

Refocussing the RTA: Enhancing Road Safety in the Road Development Program

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Abstract

The New South Wales Government's State Plan identifies road safety as one of its key priorities. On 28 May 2007, the Minister for Roads announced the establishment of the NSW Centre for Road Safety. The centre is working to become a world-class road safety centre for policy development, high-level research, advice and delivery of behaviour change strategies.

The Centre for Road Safety utilises the Safe Systems Partnerships approach to road safety when developing strategies and policies. The 'safe systems' approach underpins the current national road safety strategy. This approach promotes the building of a road transport system where fatal and serious injury crashes are not acceptable, recognises that safe travel is a shared responsibility between road users and road system designers/operators, and acknowledges that driver errors should not result in fatal or serious injury. The integrated elements of the 'safe system' include road and roadside infrastructure, vehicles, vehicle speeds (including speed limits) and compliance of road users with the law. The interplay of these elements, supported by strong road safety management systems, delivers sustained improvements in road safety.

While there have been significant reductions in the NSW road toll, the creation of the NSW Centre for Road Safety presented the RTA with an important opportunity to reduce the road toll even further. In January 2007 the RTA's Chief Executive issued "The Road Safety Challenge: Refocusing the RTA" requiring every facet of business to take responsibility for road safety.

This paper illustrates how a major area of business, the Major Infrastructure Directorate has mainstreamed road safety. The Major Infrastructure Directorate is responsible for managing and implementing the RTA's Road Development Program with a budget of \$1.8billion in 2008/09. This Directorate plans, designs and delivers major projects that contribute to the safer roads component of the 'safe systems' approach, with significant input from road safety professionals.

Keywords

Safe Systems Partnerships, NSW Centre for Road Safety, Road Development Program.

Introduction

NSW State Plan

The New South Wales State Plan focuses on five **themes** to deliver better results for the NSW community from Government services. The State Plan has set **goals** the community wants the NSW Government to work towards. It identifies **priorities** for Government action that will help achieve each of these goals over the next 10 years with **targets** being set where possible.

The NSW Government identified "**Safer Roads**" as Priority S7 in the State Plan and nominated the RTA as the key agency responsible for ensuring that a target of "**reducing road fatalities relative to the distance travelled**" is achieved.

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This paper illustrates how a major area of business, the Major Infrastructure Directorate, has mainstreamed road safety. The Directorate is responsible for planning, design and delivery of major projects and has a budget of \$1.8 billion in 2008/09.

The paper discusses the roles of the NSW Centre for Road Safety and the Major Infrastructure Directorate and explains how Major Infrastructure Directorate has integrated road safety into their business.

The Road Safety Challenge, Refocusing the RTA

In January 2007, following the release of the NSW Government's State Plan in November 2006, the RTA's Chief Executive released "***The Road Safety Challenge, Refocusing the RTA***". The document introduced the concept of "*Mainstreaming Road Safety*" under which all business areas within the RTA have explicitly identified responsibilities to contribute to the RTA's road safety effort.

The NSW road toll for 2006 was 496 and 445 (provisional) for 2007 which are the lowest since World War 2 (see Figure 1). This is a significant achievement in the face of increased vehicles and kilometres travelled on our roads. But the number of deaths on our roads is still too many.

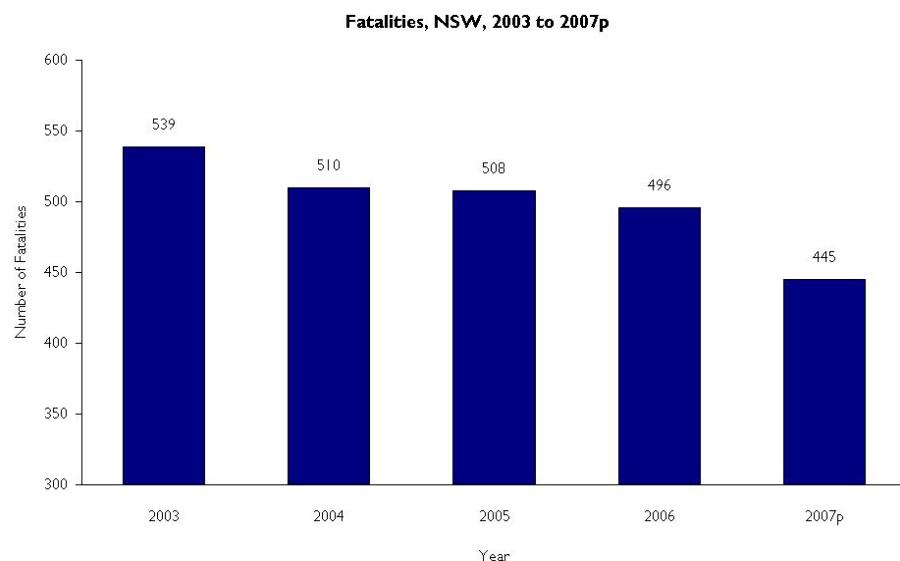


Figure 1: NSW Road Related Fatalities 2003 - 2007

In the past road safety had been seen by some as an issue to be dealt with by staff working in Road Safety Branches and Sections in the RTA. Under the new approach road safety has become an important driver for all RTA managers and staff. Changes have been made in the processes used in the development of RTA programs and the systems that support management to reflect the new approach to road safety.

The major impact of these changes can be seen in the way that all business units must demonstrate their contribution to road safety which then impact on the way the RTA manages the road network and the infrastructure programs that maintain and develop the network.

New South Wales Centre for Road Safety

In May 2007 the NSW Minister for Roads announced the establishment of the NSW Centre for Road Safety. The NSW Centre for Road Safety is the road safety research, policy and technology arm of the RTA and aims to be the pre-eminent road safety organisation in Australia. It plays a major role in providing strategic road safety policy advice to government and is committed to being at the forefront of road safety engineering technological and behavioural research to advance road safety issues.

Its main goal is to drive research policy and behavioural change to significantly improve the NSW road toll. The NSW Centre for Road Safety became fully operational on 1 January 2008 and comprises 4 branches, Safer Roads, Safer People, Safer Vehicles and the Business Strategy and Strategic Projects Branch which reflect the safe systems approach to road safety.

The safe systems approach (see figure 2) underpins the current national road safety strategy. This approach promotes the building of a road transport system where fatal and serious injury crashes are not acceptable, recognises that safe travel is a shared responsibility between road users and road system designers, operates and acknowledges that driver errors will occur but that the errors should not result in fatal or serious injury. The NSW Centre for Road Safety has formally adopted this approach, where it is referred to as safe systems partnerships, when developing strategies and setting priorities.

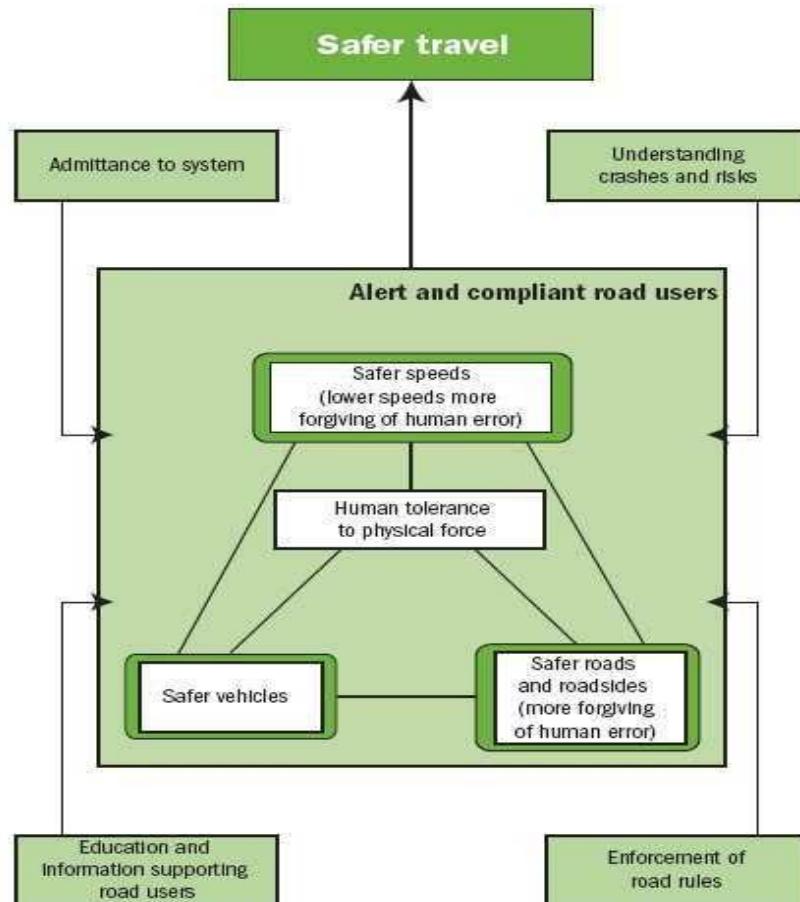


Figure 2: Safe Systems Approach to Road Safety
(Source: Australian Transport Council 'National Road Safety Action Plan 2007 and 2008')

Major Infrastructure Directorate

The Major Infrastructure Directorate manages and implements the RTA's Road Development Program. The Directorate plans, designs and delivers the projects in the Road Development Program. A framework and assessment regime has been established for the development of all projects in the Road Development Program.

In line with mainstreaming road safety, the Major Infrastructure Directorate ensures that a number of key performance measures including the rigorous analysis of expected road safety benefits underpin the selection of major projects in the development program. Other factors include providing appropriate capacity, catering for all road users, minimising environmental impacts and providing cost effective and efficient road solutions. Planning delivery of major projects is undertaken using a project team approach. The project teams include, or draw on expert advice from, specialists in a variety of areas including road and bridge design, environment, urban design, community involvement, road safety, traffic management, traffic systems, pedestrian and bicycle facilities and asset management. Projects are designed and built to minimise the occurrence of severe crashes and to ameliorate the consequences of crashes.

Key drivers of the Road Development Program are to improve traffic levels of service, including the performance of the network for freight and public transport, vehicle users, and to support a reduction in the number and severity of crashes. Major Infrastructure Directorate:

- Ensures that road safety benefits are a key consideration in the selection of projects in the Road Development Program.
- Encourages and supports the NSW Centre for Road Safety to develop and implement a method to forecast road safety outcomes of projects and programs.
- Implements a process to involve internal stakeholders at an early stage of project development and planning.
- Ensures specific road safety objectives are set for all major infrastructure projects.

Major Infrastructure Directorate's organisational systems and decision making initiatives are discussed below.

Road Development Program Mainstreaming Initiatives

- **Road Safety Audits**

A road safety audit is a formal examination of a future road or traffic project or an existing road, in which an independent, qualified team reports on the projects crash potential and safety performance. As part of the report the team will identify road safety deficiencies and issue a corrective action report (CAR) for each of the deficiencies. A road safety audit can be conducted at any stage during the development of a project from concept stage through to pre opening.

As part of the development of all major projects road safety audits are conducted at the concept design, detailed design and pre-opening stages of all projects. Project managers are required to assess and respond to every CAR identified in road safety audits and to document actions taken to address deficiencies.

- **Road Safety Impact Statements**

A Road Safety Impact Statement (RSIS) is an assessment of the proposed positive or negative road safety impact on any engineering project being undertaken, including maintenance, traffic management road safety and major infrastructure projects.

RSIS's have been incorporated into the Road Development Program at the Project Scoping, Project Development and Project Implementation stages.

The measurements used to determine the road safety benefit of a project vary for the type of project. For example Road Development Program projects are assessed using different parameters than Asset Maintenance projects. RSIS's produce a set of data that a Program Manager can utilise to:

- Measure or forecast crash reductions of a project or program
- Prioritise projects according to forecast road safety benefit

The present information available is historic data sets, generally of crashes over the last five years, which are used to highlight the type and location of crashes on a section of road that has been identified for upgrade or improvement.

Data contained in the RSIS together with other performance indicators can be utilised to evaluate project works. A comparison of before and after data can be used to evaluate the effectiveness of the project in relation to reduction in crash rates.

While RSIS's are being used across the whole of the RTA the methodology is still in its infancy and Safer Roads Branch is refining the process and parameters used in the assessment of the road safety benefits. The refined methodology will incorporate consideration of more factors such as crash severity, speed zoning and area of the state.

- **Project OH & S Development Plan**

As part of a projects design processes OH&S Development Plans are undertaken to examine the projects future operation and maintenance characteristics. The review ensures that once the project is operational that it minimises road safety exposure to works crews and other road users during maintenance operations.

- **Development Program Guidelines**

Under Major Infrastructure's Development Program Guidelines, road safety issues are addressed in the following phases of the life of the project:

- Project Scoping
- Project Development
- Project Implementation

Project proposal formats have been developed similar to a set of checklists where set questions need to be addressed for each stage of the project. The following are examples of road safety issues that need to be addressed at various stages of the project:

1. Project Scoping Proposal

The checklist for this stage requires the completion of a Road Safety Impact Statement. The checklist also requires the completion of questions in relation to specific road safety issues, such as:

- How do historical crash rates (for this section of road) compare with similar nearby links, stereotype roads and published targets?
- What impact will the proposal have on road safety problems on the existing and supporting road network?
- What are the expected fatality and casualty crash rates on the project and expected reductions in fatalities and casualty crashes per year after completion compared to the existing case?
- What are the proposed design speed(s) and speed limit(s)?

2. Project Development Proposal

Here again a Road Safety Impact Statement is required together with a checklist of road safety issues including:

- How will the project address safety problems that have been identified by safety audits or other investigations?
- What crash types are expected to reduce and why?
- What crash types are expected to increase and why?
- What treatments are proposed to deal with vulnerable road user crashes (if applicable).

3. Project Implementation

Project implementation also requires the completion of a Road Safety Impact Statement with additional reference to road safety questions such as:

- Have changes to the project scope resulted in changes to the way the preferred option will address safety problems that have been identified by audits or other investigations?
- If the project has changed, summarise the road safety impact of the revised preferred option including the impact on road safety problems on the existing and supporting road network.
- The expected fatality and casualty crash rates and fatality and casualty crash numbers per year post completion.

Within the major project development processes the NSW Centre for Road Safety is now involved much earlier in the planning of major road projects. The NSW Centre for Road Safety is consulted at the project development plan stage of major projects and is provided with concept plans for review and comment.

- **ProjectPack Project Management System**

Major Infrastructure Directorate has developed a system called ProjectPack, for managing major road projects in the RTA through their life cycle which includes a number of procedures for network analysis, route and area strategies, project definition and scoping, and concept design.

Road safety objectives are now written into the project briefs for all major infrastructure projects and all maintenance and traffic projects over \$1M.

During the initiation phase road safety plays a key role with regional RTA road safety staff undertaking crash data analysis. The RTA has available crash data across NSW for all roads. The crash data can be analysed to measure the safety performance of intersections, segments of a road corridor or area studies. The analysis can be undertaken to determine how the road is performing, indicating the location of crash clusters, frequencies, crash types and road conditions together with many other indicators to produce a report from which countermeasures can be developed.

Traffic efficiency and crash profiles can vary considerably across the network and between rural and urban areas. Analysis of those performance indicators provides an objective basis to identify which parts of the network need attention, their relative priority and where an investment should be made to improve safety performance. The performance of the network can then be modelled to predict future road safety benefits and levels of service to further determine appropriate countermeasures and set priorities.

One of the key influences on the success of a project is the membership of the project team. Early involvement of road safety expertise in the project is essential in ensuring that road safety benefits are maximised and can often lead to cost savings.

As part of the initiation phase Major Infrastructure Directorate seeks representation on the project team from the NSW Centre for Road Safety or other road safety professionals. During the development phase there are a number of opportunities made available for input from senior road safety staff through the project definition and scoping procedure and options investigations.

- **Major Projects Review Committee (MPRC)**

The Major Projects Review Committee is an RTA Executive Committee, chaired by the Director, Major Infrastructure. The role of the MPRC is to consider and endorse the scope of projects at least once during the development process. This is a formal process where project managers make presentations to the MPRC prior to confirming a preferred route and or preferred option for display. In some circumstances the committee will review projects at other stages, including if significant changes are proposed following display of the preferred option or environmental impact assessment.

The MPRC reviews the following projects:

- All infrastructure development projects with an estimated cost of \$10 million or more.
- Major traffic management projects.
- Other sensitive projects as determined by the Chief Executive.

The MPRC provides direction to project managers and guides project staff in their submissions to the Executive and the Minister. Membership of the MPRC includes, senior staff from Network Planning, Major Infrastructure, Traffic Management, Environment, Urban Design, Communications, Safer Roads, Asset Management and Road Design.

To further assist in the presentations to the MPRC and to ensure all issues have been appropriately addressed during project development, Pre-MPRC meetings are held where the project team or project

manager make an informal presentation to a number of key Branches within the RTA including Safer Roads Branch from the NSW Centre for Road Safety. The Pre-MPRC meetings have been found to be very beneficial where more open, rigorous and detailed discussions can be undertaken and where road safety concerns can be explored in more detail. It also allows the project manager to refine or adjust the presentation prior to a more formal address to the MPRC.

In some cases, following on from MPRC meetings, working groups are formed with the project team and key Branches within the RTA to allow additional and often more detailed scoping of the project or to investigate additional options which may involve a further presentation to the MPRC. Safer Roads Branch of the NSW Centre for Road Safety is represented on working groups whenever appropriate.

Conclusion

The paper has described how Major Infrastructure Directorate has embraced road safety and mainstreamed initiatives into its business to ensure that all stages of each major project, from planning through to delivery, incorporate best practice road safety engineering principles. This has been achieved through the integration of the NSW Centre for Road Safety at a number of key stages of each major project. This involvement is supported by a number of key management tools which have clear road safety objectives and outcomes such as Road Safety Audits, Road Safety Impact Statements, Development Program Guidelines, Project OH&S Development Plans, ProjectPack and Major Project Review Committees.