Best Practice in Road Safety Infrastructure Programs

15 May 2018

Austroads

Today’s moderator

Eliz Esteban
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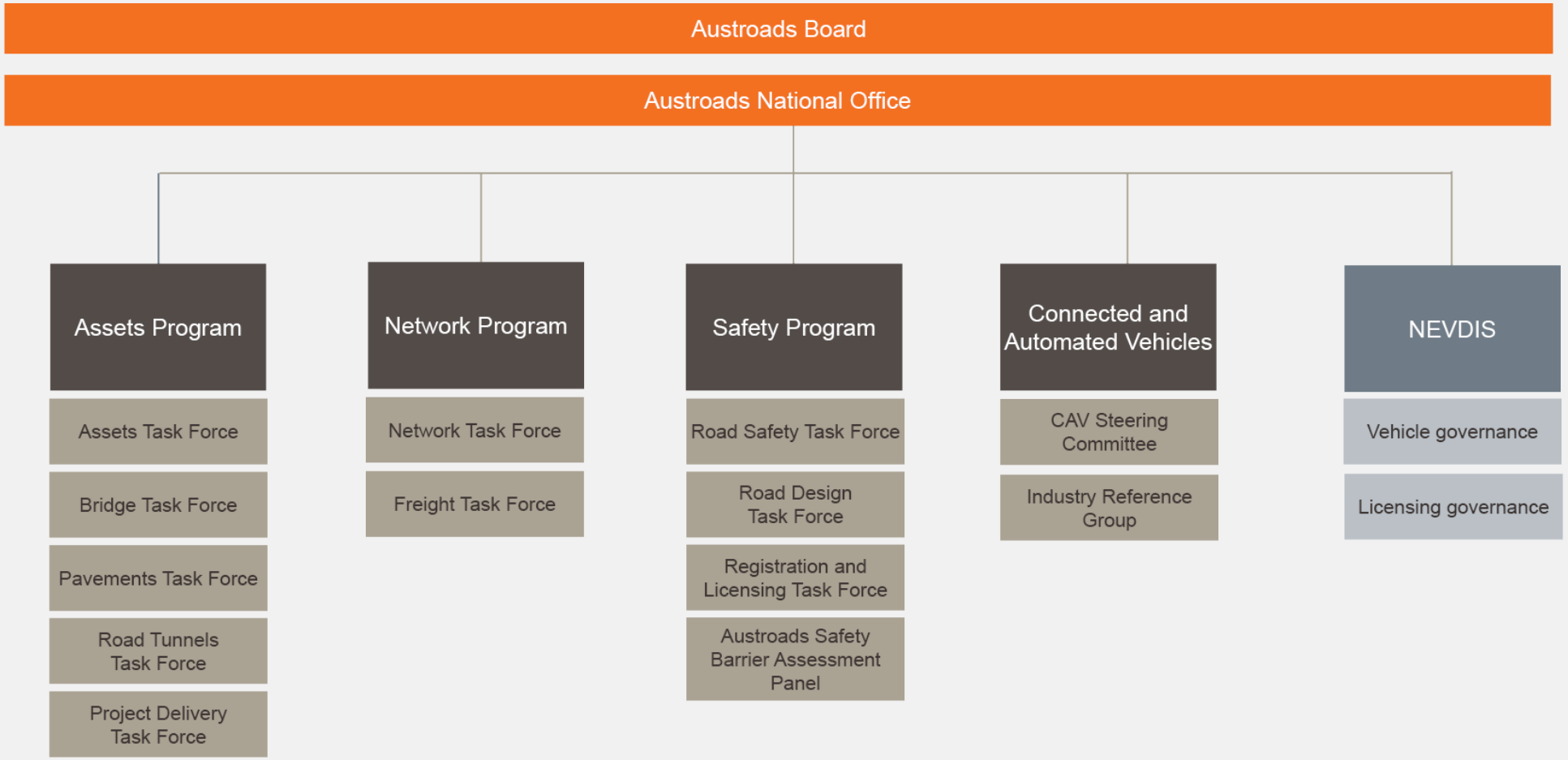
About Austroads

The peak organisation of Australasian road transport and traffic agencies

- Roads and Maritime Services New South Wales
- Roads Corporation Victoria
- Department of Transport and Main Roads Queensland
- Main Roads Western Australia
- Department of Planning, Transport and Infrastructure South Australia
- Department of State Growth Tasmania
- Department of Transport Northern Territory
- Transport Canberra and City Services Directorate, Australian Capital Territory
- Department of Infrastructure, Regional Development and Cities
- Australian Local Government Association
- New Zealand Transport Agency

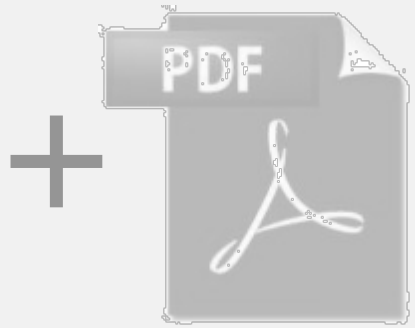
Our structure



Housekeeping

Presentation = 35 mins

Question time = 15 mins



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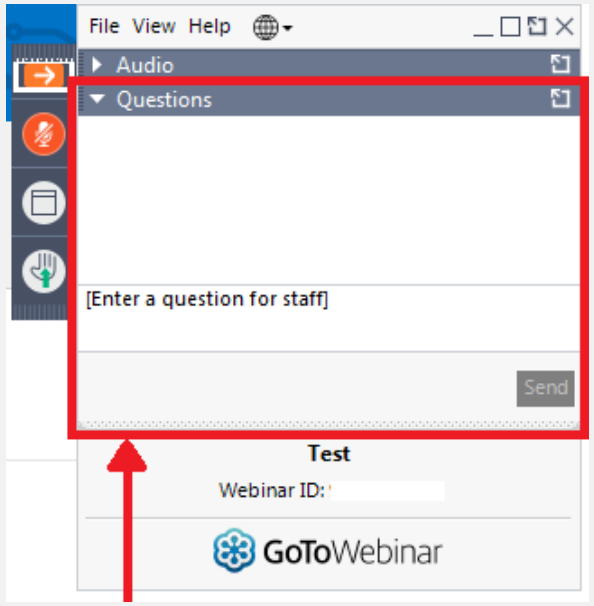

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Let us know the slide number your question relates to

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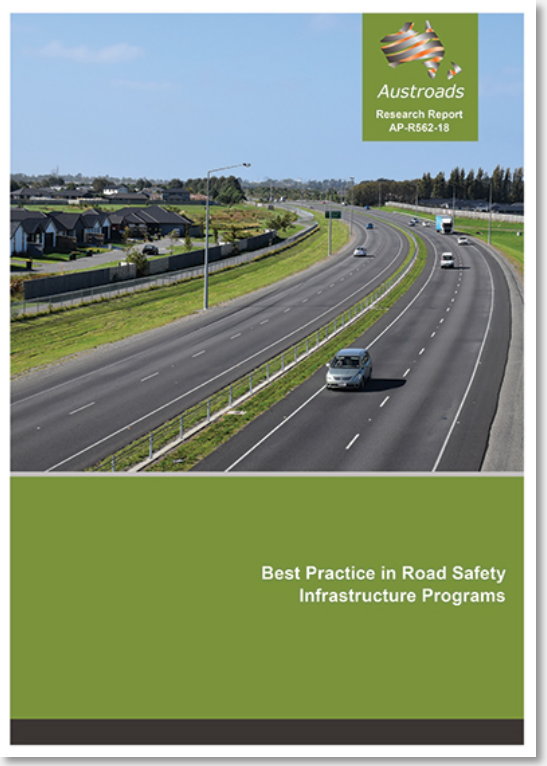

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Today’s presenters

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Agenda

Topic	Presenter
Project Background and Introduction	Dave Smith
Consultation and Workshops	Paul Durdin
Best Practice Guidance	
Recommendations	
Q&A	Both Presenters

Project Background and Introduction

Dave Smith

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Project Purpose

Project Overview

Scope	Program Examples
All Road Safety Infrastructure Programs (RSIPs)	• Australian Government Black Spot Program • NSW Safer Roads Program • Queensland's Targeted Road Safety Program • Vic Safer Roads Infrastructure Program
Successful implementation of route based/mass action safety approaches	• NSW Route Safety Review Program • Queensland Bruce Highway Safety Improvement Program

Introduction to team

Project Team

Austroads Project Manager

Joseph Le

Abley Transportation Consultants

Lead Consultants

Safe System Solutions, Mackie Research, Alison McIntyre

Subconsultants

Review Team

Austroads Working Group Group

Stakeholders- Road and Traffic Authorities

Austroads Road Safety Task Force

Austroads Board

Research Team

Paul Durdin
Technical Lead

Dave Smith
Project Manager

Dale Harris
Research and Analysis

Kenn Beer
Consultation and
Workshop Facilitator

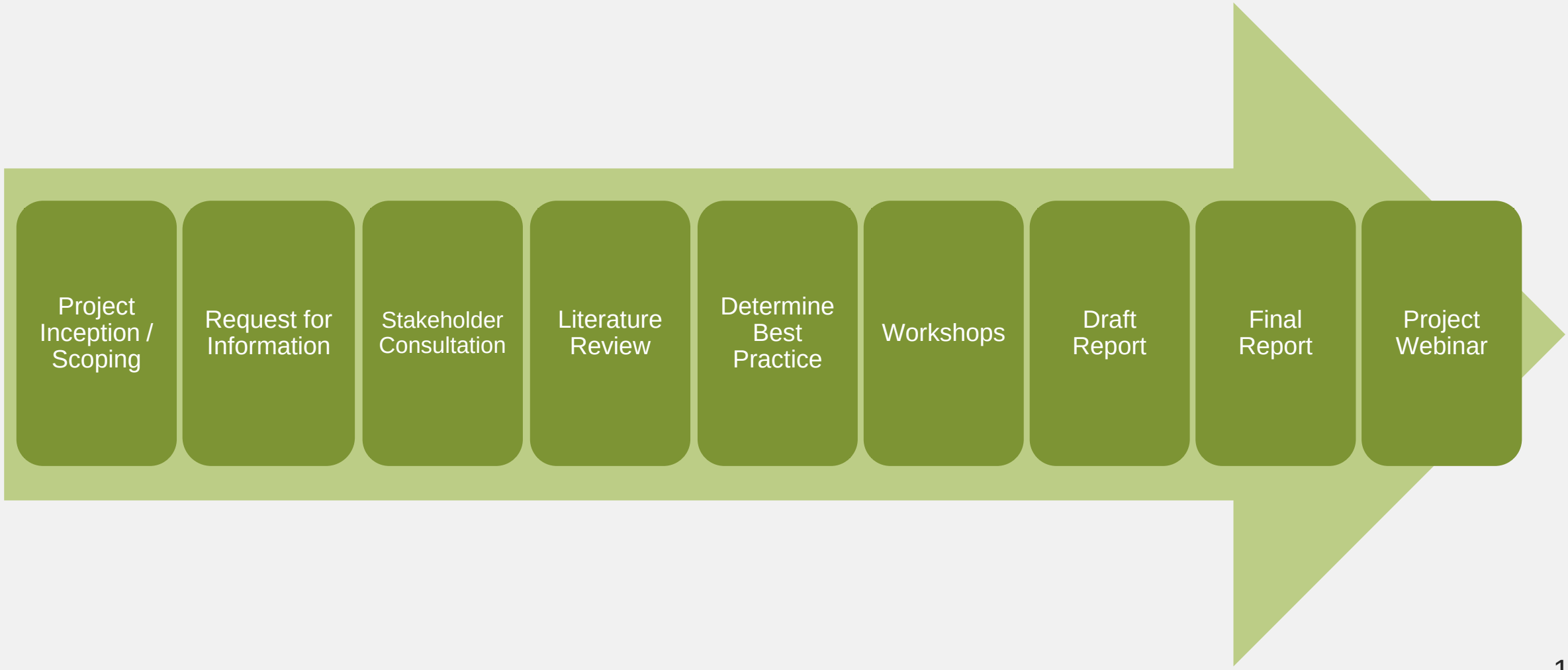
Dr Allison McIntyre
Literature Review

Dr Hamish Mackie
Project Reviewer

The Project Team

Austroads Working Group

Project Stages



Consultation and Workshops

Paul Durdin

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Consultation Process

- **Interviews with each jurisdiction:** Face to face and via Skype / teleconference
- **Purpose:** Insight of how each jurisdiction develops/delivers their Road Safety Infrastructure Program and identify aspects that work well, those that don't, and the opportunities and challenges that exist

Best Practice Structure

(A) Strategic Direction

(B) Risk Identification

(C) Countermeasure Identification and Development

(D) Program Development and Approval

(E) Design and Delivery

(F) Monitoring and Evaluation

Best Practice Structure Messages

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(A) Strategic Direction

(B) Risk Identification

(C) Countermeasure Identification and Development

(D) Program Development and Approval

(E) Design and Delivery

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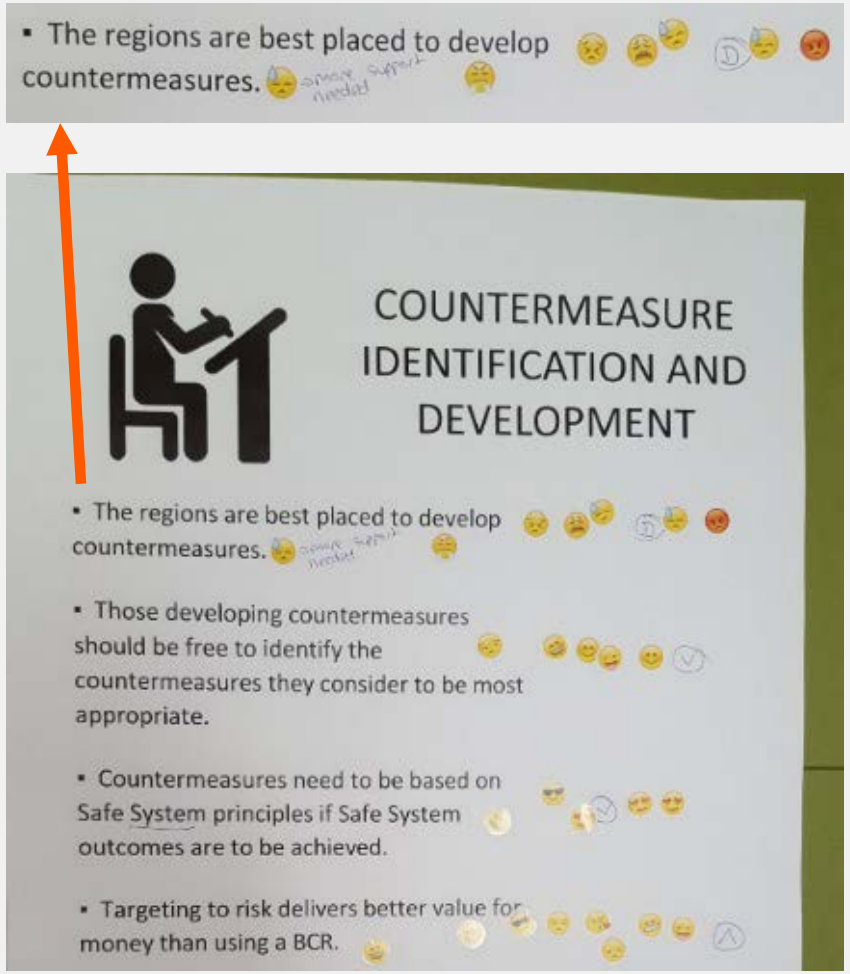
Workshop Objectives

- Validate the findings from the consultation and literature review
- Distil the best practices in RSIP methodologies and processes across jurisdictions into a single agreed '*best practice*'
- Ensure each jurisdiction has the opportunity to present their successes, challenges, concerns, program requirements and distinctive program characteristics



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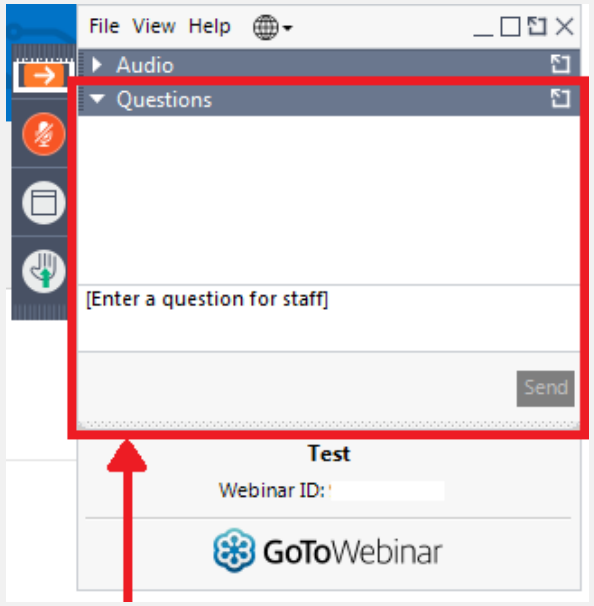

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Best Practice Guidance

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Best Practice Structure

(A) Strategic Direction

(B) Risk Identification

(C) Countermeasure Identification and Development

(D) Program Development and Approval

(E) Design and Delivery

(F) Monitoring and Evaluation

(A) Strategic Direction

1. Safe System principles set ambitious targets/ aspirational outcomes
2. Action Plans, Implementation Plans, Policies, Procedures and Design Guidelines
3. Embedded at an organisational level
4. Funding and safety targets considered jointly when setting the strategic direction

(A) Strategic Direction

(A)
Strategic
Direction

5. Road safety targets should be achieved across all Safe System pillars
6. Process needs to be developed for assessing RSIP performance independent of external factors
7. Each RSIP should have specific safety targets that can be measured
8. Programs, projects and countermeasures may not be fully Safe System compliant

Western Australia Case Study

(A)
Strategic Direction

- Road Safety Management System (ROSMA)
- To be accredited against ISO 39001 RTS Management Systems
- All staff receive Safe System training
- Sets KSI reduction targets for all roading projects
- Change management tool for breaking down conflicting objectives of mobility, safety, standards and design guidelines

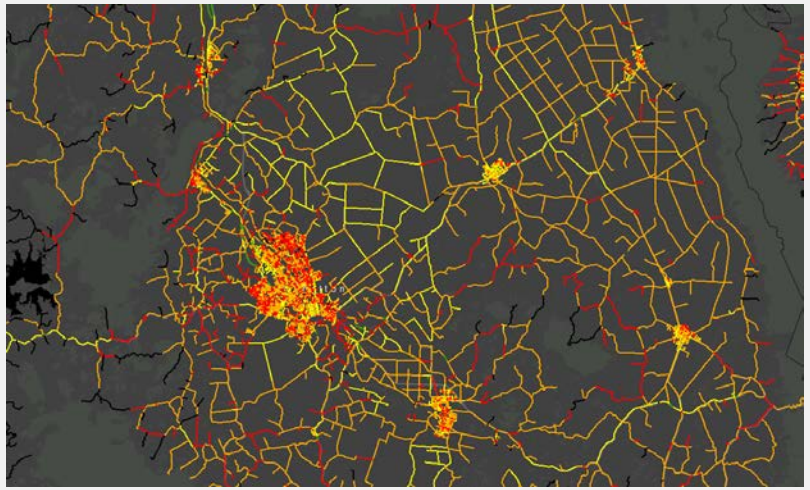
(B) Risk Identification

1. Risk analysis is completed at a network level, including local roads, for the purposes of prioritising investigation and investment decisions
2. Risk analysis methods that use a combination of crash history, as well as proactive estimates of risk (informed by road, roadside and adjacent land use features), are best for predicting high-risk locations

(B) Risk Identification

3. Crash history data, when used in risk analysis, should be modified to an equivalent risk value
4. Risk analysis methods set by the funder should demonstrate how and why the selected method(s) will achieve the targets and outcomes of the highest-level road safety strategy
5. Risk needs to be understood from both a ‘Collective’ and ‘Personal’ perspective

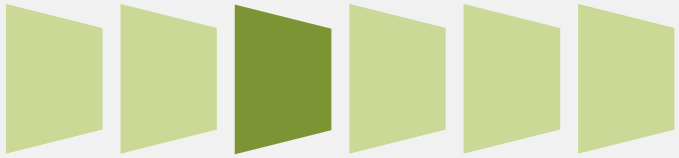
New Zealand Case Study



(B)
Risk
Identification

- Collective and personal risk metrics
- Risk estimates based on Star Ratings and IRR
- Applications include network screening, prioritisation and assessing KSI reduction potential
- Linked to Investment Assessment Framework

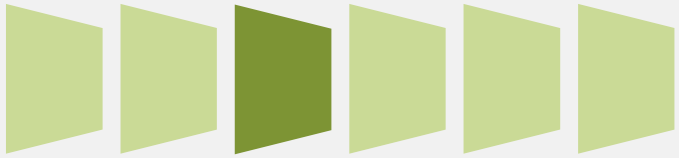
(C) Countermeasure Identification and Development



(C)
Countermeasure Identification and Development

1. Risk analysis should be shared with those who identify and develop countermeasures, with direction around where to focus efforts
2. Those tasked with identifying and developing countermeasures should have a strong understanding of Safe System principles and implementation
3. Understanding the system failures that resulted in fatal and serious injuries across all pillars, and the reasons behind these, is critical to countermeasure development

(C) Countermeasure Identification and Development



(C)
Countermeasure Identification and Development

4. Countermeasures should be developed at a network and corridor level to support consistency for road users
5. Countermeasures should generally be developed top-down rather than bottom-up, focusing on maximising FSi reduction but still returning a positive BCR
6. Projects should have a Safe System Assessment at the time of countermeasure development

Victoria Case Study

(C)
Countermeasure Identification and Development

- SRIP program superseded with SSRIP
- Focuses on intersection, lane departure and pedestrian/cycle crashes (92% of KSI)
- Mass action construction of roundabouts
- Innovative SS design for signalised intersections
- Eradication of lane departure casualties

(D) Program Development and Approval

1. Funding allocation within the program should reflect both the scale of problem and level of investment required to reduce risk
2. Program approval should be based upon meeting program objectives, desirably based on FSis saved, recognising the need for a higher cost/low efficiency projects and lower cost/higher efficiency projects and for the overall program to represent value for money (BCR)
3. Interim and innovative solutions should be encouraged and actively facilitated

(D) Program Development and Approval

4. Safety benefits should not be traded off against other transport costs, such as travel time.
5. Where practicable, programs should maximise economies of scale through themed treatments or spatial clustering.
6. KPIs should reflect the program objectives, but desirably be based on KPI saved.

New Zealand Case Study

- ‘Gap analysis’ approach to understanding risk
- Gap between expected KSi and NZTA 2020 targets
- Identify high risk parts of SH network yet to be addressed
- Prioritised corridors analysed by Safer Roads Alliance/NZTA considering desired road stereotype and other improvement initiatives

(E) Design and Delivery

1. Projects should go through a road safety audit at design stage
2. Design and audit guidelines need to reflect the latest research regarding how a Safe System can be achieved in practice
3. Details of the delivered product need to be recorded appropriately
4. Risk reduction predictions should be revised to reflect the delivered product

Victoria Case Study

- Tiger Team (team zero) formed within SSRIP team
- Aim to plan and deliver SSRIP countermeasures at top 20 high speed rural roads
- Provides project consistency, economies of scale, and centralised specialist knowledge
- Embedded Tiger Team staff in regional offices to work with staff

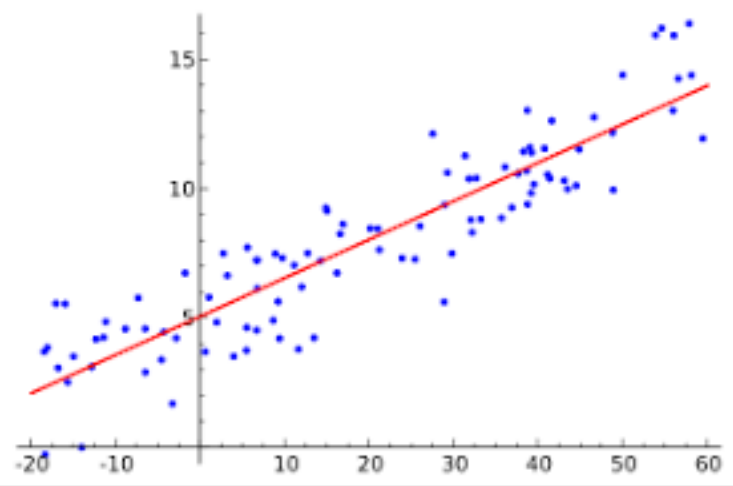
(F) Monitoring and Evaluation

1. Monitoring and evaluation should be a requirement of all programs. Consider process evaluation, short-term indicators, longer-term risk reduction outcomes and the performance of the wider program
2. Evaluation of projects and programs should validate the risk reduction prediction

(F) Monitoring and Evaluation

3. Results from monitoring and evaluation should be shared to optimise the delivery of programs over time
4. Evaluation needs to account for macro-economic factors and regression to the mean
5. Monitoring and evaluation of programs needs to be done against the outcomes identified at the outset of the program

Victoria Case Study



- GOSPA (Goals, Objectives, Strategy, Programs, Actions) framework
- Evaluation framework develop by Monash University
- Four tiers of evaluations from goal/objective or strategy through to individual evaluations of programs
- Statistical techniques recommended for each tier of evaluation

Recommendations

Paul Durdin

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Implementation Recommendations

1. Self evaluation
2. Benchmark industry progress and update guidance
3. Integrate safe system into strategic documents
4. Consider application to broader infrastructure programs

RSIP Stage	Principles	Not achieved	Commencing	Variable	In the majority	Achieved
(A) Strategic Direction	A.1 The highest level strategic documents are based on Safe System principles and set ambitious targets and aspirational outcomes for road safety.					
	A.2 Safe System principles, targets and outcomes need to cascade down through Action Plans, Implementation Plans, Policies, Procedures and Design Guidelines.					
	A.3 Safe System principles should be embedded at an organisational level – not just within road safety teams.					
	A.4 Funding and safety targets need to be considered jointly when setting the strategic direction. Aspirational safety targets should drive funding levels; however, those targets may need to be constrained to reflect the safety benefits that can be achieved within available funding.					

Questions?

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Topic	Date
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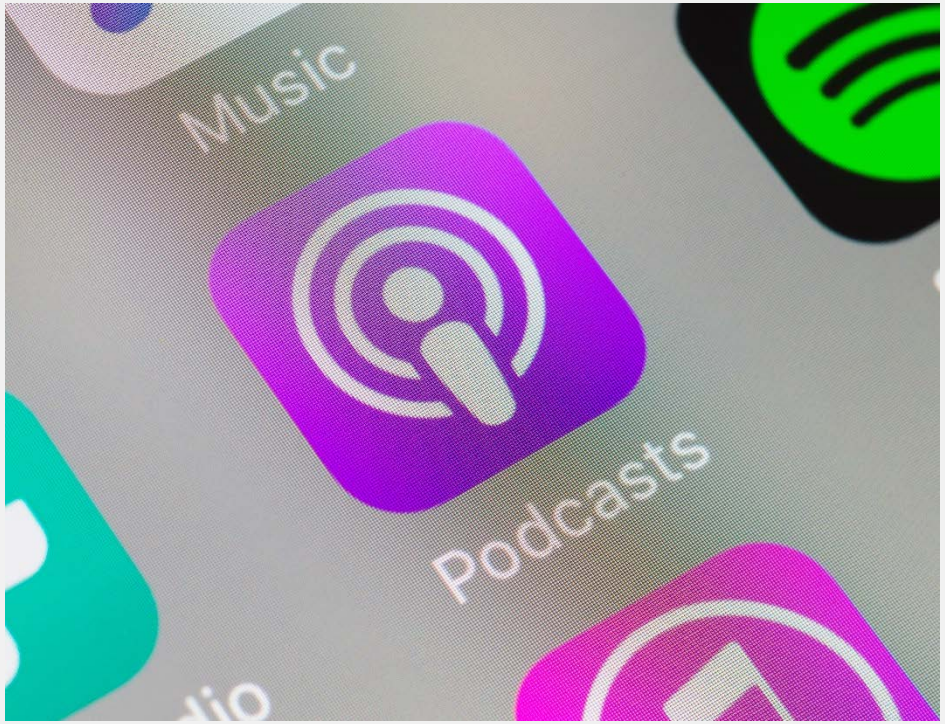

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