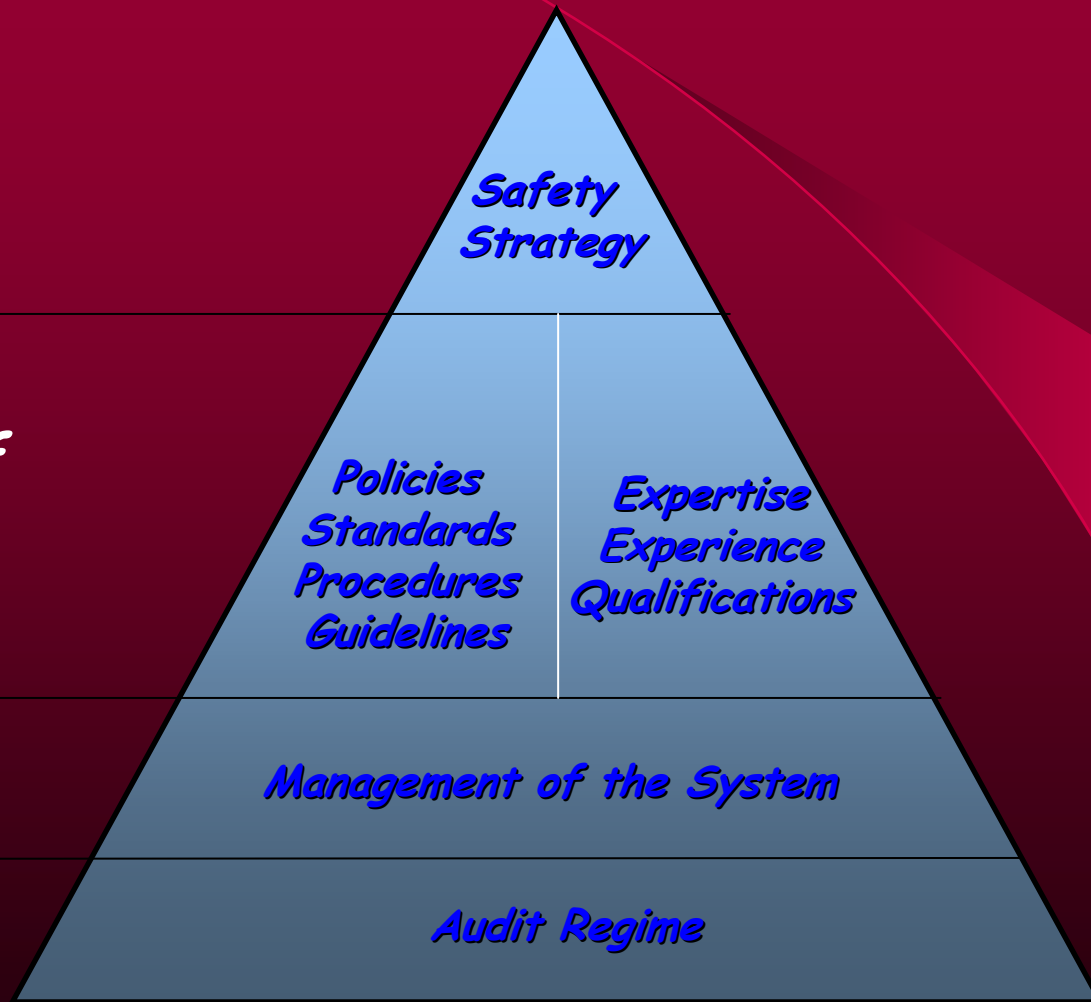
*Expertise  
Experience  
Qualifications*

*Control*

*Management of the System*

*Review*

*Audit Regime*



# Safety Strategy ~ Direction

***Direction***

***Safety  
Strategy***

***Means of  
Delivery***

*Policies  
Standards  
Procedures  
Guidelines*

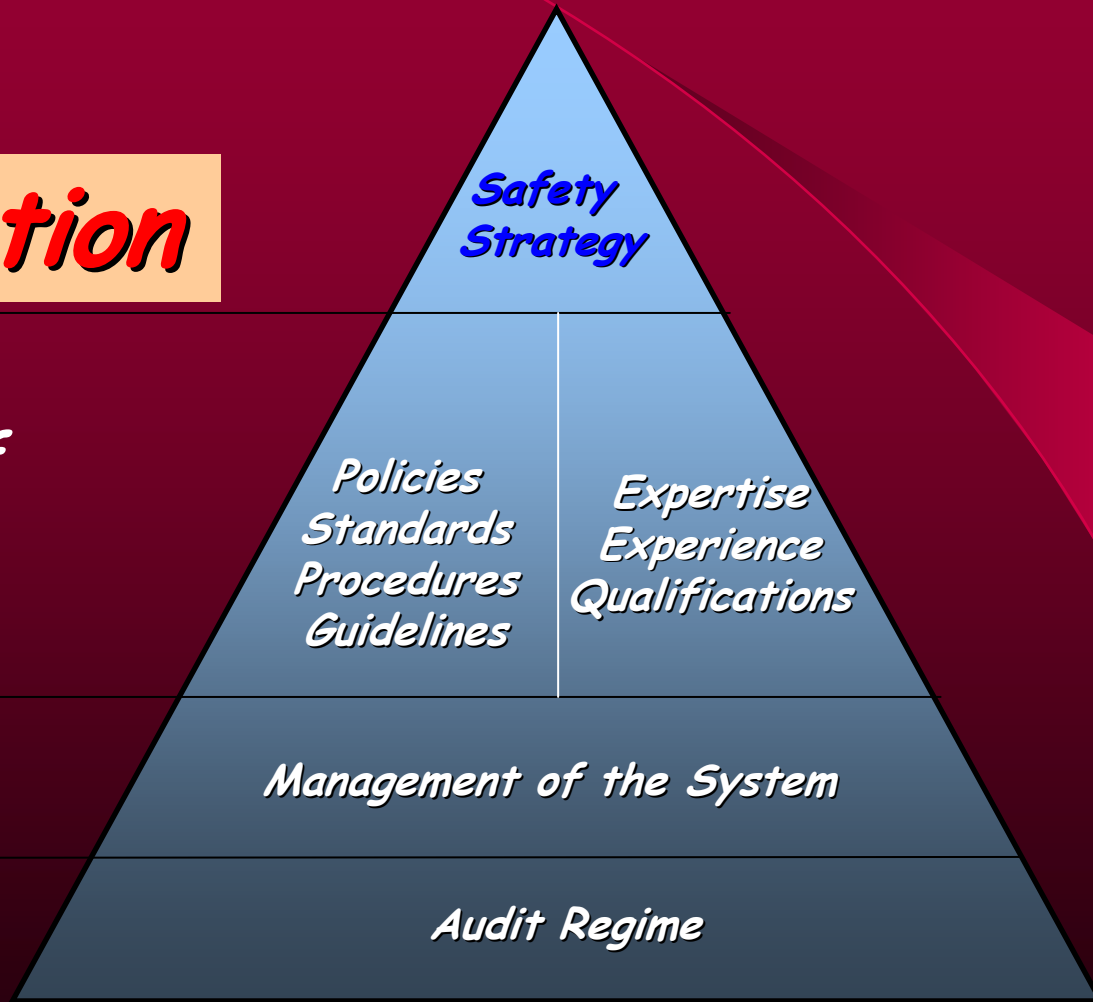
*Expertise  
Experience  
Qualifications*

***Control***

*Management of the System*

***Review***

*Audit Regime*



# Components of the Safety Strategy

- **Vision** - *To reduce the crash rate and enhance road user safety in the region*
- **Mission Statement** - *To manage road hazards by a best value approach to provide a roading network that will achieve no surprises environment for the road user.*
- **Prime Goal** - *Reduce the number of fatalities and the number of hospitalisations resulting from crashes, based on the current crash trends*
- **Goals** - *for Road Safety on the Network are identified on an annual basis, following a review of safety performance in the past year.*

# Components of the Safety Strategy

- *Goals - for Road Safety on the Network achieved by*
  - **Engineering initiatives**
  - **Education initiatives**
  - **Enforcement initiatives**
- **Key Stakeholders and Partners are identified.**
- *Progress towards goals - Reviewed on an Annual Basis - Annual audit review*

# Means of Delivery

*Direction*

*Safety  
Strategy*

***Means of  
Delivery***

*Policies  
Standards  
Procedures  
Guidelines*

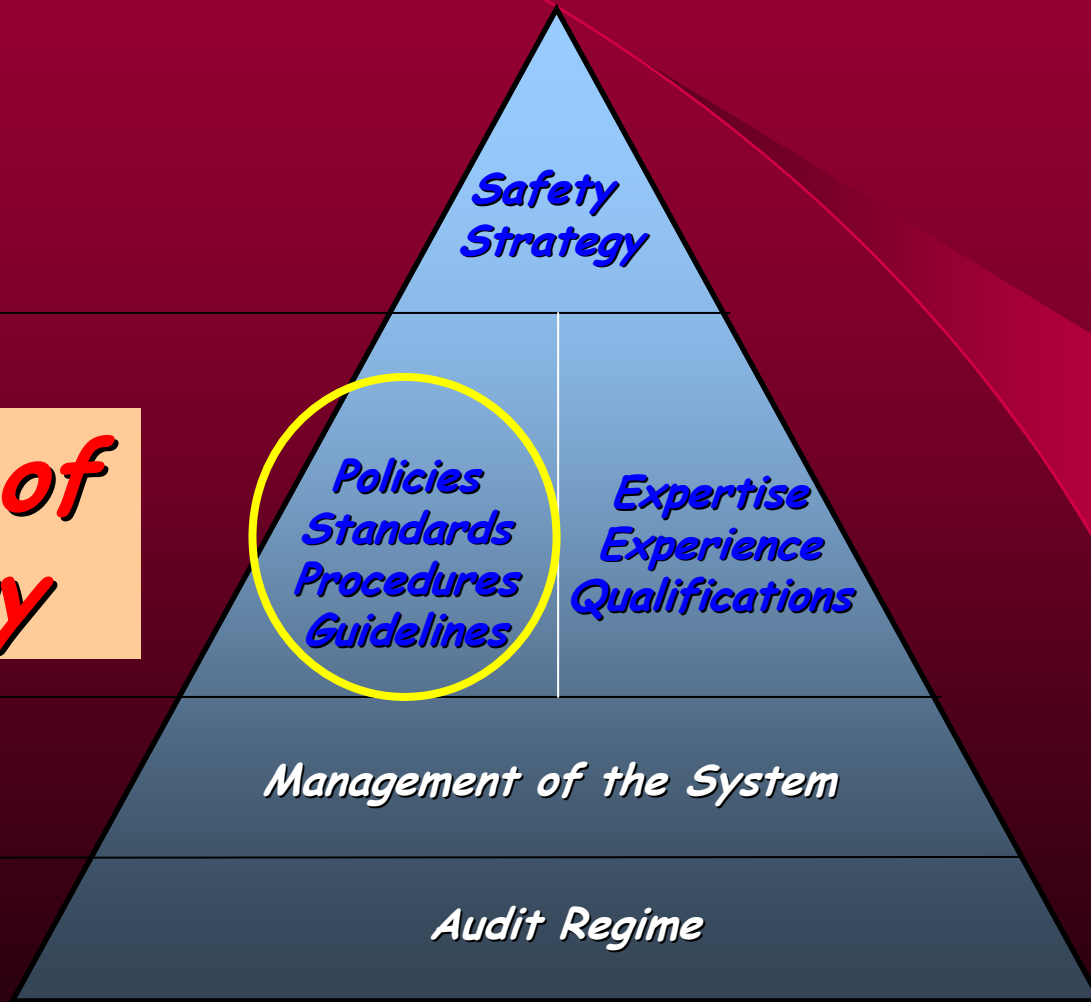
*Expertise  
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*Audit Regime*



# Policies, Standards, Procedures & Guidelines

- These are identified in "Template" form
- Divided by Asset Component Type:
  - **Management General** - *Planning Management, Road Safety Hazard Database, etc.*
  - **Management Processes** - *CRS, Road Safety Inspections, Safety Audits, Emergency and Incident Management, etc*
  - **Operations** - *Potholes, Edge break, Drainage, Kerb and Channel, Street lighting, etc*



# Policies, Standards, Procedures & Guidelines

All items with a risk rating of "High" or "Medium" are included in the SMS

**Each Template includes the following information:**

- The "Owner" - *Person Responsible*
- The Principal document reference
- Safety Issues associated with the item
- Purpose / Description
- Legislation
- Standards
- Principal Guidelines
- Policies

# Policies, Standards, Procedures & Guidelines

The Detail for each template is further Sub Divided by Road Classification / Hierarchy covering ~ State Highways, Regional Routes, District Arterials, Collector Routes and Local roads ~ and include the following:

- Inspection / Monitoring
- Routine Maintenance
- Emergency Maintenance
- Response
- Capital works

# Policies, Standards, Procedures & Guidelines



Example Template

# Means of Delivery

*Direction*

*Safety  
Strategy*

***Means of  
Delivery***

*Policies  
Standards  
Procedures  
Guidelines*

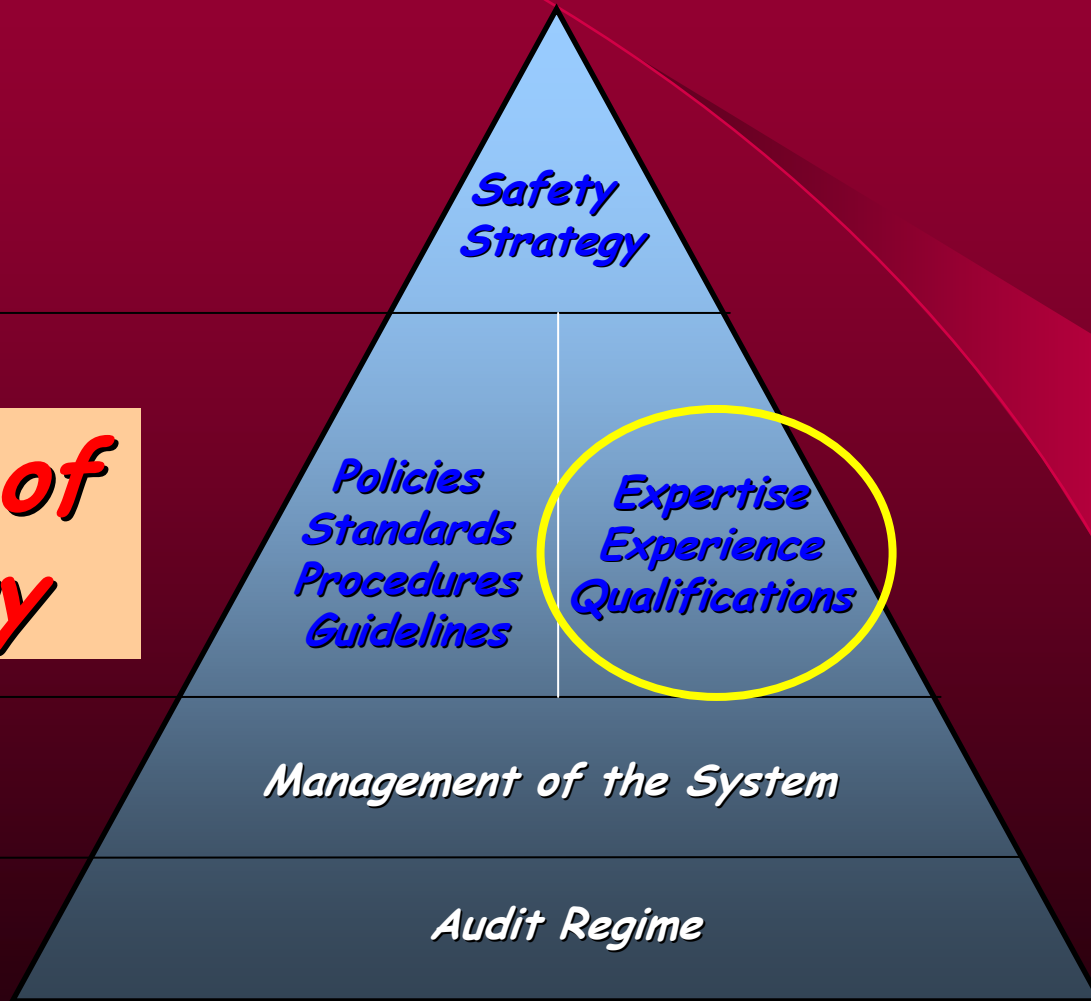
*Expertise  
Experience  
Qualifications*

*Control*

*Management of the System*

*Review*

*Audit Regime*



# Expertise, Experience & Qualifications

## Requirements

- The “ideal” level of competence for each position and activity in terms of Road Safety has been identified
- Competence Level:
  - **Appreciation (A)** ~ Knows who can help and the likely process
  - **Understanding (U)** ~ Understands the process. Can identify appropriate response
  - **Competence (C)** ~ Can develop an appropriate solution. Can identify when expert assistance is required
  - **Expertise (E)** ~ Specialist adviser. Can develop guidelines, can assess the implication of trends and offer options for solutions.



*Position*

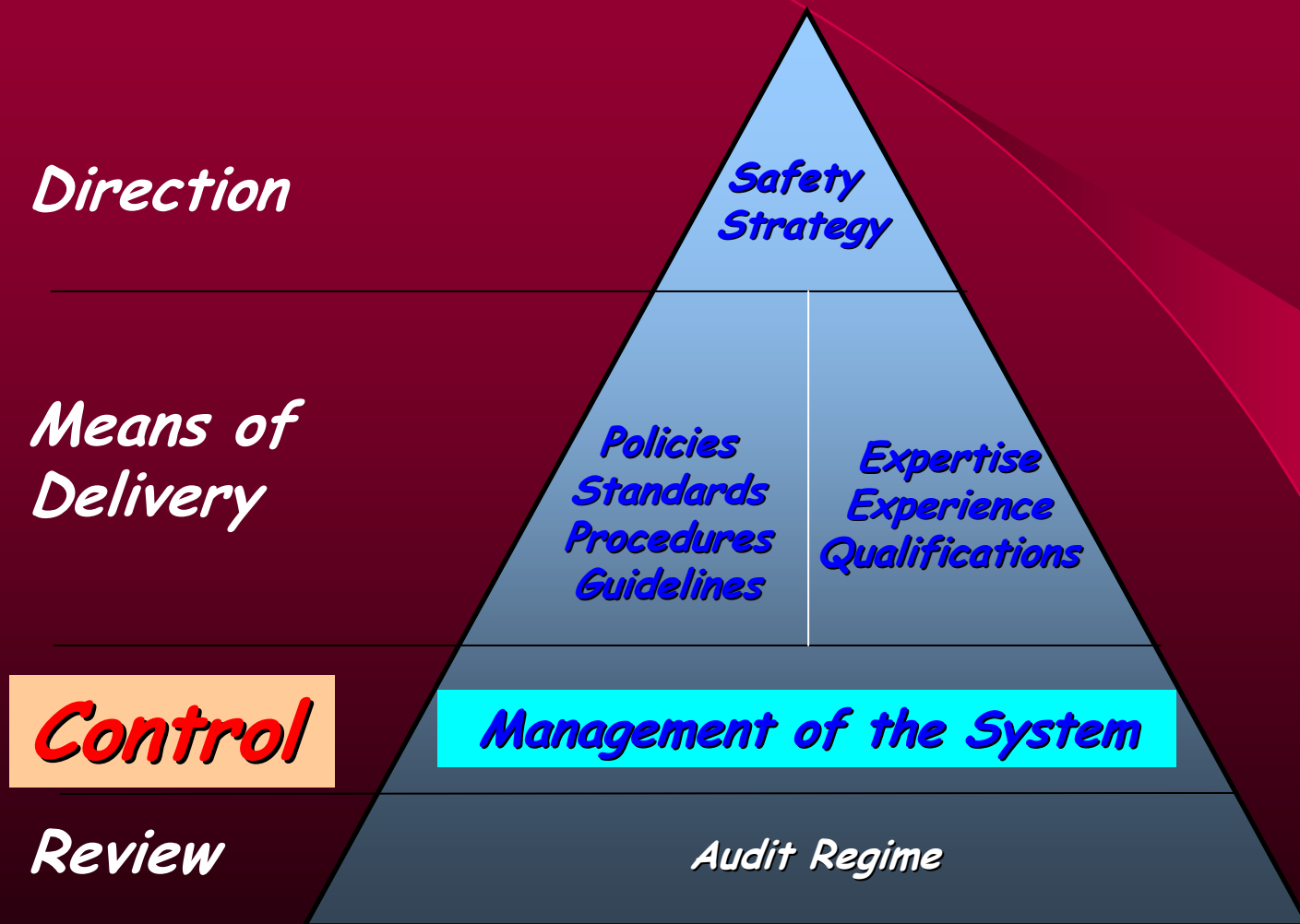
*Asset Item*

## Matrix of Expertise

Used when:

Engaging Suppliers  
Employing New Staff  
&  
Developing Current  
Staff

# Management of the System

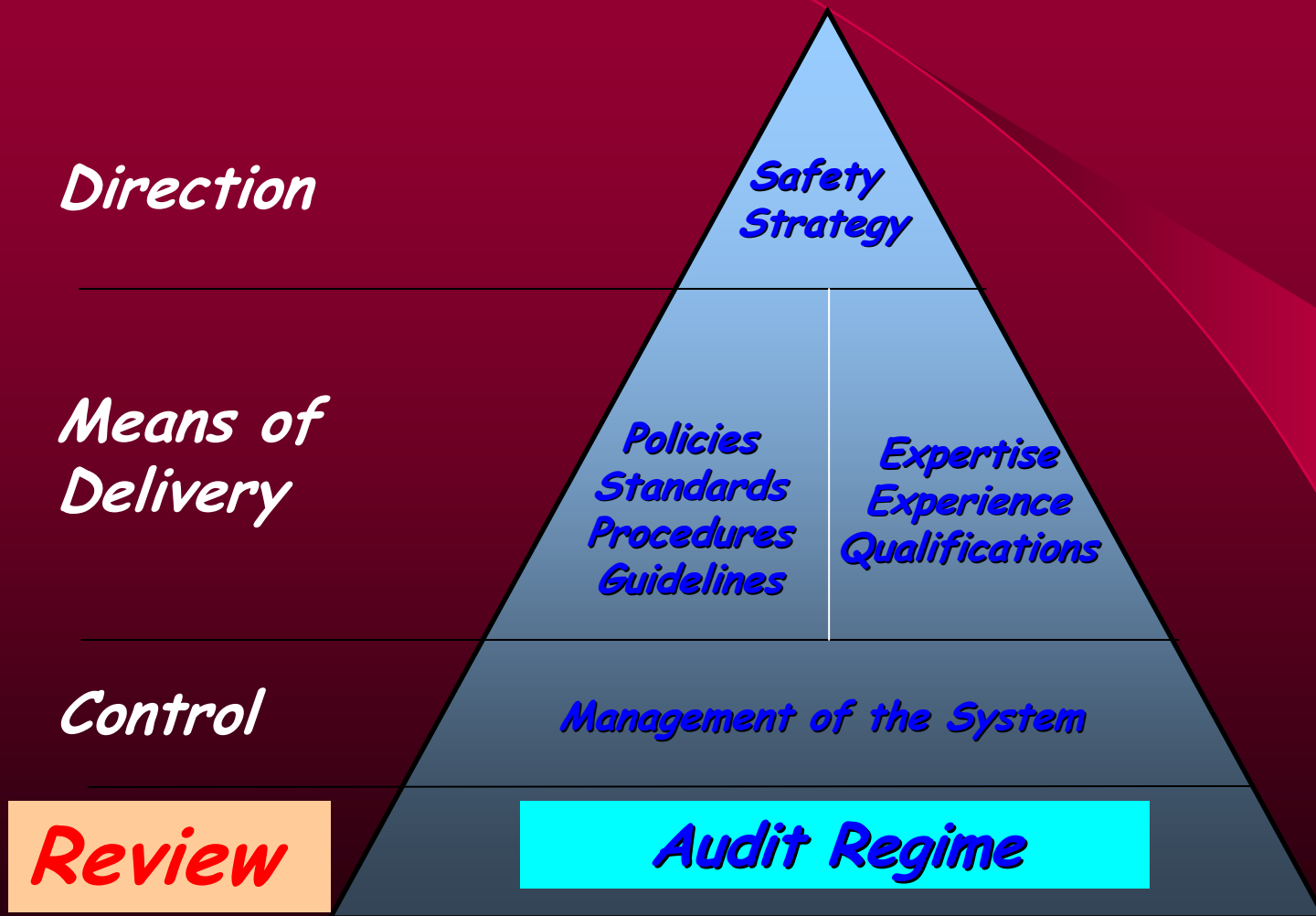


# Management of the SMS

- Describes :-
- Application of the SMS.
- Implementation of the SMS.
- Management Responsibility.
- Management Processes, &
- Opportunities for Improvement (OFI):
  - Reason for required improvement
  - Person responsible for undertaking the improvement
  - Date for action
  - Date Completed



# Audit Regime



# Audit Regime

## SMS Audited in Two Stages

### Stage 1 Technical Effectiveness

Internal Audit in Feb each Year

- Progress towards Targets - KPI's, KPM's
- Suitability of Targets
- Funding / needs
- Adequacy of SMS

# Audit Regime

## Stage 2 Systems Compliance ~

External Audit August each Year

- Currency of SMS components
- Implementation of SMS
- Adherence to Procedures and Guidelines
- Adoptions of "*Opportunities for Improvements*".

# Audit Regime

- **Audit Team will include:**
  - LTSA Regional Engineering Manager or representative
  - Manager Marlborough Roads or representative
  - Network Consultant - Team Leader/ Road Safety Manager
  - Transit NZ representative
- **Audit Team may include:**
  - Network Maintenance Contractor
  - Manager, Asset and Services MDC
  - Independent Auditor ~ from another RCA or Consultant

# Audit Regime

- **Auditors will report on:**
- Review of previous audits
- Progress towards Road Safety Targets
- Outcomes of KPI's set in the Road Safety Strategy section
- Highlight areas of High Compliance or Non Compliance
- Summarise actions to address Non Compliance
- Recommendations for the development of new or updated policies, standards, guidelines, specifications and strategies

# Comparison of the Marlborough Roads SMS and the Transit NZ SMS

- A review of the two documents has been undertaken.
- The Marlborough Roads SMS fully complies with the requirements of the Transit NZ State Highway Safety Management System Manual and in many cases exceeds the Transit NZ's requirements

**~ Where to from here ~**

# Stage 3 Review ~ Dec 2003

## Issues Identified to complete SMS

- Memorandum of Understanding (LTSA / MR) to be signed
- SMS Document Endorsement ~ OFI
- Add "Enforcement" and "Education" to Legislative Links flow chart ~ OFI
- Develop a "Family Tree" showing the management setup of Marlborough roads ~ OFI
- Minor OFI's



# Stage 3 Review ~ Dec 2003

## Issues Identified

Target the development of companion Operational link documents:

- **Safety Management Plan (SMP) ~**
  - **Developed in conjunction with Network Management Consultant**
  - **Complies with Transit NZ SHAMM Section 2**
  - **Describes the day to day management of the network with respect to Road Safety including:**
    - ➔ **Day, Night and Side road Safety Inspections**
    - ➔ **Fatal and High Profile serious crash investigations and reporting**
    - ➔ **Grey and Black spot studies**
    - ➔ **Development and Management of prioritised Road Safety Hazard register**

# Stage 3 Review ~ Dec 2003

## Issues Identified

Target the development of companion Operational link documents:

- **Safety Intervention Plan (SIP) ~**
  - Developed in conjunction with Network Maintenance Contractor
  - Complies with SHAMM Section 2
  - Describes the day to day activities of the Maintenance Contractor with respect to "Safety Maintenance" and Road Safety issues, including:
    - Inspections
    - Work Prioritising and programming
    - Treatment Selection
    - Work Execution
    - Monitoring and recording
    - Maintenance of the Recurring Hazard Register

# Implementation of the Marlborough Roads SMS

- Distribute copies of the SMS for review and comments.
- Release the SMS as a "Final" document (Interim Tag removed).
- Include the SMS as a requirement/reference in future Contracts, Consents for Work on the Road, issued by Marlborough Roads and the Marlborough District Council.
- Include the SMS in Marlborough Roads and the Marlborough District Council operational procedures/documents.

**Thank You**

**Any Questions**