ANNEX 4: COUNTRY CASE STUDIES
Overview

This Annex outlines country delivery of the institutional management functions which underpin road safety management in six good practice jurisdictions: New Zealand (stand-alone agency), The Netherlands and Great Britain (lead department within the Transport Ministry) Sweden and the Australian States of Victoria (road authority lead agency), and Western Australia (stand-alone lead agency in the Premier’s Department).

The aim is to present an overview of the variety of structures and processes which governments have put in place to deliver the country road safety results focus, coordination, funding and resource allocation, legislation, promotion, monitoring and evaluation and research and development and knowledge transfer functions. The case studies present a mix of organizational approaches in jurisdictions with differing levels of road safety performance as well as differing strengths or levels of sophistication in their delivery of the different institutional management functions.

While structures may differ, the general characteristics of road safety organization are similar in all six jurisdictions and include most, if not all, elements of the following: a strong central lead agency which orchestrates the activity of a broad range of partners stakeholders; horizontal inter-governmental coordination and partnerships; good vertical coordination of national, regional and local activity; strong delivery partnerships with key stakeholders, parliament and the non-governmental and business sectors; regular review, updating and consolidation of legislation; secure and sustainable annual funding; promotion of shared responsibility to achieve results; rigorous monitoring and evaluation and purposeful research and development and knowledge transfer.

The six case studies illustrate the complexities of the institutional fabric that provide the foundation for a progressively successful approach to road safety management over time. Each case study comprises:

- an overview of the country context for road safety.
- an outline of how each jurisdiction deals with the different dimensions of each of the identified institutional management functions and a summary table of the lead agency role in this.
- a description of the lead agency and related coordination structures and processes which have been put in place to direct the national effort.

A further two case studies of developing road safety management practice in Poland and Malaysia are presented. Activity is described in relation to all seven institutional management functions, though in less detail than for the six high-income country case studies. Both of these countries in transition are currently making efforts to reverse road casualty trends against the background of increased motorization and an acknowledged need to strengthen road safety management capacity.

Organizational structures in most countries are in a process of continuing development, as road safety arrangements adjust to major political and economic changes and as further improvements and efficiencies are identified. The structural charts presented should be seen as a snapshot of organizations over a given period in time. Wherever possible dates have been assigned to organizational structures and a brief note made of any subsequent developments.
Acknowledgement

The authors are grateful for the assistance of many colleagues in contributing factual material and commentaries on these country case studies. Thanks in particular go to:

Martin Small, Michael Woodside (New Zealand); Kate McMahon, Robert Davies, Robert Gifford (Great Britain); Pim Hol, Nel Aland, Fred Wegman, Rob Methorst and Henk Stipdonk (The Netherlands); Björn Stafbom, Gunnar Carlsson, Asa Foreman, Anders Lie (Sweden); Eric Howard, Peter Schofield, Harry Hayes (Victoria); Iain Cameron and Jon Gibson (Western Australia); Suret Singh, Radin Umar and Raymond Teoh (Malaysia) and Ryzsard Krystek (Poland).
Introduction

This Annex presents an outline of the delivery of institutional road safety management functions in six jurisdictions in high-income countries (New Zealand, Great Britain, The Netherlands, Sweden and the Australian States of Victoria and Western Australia) and two countries in transition (Poland and Malaysia).

The aim is to present an overview of the structures and processes which national governments put in place to deliver the institutional management functions identified and discussed in section 3 of the main report: i.e. results focus, coordination, funding and resource allocation, legislation, promotion, monitoring and evaluation and research and development and knowledge transfer.

The case studies present a mix of organizational approaches in countries and states with differing levels of safety performance, as shown below, and differing strengths or levels of sophistication in their delivery of the identified institutional management functions.

<table>
<thead>
<tr>
<th>Country</th>
<th>Deaths per 100,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>9.4</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>4.5</td>
</tr>
<tr>
<td>Great Britain</td>
<td>5.4</td>
</tr>
<tr>
<td>Sweden</td>
<td>4.9</td>
</tr>
<tr>
<td>Victoria</td>
<td>6.6</td>
</tr>
<tr>
<td>Western Australia</td>
<td>9.9</td>
</tr>
<tr>
<td>Poland</td>
<td>13.8</td>
</tr>
<tr>
<td>Malaysia</td>
<td>23.6</td>
</tr>
</tbody>
</table>


d [High-income countries. Sections 1.1–1.6 outline the structures and processes that deliver the institutional management functions which underpin road safety management in six good practice jurisdictions: New Zealand (stand-alone agency), The Netherlands and Great Britain (lead department agency) Sweden and the State of Victoria (road authority lead agency), and the State of Western Australia (stand-alone lead agency in the Premier’s department). Experience in road safety management in these countries and available literature has provided the knowledge base to prepare these case studies.

The case studies illustrate the complexities of the institutional fabric that provides the foundation for continuous improvement in road safety results over time. Each case study comprises:

- an overview of the country context for road safety.
- an outline of how each jurisdiction deals with the different dimensions of the identified institutional management functions and a summary table of the lead agency role in this.
- a description of the lead agency and related coordination structures and processes which have been put in place to direct the national effort.

Countries in transition. Sections 2.1–2.2 present case studies of developing road safety management practice in Poland and Malaysia. Activity is described in relation to all seven institutional management functions, though in less detail than the six high-income country case studies. Both of these countries in transition are currently making efforts to reverse road casualty trends against the background of increased motorization and the need to strengthen road safety management capacity.

Organizational structures in most countries are in a process of continuing reform, as road safety arrangements adjust to major political and economic changes and as further improvements and efficiencies are identified. The structural charts presented should be seen as a snapshot of organizations over a given period in time. Whenever possible dates have been assigned to organizational structures and a brief note is made of any subsequent developments.
1. High-income countries

1.1 Road safety organization in New Zealand

National context

<table>
<thead>
<tr>
<th>KEY FACTS: 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area: 269,122 km²</td>
</tr>
<tr>
<td>Population: 4,149,000</td>
</tr>
<tr>
<td>Kilometers of public road: 93,460</td>
</tr>
<tr>
<td>Number of licensed motor vehicles: 3.1 million</td>
</tr>
<tr>
<td>Road deaths per 100,000 of population: 9.4</td>
</tr>
<tr>
<td>Number of road deaths: 391</td>
</tr>
</tbody>
</table>

Source: IRTAD, 2008

The last 25 years have marked a period of intense economic and social change in New Zealand. In the late 1980s and early 1990s, a major restructuring of the transport sector took place with the aim of promoting efficiency, responsiveness to demand and improvement in safety. This saw the development of stand-alone agencies, such as the Land Transport Safety Authority, with their own performance management frameworks which linked day-to-day activities with desired high-level policy outcomes.

In 2002 New Zealand’s first transport strategy outlined a vision of a transport system that is affordable, integrated, safe, responsive and sustainable, to be realised by means of an integrated approach that is forward-looking, collaborative, accountable and evidence-based. The strategy identifies five objectives: assisting economic development; assisting safety and personal security; improving access and mobility; protecting and promoting public health and ensuring environmental sustainability. The integration of these objectives and the increasing role played by regional and local authorities in transport is being established both in new government institutional arrangements and new funding arrangements for transport in New Zealand.

New Zealand is divided into 16 administrative regions and 74 local authorities. In practice road safety in New Zealand today is a shared governmental responsibility at the national, regional and local levels.

The public road network carries around 45 billion vehicle kilometers of traffic annually. While major urban roads and state highways comprise only 14% of the road network, they account for more than 60% of the social cost of road crashes.

Between 1990 and 2004, despite traffic growth, road deaths fell by 39%; road death rates nearly halved per 100,000 population and hospitalisations fell by around 33% (Figure 1). Road safety efforts in New Zealand have been characterized by an evidence-based approach to performance management. Highly successful multi-sectoral partnerships have been developed by the stand-alone land transport safety entity—the Land Transport Safety Authority—in its lead agency role. These have been supported by strong coordination arrangements.

However, with 391 deaths in 2006 and a death rate per 100,000 of population which is nearly twice as high as that of the best performing countries, New Zealand has some way to go to achieve its stated aim to be among the world’s leaders in road safety outcomes.

This case study focuses on the institutional management functions delivered by the lead agency in New Zealand during the lifetime of the Land Transport Safety Authority (1993–2004).¹

Country delivery of institutional management functions and lead agency role

Results focus

New Zealand has a well-established tradition in country results focus. Leadership responsibilities are well defined and an organizational framework exists for analysing data and safety performance, setting outcome and output targets as the basis for accountable road safety activity.

Lead agency

The Land Transport Safety Authority (LTSA) was set up in 1993 as a stand-alone authority responsible for promoting safety in land transport at reasonable cost, and managing land transport information and revenue systems. The LTSA functioned as the lead road safety agency under annual performance agreements with the Minister of Transport and was overseen by a Board of five members appointed by government.

¹ In late 2004 the LTSA merged with the national transport funding organization to become Land Transport New Zealand which was set up to deliver a new integrated transport policy and to address the multiple goals of sustainable development. These institutional arrangements have since undergone further reforms, and this case study is confined to the role and activities of the LTSA.
1. Appraising current road safety performance through high-level strategic review

The LTSA established in-house capacity within its Strategy Division to develop and implement the Road Safety to 2010 strategy, as well as setting up and providing the secretariat for the coordination body—the National Road Safety Committee (NRSC). Through the NRSC the LTSA brought together the key governmental partners who could deliver road safety results, chaired reviews of road safety performance, prepared background papers on current performance, and made proposals for follow up action.

2. Adopting a far-reaching road safety vision or goal for the longer term

Outside its long-term vision of transport providing an affordable, integrated, safe, responsive and sustainable transport system, New Zealand has not established a specific long term road safety vision. However, the major strategic theme of the current Road Safety to 2010 Strategy published in 2003 is one of building safety into the road traffic system and into other government policies impacting on its safety quality.

3. Analyzing what could be achieved in the medium term

The target-setting method and modelling underpinning the Road Safety to 2010 Strategy targets was carried out by lead agency specialists and consultants, and peer reviewed by independent road safety experts from Australia and the United Kingdom with substantial experience of national and regional strategic planning in road safety. Expert analysis of benefits, costs and funding demonstrated that the overall safety target to 2010 could be reached by an appropriate mix of safety interventions. Findings were published in a National Road Safety Committee consultation document (NRSC, 2000) and two Working Papers (LTSA, 2000a, 2000b), which informed the broad stakeholder consultation carried out under the auspice of the NRSC. The Land Transport Safety Authority’s Strategy Division managed this target-setting work and provided related road safety research, statistics and economic analysis.

4. Setting targets by mutual consent across the road safety partnership

Since 1991 targets for reductions in injury and death have quantified the government’s demand for safer road transport, and determined outputs and outcomes to be achieved. There have been three national road safety plans promoting interventions to improve the safety of the network and the conditions of entry and exit to and from it for vehicles and users. The overall compliance regime consists of education, enforcement and performance assessment interventions. Various implementation activities have been undertaken to support these interventions relating to legislation, funding, coordination, monitoring and review, building tools for analysis and evaluation, communications and information support, and research coordination.
The *Road Safety to 2010 Strategy* set ambitious targets to reduce deaths by 35% by 2010 together with a range of targets for final and intermediate outcomes and institutional outputs. Its key strategic themes are outlined in Box 1. New Zealand’s final outcome targets are bottom up targets based on analysis by in-house and external experts of cost-effective measures which could be undertaken during the target period and which were proposed by the lead agency. The final decision on the level of targets was made by the National Road Safety Committee, the national coordinating body. New Zealand’s target setting hierarchy, as shown in Figure 2 and Tables 1–4, is the most comprehensive example internationally.

**Box 1: Key strategic themes of the *Road Safety to 2010* strategy**

- Integrating safety into the transport system:
- Accommodating human error
- Improving road user behavior
- Devolving safety management
- Communicating with partnerships
- Implementation
- Making the best use of resources

*Source: National Road Safety Committee (2000).*

Tables 1 and 2 set out final outcome targets for social costs, deaths and serious injuries to be achieved by 2010. Regional targets were also set and monitored.

Table 3 outlines intermediate outcome targets for speed, excess alcohol and restraint use to 2004. Table 4 gives an example of police output targets which were adopted.

**5. Establishing mechanisms to ensure stakeholder accountability for results**

Since 1989 public finance law in New Zealand has required all government agencies to develop a strategic plan outlining its goals and means of achieving them. This requires the preparation of annual corporate management information which includes performance targets, objectives and scope of activities. In addition, the lead agency had an Annual Performance Agreement with the Minister of Transport covering road safety activities over the next twelve months.

The road safety outcome and output targets and systematic follow through which each member of the National Road Safety Committee adopts are the focus of New Zealand’s performance assessment regime. LTSA established Memoranda of Understanding with its partners towards these ends (see *Coordination* section).

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**Figure 2: New Zealand’s road safety target hierarchy**

- The overall target is to reduce the socio-economic costs of road crashes;
- to be achieved by meeting the second level of targets, requiring specific reductions in the numbers of fatalities and serious injuries.
- A third level of targets consists of intermediate outcomes (also known as performance indicators) including those related to speed, drink driving and rates of seat-belt wearing that are consistent with the targeted reductions in final outcomes; and
- a fourth level of targeting is concerned with institutional delivery outputs such as the enforcement outputs that are required to achieve the third-level target.

*Source: Land Transport Safety Authority (2000, 2003).*
Table 1: Social cost and fatality targets in New Zealand

<table>
<thead>
<tr>
<th>Targets</th>
<th>Base 2001</th>
<th>2004 not exceeding</th>
<th>2010 not exceeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Cost (2001 prices)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ billion</td>
<td>3.02</td>
<td>2.75</td>
<td>2.1</td>
</tr>
<tr>
<td>Deaths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>455</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
<td>Deaths per billion veh-km</td>
<td>12.6</td>
<td>9.9</td>
<td>6.1</td>
</tr>
<tr>
<td>Deaths per 100,000 people</td>
<td>11.8</td>
<td>10.2</td>
<td>7.3</td>
</tr>
<tr>
<td>Deaths per 10,000 vehicles</td>
<td>1.7</td>
<td>1.5</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Table 2: Targeted reductions in deaths and serious injuries in New Zealand

<table>
<thead>
<tr>
<th>Targets</th>
<th>Base 2001</th>
<th>2004 not exceeding</th>
<th>2010 not exceeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>455</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
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<td>12.6</td>
<td>9.9</td>
<td>6.1</td>
</tr>
<tr>
<td>Deaths per 100,000 people</td>
<td>11.8</td>
<td>10.2</td>
<td>7.3</td>
</tr>
<tr>
<td>Deaths per 10,000 vehicles</td>
<td>1.7</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Hospitalizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number hospitalized</td>
<td>6,700</td>
<td>5,870</td>
<td>4,500</td>
</tr>
<tr>
<td>Hospitalized per billion veh-km</td>
<td>186</td>
<td>140</td>
<td>90</td>
</tr>
<tr>
<td>Hospitalized per 100,000 people</td>
<td>174</td>
<td>150</td>
<td>110</td>
</tr>
<tr>
<td>Hospitalized per 10,000 vehicles</td>
<td>25</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>Number hospitalized for over one day</td>
<td>2,880</td>
<td>2,750</td>
<td>2,200</td>
</tr>
<tr>
<td>Number hospitalized for over 3 days</td>
<td>1,794</td>
<td>1,750</td>
<td>1,400</td>
</tr>
</tbody>
</table>

Table 3: Intermediate outcome targets for speed, excess alcohol and restraint use in New Zealand

<table>
<thead>
<tr>
<th>Targets</th>
<th>Base 2001</th>
<th>Target 2004 not exceeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open road mean speed (km/h)</td>
<td>100.2</td>
<td>99</td>
</tr>
<tr>
<td>Open road 85th percentile (km/h)</td>
<td>109</td>
<td>107</td>
</tr>
<tr>
<td>Urban mean speed (km/h)</td>
<td>55.2</td>
<td>55.2</td>
</tr>
<tr>
<td>Urban 85th percentile (km/h)</td>
<td>61.5</td>
<td>61</td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of driver deaths with excess alcohol</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Number of driver deaths with excess alcohol</td>
<td>55</td>
<td>48</td>
</tr>
<tr>
<td>Restraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety belts—front</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>Safety belts—rear</td>
<td>70%</td>
<td>75%</td>
</tr>
<tr>
<td>Children (under 15) restrained</td>
<td>89%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Table 4: Annual output targets for breath-testing for excess alcohol in New Zealand

<table>
<thead>
<tr>
<th>Targets</th>
<th>2000/01</th>
<th>2001/02</th>
<th>2002/03</th>
<th>2003/04</th>
<th>2004/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours to be delivered</td>
<td>508,785</td>
<td>505,920</td>
<td>543,025</td>
<td>574,140</td>
<td>616,715</td>
</tr>
<tr>
<td>Number of Compulsory Breath Tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(at roadside testing points) to be conducted</td>
<td>1.4–1.6M</td>
<td>1.4–1.6M</td>
<td>1.5–1.7M</td>
<td>1.5–1.7M</td>
<td>1.5–1.7M</td>
</tr>
<tr>
<td>Number of Mobile Breath Tests to be conducted</td>
<td>370–410K</td>
<td>370–410K</td>
<td>500–550K</td>
<td>500–550K</td>
<td>800–900K</td>
</tr>
<tr>
<td>Offense notices to be issued</td>
<td>26–30,000</td>
<td>23–26,000</td>
<td>23–26,000</td>
<td>23–26,000</td>
<td>23–26,000</td>
</tr>
</tbody>
</table>
**LTSA Role: Results Focus**

- The Land Transport Safety Authority (LTSA) was the lead agency for road safety in New Zealand between 1993–2004. The LTSA had the main responsibility for managing the country results focus and ensuring that system-wide interventions were agreed and implemented to achieve results by the responsible authorities across government and wider society.
- The LTSA established a results management framework for appraising performance and identifying what could be achieved in the medium term.
- The LTSA led the development and delivery of national safety strategies (currently the Road Safety to 2010 strategy) and the work program agreed by the National Road Safety Committee (NSRC), the high-level coordinating body. This strategy includes targets for final and intermediate outcomes and institutional outputs.
- The LTSA's responsibility for the achievement of national targets was underpinned by a performance agreement with the Minister of Transport.
- The LTSA established Memoranda of Understanding with its partners to achieve results and prepared and negotiated the annual funding bid for police enforcement and community outputs.

**Coordination**

1. **Horizontal coordination across central government**

   Soon after its establishment the LTSA established a system of multi-sectoral coordination to engage all key players with governmental responsibilities in road safety plus other key players in the national road safety strategy.

   The LTSA chaired the National Road Safety Committee and provided a dedicated secretariat to support it and four other management committees; the National Road Safety Working Group, the National Road Safety Advisory Group, the New Zealand Road Safety Programme Review Group and the Industry Consultative Group. It also established road safety partnerships with each of the member agencies to achieve agreed targets.

   **National Road Safety Committee (NRSC).** Chaired by the LTSA to 2004, the NRSC brings together the Chief Executives of the main government stakeholders of the Road Safety to 2010 strategy and is the Minister of Transport’s highest-level road safety advisory group. Its role is in communicating, coordinating and agreeing top-level strategy between agencies on road safety issues and providing oversight of progress towards the achievements of national targets. Operational matters are managed by the National Road Safety Working Group and the New Zealand Road Safety Programme Review Group. The terms of reference for the NRSC and the agreement reached on the way in the members work together in matters related to road safety are set out in a Memorandum of Understanding (see extract in Box 2). Road safety is clearly identified as core business for each of the partners in their documentation. Meetings are held quarterly and a planning workshop is held annually. A ministerial debriefing is held after each NSRC meeting. Following an independent review of road safety in New Zealand, the Departments of Health, Justice and Labour Departments joined this coordinating body as Associate Members. A dedicated secretariat for the NRSC was provided by the LTSA. Prior to the re-organization of governmental transport arrangements in December 2004, the NRSC comprised seven key agencies engaged in road safety and its organizational structure is set out in Figure 3. NRSC members headed up the respective agencies:

   - **Chief Executive of Land Transport Safety Authority.**

     Until December 2004, the LTSA regulated and managed road safety, including administering the New Zealand Road Safety Programme which funded and managed road policing, safety education and strategic services. The Chief Executive of the LTSA (and Director of Land Transport Safety) chaired the NRSC.
IMPLEMENTING THE RECOMMENDATIONS OF THE WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION

Figure 3: Multi-sectoral road safety coordination in New Zealand 2004

- **Secretary for Transport.** The Ministry of Transport leads policy advice to government and prepares and manages road safety legislation (Chair of the NRSC since December 2004).

- **The Commissioner of Police.** New Zealand Police is the national force policing New Zealand’s road network, funded and managed through the New Zealand Road Safety Programme.

- **Chief Executive of Transfund.** Transfund managed the National Land Transport Programme which funds network safety maintenance and improvement on state highways and local roads as well as walking and cycling projects, public transport and regional development.

- **Chief Executive of Transit.** Transit New Zealand manages the safety maintenance and improvement of the state highway network through the State Highway Program.

- **Chief Executive of Accident Compensation Corporation (ACC).** The ACC aims to prevent and manage motor vehicle injury through the Motor Vehicle Account, funding specific road safety initiatives and leading implementation of the NZ Injury Prevention Strategy. The ACC is the lead agency on motorcycle safety, in addition to running several road safety educational programs, supporting road safety community work and funding a variety of safety equipment.

- **Chief Executive of Local Government New Zealand.** Local Government New Zealand represents 12 regional council areas and 74 territorial and local authorities whose regional land transport strategies integrate safety into regional transport planning, and whose local land transport programs manage the safety of local road networks.

**National Road Safety Working Group (NRSWG).** Chaired by the LTSA to 2004, the National Road Safety Working Group (NRSWG) reports to the NSRC, and leads on operational matters. It comprises senior representatives of the NRSC organizations and is responsible for detailed policy preparation and coordination between the member organizations, the preparation of quarterly NRSC meetings and the setting up working groups on specific issues.

**National Road Safety Advisory Group (NRSAG).** Chaired by the LTSA to 2004, the NRSAG provides a forum for a wide range of agencies involved in road safety to express their views on road safety issues and to provide a base from which joint projects can be initiated. In 2004, it comprised 19 members predominantly from the public sector including the Accident Compensation Corporation (ACC), the Alcohol Advisory Council of New Zealand, the Crime Prevention Unit of the Ministry of Justice, Local Government New Zealand, the Ministries of Health, Justice, Pacific Island Affairs, Transport and Youth Affairs, the New Zealand School Trustees Association, the New Zealand School Trustees Association.
Zealand Automobile Association (AA), the New Zealand Police, Transit New Zealand, Transfund New Zealand, Te Puni Kokiri, Road Safety Coordinators Association, Road Safety Coordinators, the Energy, Efficiency and Conservation Authority and Cycle Support NZ.

New Zealand Road Safety Program Management Review Group (NZRSP). This group works to improve the efficiency and effectiveness of the New Zealand road safety program and comprised the LTSA, New Zealand Police and the Ministry of Transport.

The Industry Consultative Group (ICG). This group was established by the LTSA to provide a forum for the land transport industry to liaise with the LTSA (see later section Coordination on business sector engagement).

2. Vertical coordination from central to regional and local levels of government

Transfund (the road funding body), Transit (the national highway authority) and Local Government New Zealand (the local road authorities) were represented on the National Road Safety Committee during the case study period and signed up to national and regional road safety targets and strategy. They demonstrate accountability by means of Memoranda of Understanding and annual performance agreements for specific road safety outputs. Representatives of local authorities are also represented lower down the hierarchy in a consultative capacity.

While national and regional responsibilities are set out in legislation, local authorities are not subject to any express statutory safety objectives and their legal obligations for the safety of the road network are a mixture of contractual, voluntary and common law legal obligations. In support of the national strategy, local authorities are expected to set up safety management systems (a tool developed by the LTSA—see Box 3) apply crash reduction studies and safety audit procedures (which are a prerequisite of scheme funding), undertake detailed analysis to develop implementation strategies to meet targets and give appropriate priority to funding road safety activities.

3. Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels

One of the main factors underpinning the significant gains made in reducing death and serious injury on New Zealand roads has been the close working partnerships and agreements forged between different government stakeholders and the commitment and support of community groups. Since the lead agency relies almost totally on other stakeholders to realize its goals, the establishment of partnerships with many agencies is a key strategy. In addition to alliances at the senior level of key government stakeholders brought together in the National Road Safety Committee and its other committees, a broad range of specific partnerships has been established.

LTSA and highway authorities. The Land Transport Safety Authority, Transit New Zealand and Local Authorities were partners in a Crash Reduction Study Program in New Zealand. The original program was established in 1985 to identify sites for treatment based on the crash history at each site and to recommend low cost engineering treatments aimed at reducing those crashes. A monitoring system has been developed progressively since 1989 to gather crash data on treated sites. Results from a Crash Reduction Study in 2004 indicated an average 35% reduction in injury crashes over and above the crash trend. Average annual savings in crash costs associated with sites active over ten calendar years (1994–2003) have been estimated at $203 million per annum.

LTSA and the New Zealand Police. The close partnership between the New Zealand Police and the LTSA was key to managing enforcement and education activities in the road safety strategy to positively influence driver behavior. The LTSA contracted New Zealand Police on an annual basis to provide enforcement outputs related to the road safety strategy funded by the New Zealand Road Safety Programme. As a result road safety is a core business of the New Zealand Police with more than 20% of the police

Box 3: Safety Management Systems (SMS) in New Zealand

The Land Transport Safety Authority led the development of a voluntary Safety Management System (SMS) regime for road controlling authorities (RCAs) to ensure that decisions about construction, maintenance and management of the road network were guided by a SMS which comprises:

- the strategic direction of the RCA including the vision, plans and partnerships in place to deliver a road safety engineering toolbox including crash reduction studies, safety audits, data collection, adopted standards and guidelines;
- management control system and responsibilities for the SMS including the road safety engineering processes that will be used;
- continuous improvement/audit regimes to ensure delivery of best practice.

ANNEX 4: COUNTRY CASE STUDIES
budget being allocated to road safety-related activities. New Zealand road safety policing has led to a substantial reduction of road trauma through pro-active on-road enforcement with benefits to costs estimated within the range of 8:1–13.1 (with enforcement aimed at excessive speed and drink driving yielding ratios at the upper end of this range). Since 1995, the LTSA advertising programs have supported strategic police enforcement in the areas of speeding, drink-driving and seat belt use.

LTSA, New Zealand Police and local authorities. The LTSA, New Zealand Police and local authorities worked together to produce road safety action plans that promote local ownership of road safety, and appropriate use of police and other resources across local boundaries. High-level regional plans are used as a basis for the police to develop risk targeted patrol plans (RTPPs) in these areas. The co-operation between the police and highway authorities is close, in comparison to that achieved in many other countries, aided by the use of Memoranda of Understanding between the police and the road authorities.

LTSA, Accident Compensation Corporation, Occupational Safety and Health at Work Program. This aims to enhance occupational road safety programs for employers and employees. One key deliverable is the Your Safe Driving Policy booklet that has been jointly produced by ACC, OSH and the LTSA and distributed to over 2,500 employers. LTSA also worked with the regions to identify and provide resources to assist expansion of their existing programs with local employers.

LTSA, other national authorities and national motoring organizations. New Zealand is a member of the Australasian New Car Assessment Program which rates the safety performance of new cars against state of the art crash tests and provides objective information to car buyers. This program brings together representatives of different Australasian jurisdictions and motoring organizations.

LTSA and the Community Road Safety Program. The Land Transport Safety Authority’s Community Road Safety Program has played a strong role in mobilizing the community and building grass roots support to help achieve the road safety strategy goals (see Box 4).

Non-governmental organization engagement

A variety of NGOs are represented in the National Road Safety Advisory Group. No national coalition or umbrella organization of professionals and organizations exist which actively work to identify and promote research-based measures to the wider community.

New Zealand organizations and professionals are members of the New Zealand Chapter of the Australasian College of Road Safety which seeks to share information about best practice amongst professionals. Trafinz, a local authority engineering organization, also mounts an annual national road safety conference aimed at road safety professionals and decision-makers.

Business sector engagement

The Industry Consultative Group (ICG) was established by the LTSA to provide a forum for the land transport industry to liaise with the LTSA. It provides a strategic overview of safety in land transport, operates in an advisory capacity and reports to the National Road Safety Working Group. Its membership comprises: the New Zealand Automobile Association (AA), the Bus and Coach Association, the Contractors Federation, Federated Farmers, the Imported Motor Vehicles Dealers Association, Local Government New Zealand, the Motor Industry Association, the Motor Trade Association, the Motor Vehicle Dealers Institute, the Owner Carriers Association of New Zealand, the New Zealand Road Transport Forum and the Taxi Federation.
An occupational health and safety policy has been established which encourages employers to address work-related road safety issues.

4. Parliamentary relations at central, regional and local levels

There is no parliamentary road safety committee or group in New Zealand which is particularly active on road safety issues. However, the parliamentary Transport and Industrial Relations Committee performs statutory parliamentary scrutiny of road safety policies and budgets.

LTSA Role: Coordination

- The LTSA established and managed horizontal and vertical of multi-sectoral coordination processes to engage all key players with governmental responsibilities in road safety as well as other key players in the national road safety strategy.
- The LTSA established road safety partnerships with each of the other six members of the National Road Safety Committee to deliver agreed targets.
- The LTSA chaired and provided the secretariat for the NRSC and three other management committees, the National Road Safety Working Group, the National Road Safety Advisory Group and the Industry Consultative Group.
- The LTSA established tools and programs for use by regional and local authorities and developed and supported community programs and partnerships at local level.

Legislation

1. Reviewing the scope of the legislative framework periodically

In preparing new strategies and targets, the LTSA reviewed and benchmarked international good practice, the legislative requirements of new road safety strategies and carried out in-house reviews of their potential costs and benefits.

2. Developing legislation needed for the road safety strategy

The LTSA used its National Road Safety Committee hierarchy to consult on and develop standards and rules. In developing legislation a rules team comprising the relevant expertise sat within the Policy Division of the Land Transport Safety Authority. A core legal team in the Ministry of Transport provided the gateway to parliament and managed cross-sectoral issues, especially with the justice sector.

3. Consolidating legislation

Rules are consolidated from time to time, as in other good practice countries. For example, the Land Transport Amendment Act 2005 was passed on 15 June 2005. It merged a number of pieces of existing land transport legislation into the 1998 Land Transport Act. Many of the components of these merged Acts remain the same. However, where required, they were amended to provide greater clarity and efficiency. The provisions of the Act primarily comprise enhancing enforcement, improving targeting of serious and repeat drink-driving offenders, improving efficiency for commercial transport operators, improving operational and administrative efficiency and updating land transport safety law.

4. Finding legislative slots in government and parliamentary programs

The NRSC as a strong inter-governmental coordination committee assisted LTSA in the often difficult processes of securing scarce slots for safety legislation in the government program.

LTSA Role: Legislation

- The LTSA used its coordination hierarchy to find legislative slots for road safety and for consultation on proposals for legislative change.
- The LTSA established in-house capacity to set, ensure compliance with and monitor road safety standards for vehicles, roads and people, as well as to provide policy advice.
- The LTSA established small in-house rules teams which partnered with the Ministry of Transport to develop and consolidate major primary legislation.

Funding and resource allocation

1. Ensuring sustainable funding sources

Funding for road safety in New Zealand comes mainly from road user taxes and charges (the National Roads Fund (NRF)) and from local property taxes. In 2004, the annual New Zealand Road Safety Programme (NZRSP) funded by the NRF (Box 5) provided for the planning, funding and delivery of a variety of road safety activity in New Zealand which was administered by LTSA, the lead agency. The NZRSP provided funding for the activities of the New Zealand Police (e.g., road policing in 2003/4 comprised around 23% of total police resource), the lead agency and through the lead agency to local communities. Funding to authorities responsible for engineering local and state roads is delivered through the National Roading Program administered until recently by Trans-
fund whose role was defined in legislation to allocate resources to achieve a safe and efficient road system. Vehicle testing which has been privatized is self-funding. The government insurer, the Accident Compensation Corporation, made modest contributions to the cost of equipment such as alcohol breath testing buses and localized road safety advertising.

Direct funding to the LTSA was nearly $167 million in 2004 coming from the NRF, user charges and the Crown (see Table 5).

New Zealand has also set up a Road Safety Trust which is a Crown entity that receives its funding from a share of the proceeds of personalized license plate sales. Four Trustees appointed by the Minister of Transport for a three year term oversee the allocation of resources. The Trust is empowered to fund community safety initiatives, road safety research training, education, overseas travel, attendance at conferences and private sector technological developments beneficial to road safety. The Trust’s areas of priority are those contained in the Road Safety to 2010 strategy. The Trust had a formal agreement for the provision of support services by the Land Transport Safety Authority by way of a Memorandum of Understanding (MOU). The MOU establishes a service-level agreement that clearly identifies and defines the expectations and responsibilities of both agencies.

2. Establishing procedures to guide allocation of resources across safety programs
The LTSA developed and used a nationally recognized basis for project evaluation using the economic appraisal of measures and willingness to pay values of preventing death and serious injury to identify road safety priorities. These values were updated annually. This approach to evaluation was also used by Transfund in allocating resources for road safety engineering with reference to costs and benefits.

The LTSA established a safety economics section in-house for safety funding and resource allocation based on appraisals of cost-effectiveness and cost-benefit analysis. The section evaluated safety costs and benefits, estimated program funding needs and prepared related business cases. The lead agency also prepared the business cases for the New Zealand Road Safety Programme to allocate resources to police and local communities and provided administrative and technical support for its delivery.

LTSA Role: Funding and Resource Allocation
• The LTSA ensured a dedicated funding source for road safety from the National Road Fund and provided a means

**Box 5: Financing road safety from the New Zealand Road Fund**

New Zealand has had a road fund since 1953. It has been restructured several times and its management was transferred to an independent road fund administration called Transfund in 1996. In December 2004, Transfund merged with the Land Transport Safety Authority (LTSA) to become Land Transport New Zealand.

The fund operates on the basis of payment by road users for road use. The proceeds are managed outside the government’s general budget and the funds are used to improve the highway system. Revenues are deposited into an interest bearing separate Treasury account and the sources of revenue for the fund comprise:

- a fuel excise duty added to the price of gasoline;
- weight-distance charges paid by diesel vehicles;
- motor vehicle registration fees;
- interest earned on the road fund account;
- revenues earned from sale of surplus state highway property; and refund of value added taxes.

Annually fund revenues were allocated to the Transport Registry Centre and the New Zealand Road Safety Programme to finance road safety outputs from the Land Transport Safety Authority, the New Zealand Police and community partners. The balance of the revenue was mostly used to support road spending under the jurisdiction of Transit New Zealand (national roads) and local government. Some of these funds were used to finance the costs of the road safety engineering measures (e.g., skid resistance, treatment of hazardous locations, etc.). LTSA assembled the annual Police funding bid, managed the bidding process, published the final program and monitored subsequent performance against agreed outputs. The program was negotiated annually and all road agencies (Transit New Zealand and local authorities) participated in the bidding process. By subjecting all road investment—including road safety interventions—to benefit/cost analysis, the system also encouraged a balanced approach to the various factors which contribute to the delivery of a safe, efficient network.
through the New Zealand Road Safety Programme to finance road safety outputs from the LTSA and police and community partners.

- The LTSA conducted in-house reviews of the value of preventing road traffic deaths and serious injuries to sustain the strong business case for expenditure on road safety.
- The LTSA provided in-house lead agency capacity to evaluate safety costs and benefits and program funding effectiveness and the preparation of related business cases.

Promotion

1. Promoting the far-reaching road safety vision or goal
The major strategic theme of Road Safety to 2010 is one of building safety into the road traffic system and into other government policies impacting on its safety quality. The rationale for this is to ensure that safety is planned for in the first instance in traffic system design and operation and at least as an equal partner to efficient mobility and environmental protection.

Over the last decade, the promotion of the road safety strategy nationally was carried out mainly by the LTSA's Communications and Education Division which provided the communications and information support for core activities and shared responsibility across the road safety partnership.

2. Championing and promotion at a high level
The National Road Safety Committee provided high-level promotion of the national road safety strategy at Chief Executive level. Lead agency ministers played an active role in creating awareness about road safety challenges and promoting policy initiatives in the media.

3. Multi-sectoral promotion of effective intervention and shared responsibility
National Road Safety Committee members came together to launch and promote specific initiatives. The Accident Compensation Corporation and New Zealand Police also engaged in high-profile road safety promotion.

4. Leading by example with in-house road safety policies
No notable organizational examples were found.

5. Developing and supporting safety rating programs and the publication of their results
The LTSA joined the Australasian New Car Assessment Programme (ANCAP) which was originally developed in New South Wales, Australia and promoted key vehicle safety needs through publicizing consumer information.

6. Carrying out national advertising
Since 1995 the LTSA promotional program supported strategic police enforcement in the areas of speeding, drink-driving and seat belt use. During this time the campaign used vivid and realistic road safety advertisements aimed at offenders and the severe consequences of road crashes. After February 2004, the target of the advertising campaign changed from offenders to the general public.

<table>
<thead>
<tr>
<th>Area of expenditure</th>
<th>NZ Total $000</th>
<th>Share</th>
<th>NZ Road Safety Programme (NZRSP)</th>
<th>Third Party</th>
<th>Crown</th>
<th>National Roads Fund</th>
<th>Contract (Crown)</th>
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<tr>
<td>Safety information and promotion</td>
<td>29,249</td>
<td>17.5%</td>
<td>25,835</td>
<td>3,414</td>
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<td>Grants management</td>
<td>9,456</td>
<td>6%</td>
<td>8,876</td>
<td>580</td>
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<td>Safety audit</td>
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<td>2,699</td>
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<td>Licensing</td>
<td>28,453</td>
<td>17%</td>
<td>1,143</td>
<td>26,277</td>
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<td>Driver testing</td>
<td>15,728</td>
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<td>Assessments</td>
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<td>Vehicle impoundment</td>
<td>444</td>
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<tr>
<td>Motor vehicle registry and revenue management</td>
<td>56,645</td>
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<td>45%</td>
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Source: Annual Report 2004, Land Transport Safety Authority, Wellington
with the objective of creating community demand for a change in the behavior of persistent offenders.

7. Encouraging promotion at the local level

LTSA’s Community Road Safety Program (CRSP) has played a strong role in road safety promotion at the local level. This program has as its primary objective the mobilisation of the community and building grass roots support to help achieve the road safety strategy goals. CRSP coordinators are funded by the LTSA.

**LTSA Role: Promotion**

- The LTSA promoted the shared responsibility for delivery of the road safety strategy.
- Lead agency ministers played a key role in launching and promoting the strategy.
- The LTSA coordinated multi-sectoral promotion and contracting out targeted road safety advertising in support of the major themes of the national road safety strategy.
- The LTSA provided in-house lead agency capacity for promotion through its Communications and Education Division.
- The LTSA supported the ANCAP safety rating program.
- The LTSA developed community road safety programs to promote the national strategy at the local level.

**Monitoring and evaluation**

1. Establishing data systems to set and monitor final and intermediate outcome and output targets

LTSA established a range of data systems and tools to allow monitoring of the national road safety targets. It carried out safety audit, managed the Land Transport Registry covering vehicle registration and driver licensing, and developed the Crash Analysis System and the Safety Management System for assisting and monitoring local authority activity.

**Vehicle and transport registries.** The computerized vehicle and driver registries at the Transport Registry Centre within the Land Transport Safety Authority were managed under a contract with the Ministry of Transport (see Box 6). Apart from providing necessary data to establish road death and injury risk, these were fundamental to the success of the road safety strategy in assisting roadside police enforcement activity.

**Final outcome data**

A range of final outcome data systems were established. 

**Crash Analysis System (CAS).** This system was established by LTSA to manage, analyze and map road traffic crash and related data. The CAS allows users to:

- enter road crash data
- select crashes for analysis
- map crashes
- view images of the crash report diagrams
- locate and map crash clusters
- report on crashes or crash clusters
- monitor trends at crash sites
- automate the production of collision diagrams
- identify high-risk locations.

The information provided by the CAS helps to analyse and determine road safety funding allocations. It is also used in the targeting of road safety programs and the monitoring of their performance. It integrates mapping with other functions and links crash data with road asset management data systems used by the road controlling authorities at the national and local level. The crash data collection is based on the fatal, injury and non-injury crashes reported by the police to the lead agency.

Crash reports include:

- where the crash occurred
- when and how it happened
- who was involved
- the type of vehicle drivers or passengers were travelling in at the time of the crash
- the people involved who were not in vehicles
- information about the crash environment
- a crash diagram.

The lead agency then codes this information according to the type of crash movement involved (e.g., overtaking or right-angle intersection collision) and the factors contributing to the crash (e.g., driving too fast for the conditions or failing to stop). The movement codes in symbolic form are scanned in, enabling users to instantly access them on-line—a useful tool when undertaking detailed analyses. CAS also holds scanned versions of the other pages from each original crash report. Internet access to the full services of the CAS can be provided to authorized users.

**Health sector data** on road traffic injury and outcomes is collected by the Ministry of Health, the Accident Compensation Corporation and the Injury prevention Research
Unit at the University of Otago. Health monitoring shows that road traffic crashes cause more years of life to be lost than any other source of injury or accident in New Zealand. Motor vehicle crashes are the single largest cause of death for children under 14 years old and for the 15–24 age-group (IPRU, 2001). Road crashes are a leading cause of permanent disability for people aged 15–44 (MoH, 1999). Periodic data matching surveys are made by the LTSA to link health data with police crash data to eliminate levels of under reporting of injury crashes on a regional basis.

Intermediate outcome data and output data
Data on speeds, seat belt use, cycle helmet use and drinking and driving are collected annually by the LTSA, with speeds being measured twice a year (summer and winter). New Zealand is also a member of the Australasian New Car Assessment Programme which allows it to monitor fleet safety quality. Travel surveys are carried out periodically on a rolling basis to collect exposure data. Traffic data is also collected annually.

Other data
Other data is collected annually to inform strategy development and intervention. In 2004, for example, the National Bureau of Research carried out an annual public opinion survey which concluded that:

- 76% of New Zealanders thought that compulsory breath testing helps to lower the road toll
- 77% agreed that enforcing the speed limit helps to lower the road toll

**Box 6: The Transport Registry Centre, New Zealand (2006)**

*Main functions:* The Transport Registry Centre (TRC) was until recently a section of the Operations Division of the Land Transport Safety Authority, but is now part of Land Transport New Zealand. It handles all aspects of motor vehicle registration, motor vehicle licensing, road user charges transactions and the national Driver License Register (DLR). The TRC maintains the DLR and the Motor Vehicle Register (MVR) and is responsible for the collection, reconciliation and pay-over of crown revenues collected from vehicle licensing and road user charges (RUC). The Transport Registry also administers the demerit point scheme for driver related offenses, suspends driver licenses due to excessive demerit points and reviews applications for driver licenses to be revoked on medical grounds.

*Annual budget:* Driver License Registry: $42,916,263, Motor Vehicle Registry & Revenue Management: $58,715,435 Crown Revenue: $1,778,660,000

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<th>Management:</th>
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<th>Crown Revenue:</th>
<th>Information Technology:</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>38</td>
</tr>
</tbody>
</table>

*Motor Vehicle Register:*
- services are provided under contract to Ministry of Transport
- around 3.9M vehicles on the register
- 1.0M change of ownership transactions completed each year
- collect $500M in Accident Compensation Corporation (ACC) levies
- 7.5M requests (on-line) for information from the register annually from local authorities and industry
- answer more than 50,000 national 0800 calls each month
- 25,000 vehicle registrations each month (new and imported)
- 400,000+ vehicle licensing transactions per month.

*Driver License Register:*
- 2.9M licensed drivers
- 7,000 demerit warning letters issued monthly
- 20,000 new driver licenses issued monthly
- 3,000 overseas driver licenses converted to a NZ license each month
- 3,000 licenses suspended each month due to excessive demerit points or court action
- about 2,000 medical reviews processed each month
- answer in excess of 50,000 national 0800 calls per month.

Information provided by Transport Registry Centre, New Zealand, 2006
• 87% believed that seat belt enforcement helps to lower the road toll
• 90% of people wanted police enforcement effort to either be maintained or increased
• 92% of people wanted advertising to either be maintained or increased.
• 57% think speed cameras help to lower the road toll
• 56% support the use of hidden cameras
• 59% believe speed cameras are operated fairly
• 85% want the urban 50km/h speed limit to be retained or lowered
• 80% want the 100km/h to be retained or lowered

2. Transparent review of the national road safety strategy results, interventions and institutional management functions

Reviewing and reporting on progress
Progress against targets is reported annually in performance agreements in New Zealand. The LTSA provided the National Road Safety Committee with a comprehensive quarterly report Road Safety Progress which outlined progress being made on outcome and output targets. It was also made available to the National Road Safety Advisory Group, members of parliament, LTSA managers and Road Safety Coordinators.

The Road Safety to 2010 strategy has also been subject to various independent reviews since its inception in 2002. Audit inspections of the performance of LTSA agents were also carried out. Transit, the State highway authority, also conducts random audits every year and a full audit every three years of compliance with safety management systems. It annually certifies the state highway network on its safety performance.

3. Making any necessary adjustments to interventions and institutional outputs needed to achieve the desired results
The results of monitoring and evaluation are presented by LTSA to the National Road Safety Committee and discussed periodically.

LTSA Role: Monitoring and Evaluation
• Monitoring of the road safety strategy was the LTSA's responsibility in association with the National Road Safety Committee.
• The LTSA established surveys and databases to identify and monitor final and intermediate outcomes and outputs against targets.

• The LTSA established and published the socio-economic cost of road traffic injuries on an annual basis.
• The LTSA managed the vehicle and driver registries, developed the Crash Analysis System and participated in the Australasian New Car Assessment Programme to assist monitoring of vehicle fleet safety.
• The LTSA tracked public opinion on road safety problems and interventions through surveys.
• The LTSA regularly reviewed progress of the national road safety strategy in-house on a quarterly basis, funded independent reviews and reported results to the national coordinating body for discussion and follow-up action.

Research and knowledge transfer

1. Developing capacity for multi-disciplinary research and knowledge transfer
A range of organizations carry out road safety research in New Zealand. Prior to December 2004, the LTSA was responsible for coordinating this research and this role was defined in legislation. It published a yearly summary of the road safety research which was funded. This function is now undertaken by the Ministry of Transport. The 2003 review of road safety research indicated that 58% of research projects were carried out by government agencies or Crown entities and 24% by the New Zealand university sector.

The LTSA's Strategy Division housed a road safety research unit which undertook a range of research support activity to assist national, regional and local government activity. Consulting bodies play a role in national road safety research as well as universities (e.g., the Injury Prevention Research Unit at the University of Otago, the Departments of Civil Engineering and Psychology at Canterbury University and by Monash University Accident Research Centre in Victoria, Australia).

2. Creating a national road safety research strategy and annual program
An annual program of research was defined by LTSA focussing on the national road safety strategy, as one of the functions of its coordination role.

3. Securing sources of sustainable funding for road safety research
Funding for road safety research was an integral part of the LTSA budget.

In addition, the Road Safety Trust administered by the LTSA funded research, community safety initiatives, train-
ing, education, overseas travel, attendance at conferences and private sector technological developments which were assessed as being beneficial to road safety in New Zealand. The LTSA advised on and oversaw all research funded by the Road Safety Trust. The Trust also offered Road Safety Research Scholarships for Masters and Doctoral candidates, which were administered by the NZ Vice Chancellors’ Committee.

4. Training and professional exchange
Significant efforts were made by senior LTSA and key stakeholder personnel to keep abreast of international research and good practice, including annual visits to leading jurisdictions in the road safety field, and attending conferences and sharing knowledge within global and regional communities of practice.

5. Establishing good practice guidelines
A range of guidelines were produced by the LTSA to facilitate implementation of good practice road safety activities. One example was the guideline for developing a safety management system for road controlling authorities published by LTSA in November 2003, with the aim of increasing road safety knowledge and skills in the road engineering field.

6. Setting up demonstration projects
Demonstration projects were put in place periodically to highlight the effectiveness of important interventions. A notable example was the hidden speed camera trial conducted in the Central North Island, using the rest of the country as a control group. In posted speed camera zones in the region concerned cameras were used covertly, whereas in the rest of the country they remained in overt use in accordance with the approved operational guidelines. In the Central North Island region the use of hidden cameras resulted in a 20% statistically significant reduction in casualties compared with the rest of the country, with an estimated benefit cost ratio of around 150:1 (Keall, Povey & Frith, 2001 and 2002).

LTSA Role: Research and Development and Knowledge Transfer

- The LTSA established in-house capacity to manage its research program and coordinated and supported external research in support of the safety strategy.
- The LTSA secured funding for road safety research and knowledge transfer in its own budget.
- The LTSA supported attendance of its staff at international road safety meetings, seminars and workshops, and study tours to good practice countries.
- The LTSA developed and disseminated good practice guidelines on road safety.

Summary: LTSA delivery of institutional management functions

Results focus. The Land Transport Safety Authority (LTSA) was the lead agency for road safety in New Zealand from 1993 to the end of 2004. The LTSA had the main responsibility for managing the country results focus and ensuring that system-wide interventions were agreed and implemented by the responsible authorities across government and wider society. It established a framework for assessing safety performance and the potential for achievable results in the medium term and led the development and delivery of national safety strategies and the work program agreed by the National Road Safety Committee (NSRC), the high-level coordinating body. The latest strategy includes targets for final and intermediate outcomes as well as institutional outputs. The LTSA’s responsibility for the achievement of national targets was underpinned by a performance agreement with the Minister of Transport. It also established Memoranda of Understanding with its partners to guide the road safety effort and funded key police enforcement outputs to achieve desired results and enhance accountability for their delivery.

Coordination. The LTSA established and managed multi-sectoral coordination to engage all major partners in a decision-making hierarchy of committees and chaired and provided the secretariat of the NRSC and supporting committees. It established road safety partnerships with each of the other six governmental members of the NRSC to deliver agreed targets. The LTSA built tools and programs for use by police and regional and local authorities and developed and supported community programs and partnerships at the local level.

Legislation. The LTSA established in-house capacity in its Policy Division to set, ensure compliance with and monitor road safety standards for vehicles, roads and people, as well as to provide policy advice. It established a small in-house rule team to partner with the Ministry of Transport in developing and consolidating major primary legislation. The LTSA used the coordination hierarchy to find legislative slots for road safety and for consultation on proposals for legislative change.
Funding and resource allocation. The LTSA ensured a dedicated funding source for road safety from the National Road Fund and managed the New Zealand Road Safety Program to largely finance road safety outputs from NZ Police and also finance some aspects of the LTSA program of education, promotion and strategy development. The LTSA provided in-house capacity in its safety economics section to evaluate safety costs and benefits, estimate program funding needs and prepare related business cases. It periodically reviewed the value of preventing road traffic deaths and serious injuries to sustain a strong business case for expenditure on road safety. The LTSA also provided advice on grants management and administered the Road Safety Trust.

Promotion. The LTSA promoted the shared responsibility for delivery of the road safety strategy and its ministers played a key role in launching and promoting the strategy. It coordinated multi-sectoral promotion and contracted out targeted road safety advertising in support of the major themes of the safety strategy. The LTSA provided in-house lead agency capacity for promotion through its Communications and Education Division, supported and promoted the Australasian New Car Assessment Programme (ANCAP) and developed community road safety programs to promote the national strategy at the local level.

Monitoring and evaluation. Monitoring and evaluation of the road safety strategy was LTSA’s responsibility in association with the NRSC. The LTSA established surveys and databases to identify and monitor final and intermediate outcomes and outputs against targets and established and published the socio-economic cost of road traffic injuries on an annual basis. It managed the vehicle and driver registries, developed and maintained the Crash Analysis System and participated in the ANCAP to assist monitoring of vehicle fleet safety. The LTSA reviewed progress of the national road safety strategy in-house on a quarterly basis and funded an independent review of its performance in 2004.

Research and development and knowledge transfer. The LTSA’s coordination role for road safety research was established in legislation. It built in-house capacity to manage its research strategy and program and supported external research focused on supporting the road safety strategy, including demonstration projects. The LTSA secured funding for road safety research and knowledge transfer in its own budget and supported attendance of its staff at international road safety meetings, seminars and workshops, and study tours to good practice countries. It also developed and disseminated good practice guidelines on road safety.

Lead agency structures
The aggregate and organizational structures of the lead agency for road safety in New Zealand are set out in Figures 4 and 5.

Figure 4: Aggregate structure of the Land Transport Safety Authority (LTSA) in New Zealand (1993–2004)

- Privatized Agencies
  - Vehicle Testing New Zealand Ltd.
  - Vehicle Inspection New Zealand Ltd.

- Land Transport Safety Authority (LTSA)
  - Lead agency for road safety
  - 7 Regional Offices
  - Transport Registry
  - Vehicle Certification Unit

- Ministry of Transport—Policy and Ministerial advice
- Transfund—Roads funding
- Transit—State Highway authority
- Local Government New Zealand—Local highway authorities
- New Zealand Police—Traffic regulation enforcement, crash reporting
- Accident Compensation Corporation—Third party insurer
With more than 90% of direct road safety funding in New Zealand allocated to LTSA's key partners in the road controlling authorities and the police, the organizational priority of the LTSA from the outset was focused on ensuring the effectiveness and efficiency of its partnerships with these agencies. The LTSA provided administrative and technical support to the National Road Safety Committee and its working groups which comprised the main road safety governmental stakeholders, as well as working with other partners and stakeholders throughout the country.

The LTSA's organizational structure is outlined in Figure 5. It employed 656 staff as at 30 June 2004, of which 451 (68%) were employees in Operations Division, 33 in Strategy (5%), 52 in Policy Division (8%), 26 in Communications and Education Division (4%), and 39 in Information Systems and Technology (6%).

The Strategy Division conducted the target-setting work and provided road safety research, statistics, performance monitoring and economic analysis, which aimed to ensure that safety interventions achieved improvements in road trauma levels. It provided strategic direction for road safety and managed the New Zealand Road Safety Program (or Safety (Administration) Program) which funded police and community road safety outputs. It also managed the national Crash Analysis System, directed the national research effort and provided the secretariat support to the National Road Safety Committee, the National Road Safety Working Group, the National Road Safety Advisory Group and the Industry Consultative Committee.

The Policy Division carried out policy analysis, research and development for road safety interventions such as the development of standards and rules relating to the design and operation of the road network and the conditions of entry and exit for vehicles, operators and users.

The Operations Division promoted compliance with standards and rules by means of community education, enforcement (including auditing of LTSA agents) and performance assessment. The Vehicle Certification Unit conducted audits of motor vehicle certification agents and commercial license transport operators in each region to ensure vehicle compliance standards were maintained. It also carried out investigations of heavy vehicle crashes where mechanical defects had been identified. Many activities were contracted out to companies and individuals. The Regional Offices monitored and reviewed performance on local networks, coordinated interventions with local road safety partners and managed vehicle and operator compliance. The Transport Registry Centre facilitated the entry and exit from the land transport system and managed the collection of user charges and Accident Compensation Corporation levies.
The Corporate Services Division provided information services, human resources, financial contract and facilities management, and reprographic and legal support for core LTSA activities. It also undertook the organization’s corporate planning, including annual business planning and budgeting activities.

The Communications and Education Division provided the communication and information support for core activities. It also became engaged in education to encourage compliance with standards and rules and managed the road safety advertising program.

The Information Systems and Technology Division provided the tools and support for systems and technology which delivered the LTSA services. It managed the provision of information, data and systems that allowed staff and agents to carry out their work effectively.

The organizational structure of LTSA and the structure of the related coordination and decision-making hierarchy set out in Figure 3 (and described further in the section on Coordination) provided for the delivery of all seven institutional management functions at the country level, under LTSA’s leadership and direction.

**Bibliography**


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1.2 Road safety organization in Great Britain

National context

**KEY FACTS: 2006**

Area: 229,898 km²
Population: 58,846,000
Kilometers of public road: 398,350
Number of licensed motor vehicles: 33,275,000
Road deaths per 100,000 of population: 5.4
Numbers of deaths: 3,172

*Source: IRTAD, 2008*

Road safety in Great Britain (England, Scotland and Wales) is a shared responsibility at governmental level between national and local government and the European Union (which has key responsibilities in areas such as vehicle safety and driver licensing). The Department for Transport (DfT) is the lead department for road safety in Great Britain. It works with its governmental partners in the Scottish Executive and National Assembly for Wales, the Home Office, the 52 regional police forces, Health Departments, the Health and Safety Executive and the Department for Education and Skills. Private sector, professional safety and user organizations and parliamentary groups are also actively involved in support of national and local road safety strategies.

There is a long tradition of systematic road safety work in Great Britain which started in the mid-1960s against the background of increasing levels of road traffic and associated increases in road deaths and injuries. Crash investigation and prevention units in central government’s Regional Offices were set up and the extension of local authority powers to act led to new institutional arrangements locally and also to funding initiatives. Road safety engineering and police enforcement activities continue to be highly decentralized.

In common with many other high-income countries the late 1980s was a period of organizational change in public service delivery where many governmental functions were transferred to governmental agencies and privatized services. These organizations worked to Public Service Agreement targets and were subject to annual performance assessment. In 1986 Road Safety: The Next Steps was Great Britain’s first national road safety strategy based on quantitative targets. The current road safety strategy Tomorrow’s Roads. Safer for Everyone was launched by the Prime Minister in March 2000 within a framework of final outcome targets to 2010 and annual performance assessment.

In recent years road safety has also been integrated increasingly into other government objectives. Road safety is a key objective of the government’s transport policy Transport 2010: the 10 Year Plan which states that ‘people should travel safely and feel secure whether they are on foot or bicycle, in car, on a train, or bus, at sea or on a plane.’ Safety has to be integrated with other government objectives for the environment, the economy, accessibility and social integration. The Saving Lives: A Healthier Nation White Paper explains how reducing road crashes would help to achieve the government’s overall target to reduce accidents from all causes. From 2003 health authorities were expected to work with local authorities over road safety targets and implementation within the context of Health Improvement Programs. The Neighbourhood Road Safety Policy Initiative allocated grants totalling £17.6 million over 3 years to local authorities chosen for funding on the basis of casualty rates and levels of deprivation within their council areas to develop and demonstrate strategies for tackling the special road safety problems of disadvantaged communities.

Great Britain has achieved one of the lowest national per capita road death rates in the world. In 2006, the number killed on Great Britain’s roads (3,172) was the lowest since records began in 1926. The long term casualty and traffic trends shown in Figures 1 and 2 indicate a gradual downward trend in deaths since the mid 1960s. Great Britain’s road safety record is attributed to a long process of applying a range of engineering, enforcement and education measures cost-effectively, through setting clear targets for casualty reduction and through long-term programs. It has also made a strong contribution to public sector management of vehicle safety and associated casualty reductions through funding vehicle safety research and development work, the initial setting up of the European New Car Assessment Programme and the championing of improvements to vehicle crash protection standards at EU level bringing benefits nationally and internationally.

This case study focuses on the country delivery of institutional management functions in Great Britain, the lead agency role and the structures and processes put in place to meet interim quantitative targets.
Country delivery of institutional management functions and lead agency role

Results focus
Great Britain has a well-established tradition in country results focus. Leadership responsibilities are well defined and an organizational framework exists for analysing data and safety performance, setting outcome and output targets as the basis for national road safety activity, and defining clear accountabilities for action.

Lead agency
The Department for Transport’s (DfT) Roads and Vehicles Directorate is the lead agency for road safety in Great Britain. Reducing transport casualties is one of DfT’s five...
main objectives. The DfT works to Public Service Agreement targets for road casualty reduction which are the national road safety strategy targets. The DfT’s Roads and Vehicle Safety and Standards Directorate has the principal responsibility for the development, delivery and monitoring of the national road safety strategy.

1. Appraising current road safety performance through high-level strategic review

In preparing the first targets in the mid 1980s, an Inter-Departmental Working Group was established to conduct a high-level review of road safety performance and strategic needs.

The DfT’s reviews road safety performance in-house and commissions reviews from independent research bodies and experts to monitor progress with the national strategy as well as analyses from its statistical division, responsible for compiling annual police-reported crash statistics. A high-level expert group was set up by DfT in developing the current national strategy for the identification of the most important road casualty problems and solutions throughout the road traffic system on the basis of data analysis, survey and research. The road safety strategy is assessed by the Department every 3 years. Progress can be assessed by the Parliamentary Select Committee on Transport, by the Road Safety Advisory Panel and the new Road Safety Delivery Board (2008).

2. Adopting a far-reaching road safety vision or goal for the longer term

Great Britain has no specific road safety vision for the long term safety of its road traffic system. In recent years the Department for Transport has run its national THINK! Campaign, A Banner for Road Safety in the UK.

3. Analyzing what could be achieved in the medium term

The Safety Targets and Accident Reduction Steering (STAR) Group was set up by DfT to provide technical support and advice to ministers on the setting of the 2010 targets. It comprised representatives and technical experts from local authorities, the Royal Society for the Prevention of Accidents, the Parliamentary Advisory Council for Transport Safety, the Transport Research Laboratory (TRL), the Department for Transport and its regional offices and individual experts. This group was subsequently replaced by a new Road Safety Advisory Panel—see next section on Coordination.

In preparing the 2010 targets, the DfT commissioned background papers on current performance, forecasting and modelling of different scenarios, and made proposals for follow up action. Analyses included surveys of the current safety performance of different aspects of the road system, future trends, analysis of information on the effectiveness of different interventions in achieving road safety outcomes, socio-economic appraisals and the identification of useful implementation tools which were published in working papers.

In-depth consultation on draft proposals was carried out with key government stakeholders as well as more broadly with road safety stakeholders to assess the level of support for different strategy and program options.

4. Setting targets by mutual consent across the road safety partnership

Against the background of changes in general public service delivery, the first national casualty reduction target was set in Great Britain to reduce casualties by one third by 2000 compared with the average for 1981–85. Although the overall target was not achieved due to increasing minor injuries, deaths declined by 39% and serious injuries by 49%. The target process led to an increased profile for road safety, increased resources and more discussion of national and local action.

Following a period of forecasting, research and analysis overseen by the STAR Group, a consultation exercise was launched in 1996 on developing a new strategy and targets. Bottom-up targets were proposed by the DfT, approved by Cabinet and parliament and published within the new safety strategy, Tomorrow’s Roads: Safer for Everyone in March 2000. A speed policy review paper and background research findings which underpinned the target-setting were published simultaneously.

Targets in the current strategy comprise final outcome targets, although various intermediate outcomes and outputs data are monitored. Compared with baseline outcomes of 1994–98, new targets were set to achieve a 40% reduction in killed and seriously injured casualties, a 50% reduction in children killed and seriously injured and a 10% reduction in the casualty rate for slight injuries per kilometer travelled by 2010. Local authorities set their own targets, consistent with the national targets, in their Local Transport Plans and performance is monitored.
IMPLEMENTING THE RECOMMENDATIONS OF THE WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION

The strategy comprises ten themes (see Box 1) with an implementation timetable outlined for each.

Great Britain has also signed up to highly ambitious targets set by the European Union and the European Conference of Ministers of Transport (now International Transport Forum) to reduce deaths by 50% by 2010 in EU countries and ECMT countries.

5. Establishing mechanisms to ensure stakeholder accountability for results

The Tomorrow’s Roads: Safer for Everyone Strategy and targets were signed off by ministers for the Department for Transport (then the Department of the Environment, Transport and the Regions), for the Scottish Executive and for the National Assembly for Wales.

The DfT is accountable for the delivery of national road safety targets via its Public Service Agreement targets which mirror national targets. A further public service agreement target was set for the DfT for 2005—to reduce casualties in deprived areas of England more rapidly than in Great Britain as a whole. The DfT’s Highways Agency also has a specific Public Service Agreement target to reduce road casualties on national roads and has produced a five year road safety plan.

The majority of local authorities have also entered into Local Public Service Agreements with the DfT which specify road safety targets.

DfT Role: Results Focus

- The Department for Transport’s (DfT) Roads and Vehicles and Standards Directorate is the lead agency for road safety in Great Britain.
- The DfT has the main responsibility for managing the country results focus and ensuring that system-wide interventions are agreed and implemented by the responsible authorities across government and wider society to achieve the desired results.
- The DfT established a results management framework for appraising performance and identifying what could be achieved in the medium term.
- The DfT leads the development and delivery of national safety strategies (the current being the Tomorrow’s Roads: Safer for Everyone strategy). This strategy includes targets for final outcomes to 2010.
- The DfT’s responsibility for the achievement of national targets is underpinned by an annual performance agreement.
- The DfT established Memoranda of Understanding and local agreements with its partners towards implementing the national strategy.

Coordination

The DfT works in partnership with a wide range of public-sector and private-sector bodies to meet its Public Service Agreement targets for road safety. The nature of the partnerships varies widely, as does the level of direct control or involvement by the Department.

1. Horizontal coordination across central government

Great Britain does not have a national coordination and decision-making body outside Cabinet. It works mainly with annual bilateral and trilateral agreements with other government partners and a national consultative Road Safety Advisory Panel of a broad range of governmental and non-governmental partners and stakeholders. An inter-governmental Road Safety Delivery Board (2008) has been established for the purposes of knowledge transfer and for monitoring progress with targets and strategy implementation.

2. Vertical coordination from central to regional and local levels of government

Road safety engineering and enforcement in Great Britain are highly decentralized and lead agency partnerships with local authorities and police forces are critical to achieving road safety results.

Department for Transport and local authority partnerships. The encouragement of effective local road safety activity has been carried out in a variety of ways—by different funding mechanisms, by encouraging local authorities to adopt national targets, by requiring annual progress reports and by encouraging local multi-sectoral delivery partnerships. As a result of Great Britain’s complex, de-

Box 1: Key themes in the British road safety strategy

1. Safer road use for children
2. Safer drivers—training and testing
3. Safer drivers—drink, drugs and drowsiness
4. Safer infrastructure
5. Safer speeds
6. Safer vehicles
7. Safer motorcycling
8. Safer walking, cycling and horse riding
9. Better enforcement of traffic law
10. Promotion of safer road use
In 1974 a legal duty was placed on local authorities to establish systematic programs for identifying high-risk crash sites and developing remedial measures. The legislation also required local authorities to appoint road safety officers who were responsible for developing local education and publicity programs. Aided by the development of national road safety guidelines, multi-disciplinary specialist safety teams grew up in many local authorities to carry out programs of road safety engineering and information work. National best practice guidelines and codes of good practice were produced on the basis of experience with local authority implementation. The lead agency and local authority associations engaged in nationwide promotion of examples of take up of best practice.

In the 1980s central and local government agreed that local safety scheme funding should be ring-fenced to ensure that remedial measures addressing high risk sites and areas were given priority (see next section on Funding and Resource Allocation). In 2001, the funding system changed with local authorities preferring to bid for a single allocation to address transport needs following the submission of a 5-year Local Transport Plan. Since 2003, local authorities have been required to submit a statement in their annual progress reports showing how they intend to tackle the road casualty problem in deprived areas and to identify annually the number of killed and seriously injured road casualties per 100,000 of population in their area.

Local safety camera partnerships—police, justice, Highways Agency, local authorities. In 1998 government decided to allow local multi-sectoral partnerships, subject to strict Treasury criteria, to recover the costs of speed enforcement. The national project comprised representatives from a wide range of government and professional sectors including the Association of Chief Police Officers, the Home Office, Department for Transport, Lord Chancellor’s Department, the Scottish Executive, National Assembly for Wales, Crown Prosecution Service, Her Majesty’s Treasury, the Highways Agency, the County Surveyors Society and the Local Government Technical Advisors Group. The core membership of the partnerships included local authorities, Magistrates’ courts, the Highways Agency and the police. Some pilot areas also actively involved their local health sector organizations. An example from Lancashire is shown in Box 2.

All but one of the 52 policing authority areas have introduced the safety camera ‘netting off scheme’ which has led to a 40% reduction in deaths and serious injuries where speed cameras were implemented at high-risk crash sites. Management arrangements for the program have encouraged closer working arrangements between the police, highway authorities and other local stakeholders to im-

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**Box 2: Lancashire Road Safety Partnership**

The Partnership was established in 2001 and comprises the Lancashire Constabulary, Lancashire County Council and the unitary authorities of Blackpool and Blackburn with Darwen. Partners and stakeholders are NHS Trusts, Highways Agency, Government Office North West and the Lancashire Magistrates’ Courts.

The Partnership is one of the largest locally based safety camera partnerships in Great Britain, acting also on drink-driving and seat belt use. It maintains a network of almost 300 fixed camera sites and also has 8 mobile camera vehicles, 6 carried by cars and 2 by motorcycles, which can reach less accessible locations. The mobile cameras operate from 74 core sites and a further 72 sites of community concern put forward by the Community Safety Partnerships. The enforcement operation is supported by the Central Ticket Office which automatically processes all offenses recorded by the cameras. The Department for Transport’s (DfT) fourth year evaluation report on the National Safety Camera Program shows reductions in Lancashire of 19.8% in personal injury collisions and 24.8% in killed or serious injury collisions at camera sites. The Partnership has drafted a new Service Level Agreement to ensure that camera enforcement remains an integral part of the Road Safety Strategy, guarantee the future funding of this activity within the Partnership and ensure that Partnership resources are utilized in the most effective and efficient manner possible. The enforcement and education undertaken by the Partnership is supported by a robust and effective communication strategy, which promotes road safety through campaigns against speeding and drink driving and promoting the wearing of seat belts in support of the THINK! campaigns mounted by the DfT.

prove road safety. The program has also enabled a more consistent, targeted and evidence-based approach to be established for safety camera enforcement. Some partnerships also promote other key actions in the national road safety strategy to achieve results on decreasing speed, increasing seat belt use and deterring excess alcohol use.

3. Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels

**Department for Transport, Home Office, the Association of Chief Police Officers.** Road safety has not been a core policing priority for several years in Great Britain. Monitoring indicates that numbers of roads policing officers have declined over recent years, a smaller proportion of resources has been dedicated towards roads policing, and there has been less priority at both national and local levels and a progressive shedding of roads policing tasks to other groups and agencies (PACTS, 2005). A 20% decline in breath testing in England and Wales took place between 1998–2003 with marked increases in the percentage of positive breath tests.

Police forces in Great Britain are required to identify annually the number of killed and seriously injured casualties per 100,000 of population in their area, although there is no annual public service agreement target with the Home Office for road safety and roads policing. However, the national roads policing strategy (2005–2008) was created as a tri-partite annual policy agreement for road safety outputs and agreed between the Association of Chief Police Officers, the Department for Transport and the Home Office (11.1. 2005) with ‘reducing road casualties’ cited as one of 5 actions to deliver:

- continued operation of the National Safety Camera Program, dealing with road sites and traffic light junctions with a known history of collisions and casualties;
- a national police Drink and Drug Driving campaign, to ensure that people are deterred from this activity by significantly increased risk of detection;
- a national police seat belt campaign, to increase the level of seat belt wearing, especially by rear-seat passengers and children;
- a highly visible police presence on the roads.

**Departments for Transport, Education and Skills, and Health** have worked in partnership to find ways of reversing the rapid rise in the number of children travelling to school by car, to improve child road safety, and to highlight the links between sustainable travel and health.

**Department for Transport and the Health and Safety Executive.** In 2004 in partnership with the Health and Safety Executive, guidance to employers on work-related road safety was published. The Task Force on Work Related Road Safety (reporting jointly to ministers and the Health and Safety Commission) existed to produce a Work-Related Road Safety Strategy.

The Road Safety Delivery Board was set up in 2008 to improve the delivery of targets amongst the governmental partners but ‘without a role in discussing or formulating policy or strategy.’ The aims are to identify the best performers, how they achieve their results, how these can be exported to others; identifying problems and obstacles, driving through the solutions and making connections between agencies and fostering better partnership working. The Board also has an oversight function, in respect of casualty reduction. The core membership of the Board brings together senior management from the DfT, Police, Home Office, Highways Agency, Local Authorities, the Fire and Rescue Service, the Driving Standards Agency and devolved administrations in Scotland and Wales.

The Road Safety Advisory Panel at national level brings together 32 organizations and acts as a forum for national consultation with other governmental partners and key stakeholders (see Box 3). Its role is to provide advice to ministers on road safety policies and to advise on the three-yearly reviews of progress towards the casualty reduction targets. The Road Safety Advisory Panel meets around 3 times a year. Various sub-groups have been established to provide technical support.

**European governmental coordination and partnerships**

The High Level Group on Road Safety established by the European Commission brings together the heads of road safety for all the member states of the European Union to provide a consultative and coordinating body for EU road safety policy. It meets 2–3 times annually. The DfT played a key role in the establishment and is a member of the European New Car Assessment Programme and the European Road Assessment Programme which help to improve vehicle and road network safety respectively as well as providing key monitoring data on car industry and road highway engineering performance nationally. Great Britain is a member of the European Conference of Ministers of Transport (now International Transport Forum) and also participates in various EU and UN ECE decision-making bodies on vehicle standards and agreements.
Non-governmental organization engagement

Great Britain has an active non-governmental sector in the road safety field which is encouraged and supported in different ways by the Department for Transport. This sector contributes to most of the country institutional management functions.

The Parliamentary Advisory Council for Transport Safety provides evidence-based advice on the safety of the road traffic system to parliamentarians of all parties and encourages action to meet targets. BRAKE is a national road safety charity which promotes road safety and the welfare of road crash victims, as does Road Peace. The Royal Society for the Prevention of Accidents covers all types of accidents and plays an active role in developing advice on work-related road safety. The Local Authorities Road Safety Officers Association (LARSOA) promotes the road safety interest and activity of local authorities. The Slower Speeds initiative embraces environmental and safety concerns in pressing for speed reduction. The Institute for Advanced Motorists (IAM) provides higher-level training and assessment for experienced drivers. Road Safe brings together companies in the motor and transport industries in Great Britain with representatives from government and road safety professionals.

Other NGOs represent the interests of user groups such as pedestrians (Living Streets), motorcyclists (British Motorcyclists Federation), motorists (the AA and RAC) and in the private sector, freight transport (the Freight Transport Association and the Road Haulage Association). The AA was a founder member of the European Road Assessment Programme and the RAC was a prime supporter of the development of the European New Car Assessment Programme of which the FIA, the international body to which RAC is an affiliate, is a member.

Business sector engagement

Over the last thirty years the lead agency in Great Britain has actively encouraged business sector support and activity for road safety. Some activities such as driver training are carried out by the private sector within the framework of government legislation. The DfT includes trade associations such as the car manufacturing industry on the Road Safety Advisory Panel. Support from a wide range of companies and sectors for the national road safety strategy is encouraged by the national THINK! campaign.

Health and safety legislation, guidance and national strategies have also been the means by which the DfT together with the Health and Safety Executive have encouraged employers to focus on work-related road safety.

Encouraged by the lead agency the business sector has also supported the research sector. For example, the UK Co-operative Crash Injury Study (CCIS) commenced in 1983 and is an ongoing program of research to conduct in-depth investigations into real world car crashes (see Research and development and knowledge transfer section). The aim of the study is to provide government and industry with crash injury data that will assist in the development of regulations and improvements in secondary...
IMPLEMENTING THE RECOMMENDATIONS OF THE WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION

The Parliamentary Advisory Council for Transport Safety (PACTS) came together in 1981 in Great Britain around efforts to introduce the compulsory wearing of seat belts in cars. Here, a coalition of medical, research, police, motoring, and insurance organizations and interested parliamentarians from all political parties advocated and, eventually through private members’ legislation, introduced compulsory front seat belt use. Although this was generally supported by the majority of professionals and organizations, there was resistance from different quarters on the grounds of civil liberties. However, the marrying of political and technical expertise turned out to be a successful formula.

Aims:

- It provides an independent technical advisory service for parliamentarians on transport safety matters.
- It lobbies and persuades, identifying and promoting research-based solutions to transport safety issues through parliamentary access and contacts.
- It promotes wider publicity and information on safety through conferences, seminars, lectures and website.
- It responds to government, parliamentary and public proposals for safety improvements.

Structure:
The combination of a registered charity and a company limited by guarantee means that the directors carry the overall legal and financial responsibility for the running of the organization. The Board of Directors comprises politicians, academics, retired public and private sector leaders and consultants. In addition, the development of policy is assisted by the Advisory Committee, meeting three times a year, usually in the House of Commons, attendance at which is open to all members of PACTS. This committee is also served by a number of technical working parties, determined annually. Membership of these working parties is by invitation and is intended to reflect the overall balance of expertise and interest within the organization. PACTS’ annual income of around £230,000 (2008) is from membership subscriptions, sponsorship, event income and research funding. The secretariat comprises 3 members of staff.

Box 4: Parliamentary Advisory Council for Transport Safety (PACTS)

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lateral and trilateral agreements with other government partners in implementing the national safety strategy and monitors targets and encourages developments through its inter-departmental Road Safety Delivery Board.

- The DfT encourages local authorities to adopt national targets, requires annual progress reports and encourages local multi-sectoral delivery partnerships.
- The DfT established a national Road Safety Advisory Panel with a broad range of stakeholders (including the NGO and business sectors) to consult on road safety and the three-yearly reviews of progress towards safety targets.
- The DfT also engages regularly with parliamentary committees and groups. European Union road safety coordination is pursued within the European Commission’s High level Group on Road Safety and other committees.

Legislation

1. Reviewing the scope of the legislative framework periodically

Great Britain has a robust legislative framework for road safety (although it is often noted that its national blood alcohol level is higher than the global good practice identified by the World Health Organization and there are no random breath testing powers to deter drinking and driving). Examples are set out in Box 5.

In Great Britain, legislative needs are considered in developing options for the national strategy. The development of a legislative proposal usually involves examination of different alternatives as well as a regulatory impact assessment and assessment of socio-economic costs and benefits. This assessment considers best estimates of the costs (particularly to local authorities and business) and benefits (to society) of the proposed measure which is published as part of the legislative proposal.

General reviews of road traffic law are carried out from time to time as indicated in the examples in Box 6.

2. Developing legislation needed for the road safety strategy

When a need is identified road safety legislation is prepared by DfT officials including legal experts and presented to parliament in the form of a bill. The DfT’s legal section comprises around 30 people of whom 20 deal with road and vehicle matters. It provides services to other sections according to need. Typically a team is set up comprising 3–4 policy experts from the road safety department and one or two legal experts when road safety legislation is being prepared and executed. An impact assessment statement of the costs and benefits of the provision to business and other levels of government is made routinely.

Box 5: Examples of legislative measures in Great Britain over 40 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>Introduction of 0.08% blood alcohol limit</td>
</tr>
<tr>
<td>1970</td>
<td>Mandatory HGV driving test and registration of driving instructors</td>
</tr>
<tr>
<td>1973</td>
<td>Mandatory crash helmet use for motorcycle and moped riders</td>
</tr>
<tr>
<td>1978</td>
<td>Maximum 60 and 70 mph limits are made permanent</td>
</tr>
<tr>
<td>1982</td>
<td>Two part motorcycle test introduced and provisional license restricted to 2 years</td>
</tr>
<tr>
<td>1983</td>
<td>Mandatory front seat belt use in cars and light vans</td>
</tr>
<tr>
<td></td>
<td>Learner motorcyclists restricted to vehicles of up to 125 cc</td>
</tr>
<tr>
<td></td>
<td>Evidential breath testing</td>
</tr>
<tr>
<td>1987</td>
<td>All new cars required to be fitted with rear seat belts</td>
</tr>
<tr>
<td>1988</td>
<td>Rear seat belt wearing for children</td>
</tr>
<tr>
<td>1990</td>
<td>Compulsory basic training for motorcyclists</td>
</tr>
<tr>
<td>1991</td>
<td>High risk drink/driver offender scheme with 0.2% limit</td>
</tr>
<tr>
<td>1992</td>
<td>Safety audit becomes mandatory on trunk roads and motorways</td>
</tr>
<tr>
<td>1993</td>
<td>Rear seat belt wearing compulsory for adults</td>
</tr>
<tr>
<td>1994</td>
<td>Introduction of 20 mph zones</td>
</tr>
<tr>
<td>1995</td>
<td>All new goods vehicles over 7.5 ton fitted with 60 mph limiters</td>
</tr>
<tr>
<td>1996</td>
<td>Introduction of the driving theory test</td>
</tr>
<tr>
<td>1997</td>
<td>Fitting of seat belts to buses and coaches carrying children</td>
</tr>
<tr>
<td>2002</td>
<td>Introduction of hazard perception test into driving theory test</td>
</tr>
<tr>
<td>2003</td>
<td>Ban on the use of handheld phones in cars</td>
</tr>
<tr>
<td>2004</td>
<td>Power to test for drugs at the roadside</td>
</tr>
<tr>
<td>2006</td>
<td>Experimental scheme for alcohol interlocks for high risk excess alcohol offenders</td>
</tr>
<tr>
<td>2006</td>
<td>High-risk excess alcohol offenders to re-take driving test</td>
</tr>
</tbody>
</table>
Box 6: Reviewing road safety law in Great Britain

Following the Road Traffic Law Review (commonly known as the North Report, Department of Transport and Home Office, 1988) which comprised representatives of the lead agency (DfT), the Home Office and independent experts, a number of legislative changes were made, reflecting concerns about the way in which motoring offenses were dealt with by the criminal justice system. One important recommendation and subsequent legislative provision for road safety strategy was the introduction of the use of camera technology in traffic law enforcement.

In 2004 the government published the first three year review of the strategy Tomorrow’s Roads—Safer for Everyone, The Road Safety Act 2006 gave effect to several elements of the government’s strategy towards achieving the casualty reduction targets.

and published within the format of the bill. Consultation with stakeholders is conducted at an early stage.

The Highway Code is also updated from time to time, as are vehicle and driving standards adapting to technical progress.

Legislative pilots have also been used to trial controversial legislation and also to save parliamentary time whereby an experimental period of legislation can pass into permanent law at the decision of the Minister of Transport. Legislation for the Drink Drive Rehabilitation Scheme for alcohol offenders was introduced in this way.

3. Consolidating legislation

Road safety legislation in Great Britain has developed over a long period of time. Major enactments were the Road Traffic Act 1988, the Road Traffic Offenders Act 1988, the Road Traffic Act 1991 and the Road Safety Action 2006. Legislation has also been developed within other policy frameworks dealing with wider transport and police matters.

For example, the main purpose of the Road Traffic Act 1988 was to consolidate and replace earlier road traffic legislation in the overall interest of improving road safety. This introduced regulation from a wide range of road traffic issues, including driving standards, the construction and use of vehicles and driver licensing and instruction. A considerable number of statutory instruments have been made under the Act since it came into force. A consolidated version of the Act was available online and included details of all the secondary legislation made under each provision of the Act.

4. Finding legislative slots in government and parliamentary programs

Opportunities have arisen to introduce road safety measures in policing, education and health frameworks when parliamentary time is not made available for road traffic or transport measures. For example, the 2004 Road Safety Bill was not enacted due to the calling of a general election, but key measures were enacted through amendments to a Justice Bill which was enacted. In addition the introduction of private members legislation and all-party parliamentary amendments to government bills have provided useful routes for the introduction of legislative measures such as compulsory front seat belt wearing, rear seat belt wearing for children and legislation providing for road humps.

DfT Role: Legislation

• The DfT has established an in-house capacity to set and update vehicle, roads and user rules and standards (some of which are agreed at EU level, with inspection and compliance carried out by departmental agencies and the police) and to provide related policy advice.
• The DfT establishes small in-house rules teams involving policy and legal experts in developing and consolidating major primary legislation.
• The DfT carries out impact assessments and consults widely on proposals for legislative change.
• The DfT uses a variety of means to find parliamentary slots, where necessary, for road safety legislation.

Funding and resource allocation

1. Ensuring sustainable funding sources

Road safety funding in Great Britain is allocated annually from general tax revenues under an annual performance agreement to the DfT. The Department for Transport allocates resource to the Highways Agency and local authorities to carry out road safety work through Local Transport Plans which they are legally required to produce. Road safety engineering on local roads is financed by central government Capital Funds that are bid for by local authorities. In the 1980s safety scheme funding was ring-fenced
such that it was used only for safety schemes which proved to be a highly successful method of encouraging activity. Annual funding rose rapidly and by 1997, comprised 6 times the amounts recorded in 1982 (Koornstra et al, 2002).

Funding to police is allocated through the Home Office, to schools’ policies through the Department for Education, to the health sector via the Department of Health and to the Health and Safety Executive via the Department for Work and Pensions. Hospitals can claim back road injury treatment costs from insurance companies. Apart from DfT funding, it is not possible to isolate levels of other government departmental funding allocated to safety related work.

Other sources of funding include a cost-recovery system for safety cameras, small grants and private sector funding for promotional activity, projects and non-governmental organization activity (see Boxes 7–9). Large demonstration project programs have provided an additional mechanism for funding road safety and to provide a showcase for innovative approaches (see Research and development and knowledge transfer section).

2. Establishing procedures to guide allocation of resources across safety programs

Great Britain has a long tradition in assessing the costs and benefits of road projects and road safety interventions in the funding of national and local road safety. As shown in Box 10 for the year 2003, Great Britain updates its estimates annually of the value of preventing road traffic death and injury and property damage for national cost benefit analysis activity and publishes the results. As in New Zealand, good practice willingness to pay methods for the valuation of what is termed a statistical life are used. This process allows a strong business case to be made to secure funding for road safety projects and programs and allows road safety to be weighted against other costed elements (e.g., reduction in travel time).

Box 7: A cost-recovery partnership for safety cameras in Great Britain

In 1999, a national board was set up to oversee the introduction and operation of a program which allowed the recovery of costs of operating speed and red-light cameras (safety cameras) from fines resulting from enforcement. This included representatives from the Association of Chief Police Officers (ACPO), the Home Office, the Department for Transport, the then Lord Chancellor’s Department (now the Department for Constitutional Affairs), the Scottish Executive, the National Assembly for Wales, the Crown Prosecution Service (CPS), Her Majesty’s Treasury (HMT), the Highways Agency (HA), the County Surveyors Society (CSS) and the Local Government Technical Advisors Group (TAG). In 2000, the system was piloted in eight areas and results from the first year were so encouraging that the government introduced legislation to extend the system nationally. In order to operate the safety camera cost recovery program, each area was required to form a local partnership and submit an operational case to the national program board. Local partnerships included local authorities, Magistrates’ Courts, the Highways Agency and police. Some actively involved their local NHS Trusts. A total of 24 areas operated within the program over the first 3 years (2000 to 2003) and the independent evaluation showed:

- Reduced vehicle speeds and a decrease in deaths and injuries. Overall, the proportion of vehicles speeding excessively (i.e., 15 mph more than the speed limit) fell by 80% at fixed camera sites, and 28% at mobile camera sites. After allowing for the long-term trend there was a 33% reduction in personal injury collisions at sites where cameras were introduced. 40% fewer people were killed or seriously injured.

- A positive benefit-cost ratio of around 4:1. In the third year, the program had released around £54 million per annum (in England, Wales and Scotland) for local partnerships to invest in safety camera enforcement and supporting education. Prior to cost recovery, fines accrued wholly to the HMT Consolidated Fund. In the third year, societal benefits, in terms of the value of casualties saved, were estimated to be around £221 million per annum.

- Public support for the use of safety cameras for targeted enforcement. This was evidenced by public attitude surveys, both locally and at a national level.

All 24 partnerships have had their accounts independently audited to ensure that funds were being used in accordance with the strict government rules under which the safety camera program operated. The management arrangements for the program have encouraged closer working arrangements between the police, highway authorities and other local stakeholders to improve road safety. The program has also enabled a more consistent, targeted and evidence-based approach to be established for safety camera enforcement.
DfT Role: Funding and Resource Allocation

- The DfT ensures sustainable annual funding for road safety from general tax revenues which it distributes to its agencies through annual agreements and local transport plans. Other sources of funding include a cost-recovery system for safety cameras, small grants and private sector funding for promotion, projects and non-governmental organization activity.
- The DfT has used ring-fenced funding to encourage local road safety activity.
- The DfT carries out annual in-house review of the value of preventing road traffic deaths and serious injuries to allow a strong business case to be made for expenditure on road safety.
- DfT provides in-house lead agency capacity to evaluate safety costs and benefits, program funding and related business cases.

Promotion

1. Promoting the far-reaching road safety vision or goal

Great Britain does not work with any specific road safety vision for the long-term safety of its road traffic system.

2. Championing and promotion at a high level

Champions of road safety strategies and specific interventions have included high profile government ministers and celebrities. The current national road safety strategy was launched by the Prime Minister. The promotion of anti-drink driving by a high-profile Transport Minister contributed to a hardening of public attitudes to excess alcohol and calls for further measures.

3. Multi-sectoral promotion of effective intervention and shared responsibility

Road safety promotion at national and local levels has been a key priority for many years mainly focused on specific themes of the road safety strategy.

In recent years the Department for Transport has run its national THINK! Campaign, A Banner for Road Safety in the UK. This is part of an overall campaign to improve awareness of road safety, to increase acceptance of measures and

Box 8: Road safety small grants in Great Britain

Section 40 of the Road Traffic Act 1988, gives the Department for Transport the power to have a Challenge Fund to assist with the cost of projects promoting road safety proposed by organizations other than local authorities. Grants are not payable to individuals. Grants made from the fund may finance the reasonable costs of staff and overheads, which are directly and transparently associated with the delivery of that project. These costs are additional to regular running costs. The government allocates around £200,000 per annum to the Challenge Fund: individual grants are expected to be for sums up to £20,000. Grant funding is for not for profit projects which support Great Britain’s road safety strategy and casualty reduction targets for 2010. The Road Safety Act 2006 brought local authorities into the framework.

Source: www.dft.gov.uk

Box 9: Examples of policing/private sector funding partnerships in Great Britain

**Target 2000 Strategy—Leicestershire**

After Leicestershire Constabulary developed a Target 2000 casualty reduction strategy, Barclays Bank provided a bank manager for 13 months to coordinate the strategy. With the different management skills and a new perspective on the work, the manager’s responsibilities were to build partnerships with outside agencies as well as collate accident data, develop action plans, establish working parties and produce management information.

**Royal Sun Alliance and Police**

Royal and Sun Alliance has worked with the Association of Chief Police Officers in publicizing the National Roads Policy Strategy. The partnership began in 1997 with a national campaign to raise awareness of correctly positioning vehicle head restraints, given that research by the Central Motorway Police Group had shown that 95% of car occupants had incorrectly positioned restraints.

**Norfolk Police**

When speeding was identified as an important problem in a small village, the Norfolk Police joined forces with the large company to reduce the motor vehicle speed of its employees. The company provided a Pro-Laser speed device to use at high risk locations and the police visited the company and talked about safer driving.
to unite various road safety messages. The DfT sees THINK! as building a road safety ethos and a rallying point for all those involved in taking safety forward (see Box 11).

The Department for Transport website states that promotional campaigns alone are not a panacea, nor is their effect immediate, but they can, over time, change social attitudes to risk. A long-term commitment to government-led promotion has helped change attitudes necessary to implement the effective interventions needed to meet road safety and more general transport targets.

4. Leading by example with in-house road safety policies
No notable organizational examples were found.

5. Developing and supporting safety rating programs and the publication of their results
Noting that vehicle safety improvements offered the largest single means of reducing casualties in the national strategy, the DfT has played a major role in the establishment and continued development of the European New Car Assessment Programme. The program is a major promotional tool as well as evaluation tool for vehicle safety. The DfT has also played a key role in the establishment of the European Road Assessment Programme (see Monitoring and Evaluation section).

6. Carrying out national advertising
The annual budget for DfT national advertising around the THINK! Campaign is around £14 million and this activity is contracted out. A range of media channels—TV, radio, press, posters, ambient, etc.—are utilized to provide a national platform to stimulate complementary regional and local authority activity and to encourage private sector companies to cascade messages to their employees and customers. A range of free publicity material is made available to local authorities and others to promote consistency of messages at national and local level. Sports sponsorship with the Rugby Football League and the English Football League is conducted to communicate messages across to a wider audience using a celebrity-based approach.

A calendar of publicity events is published and close coordination is carried out locally amongst several stakehold-
The effectiveness of the road safety campaign is monitored continuously by market research surveys.

7. Encouraging promotion at the local level
The DfT has supported publicity and information at the local level over many years and most recently within the context of the THINK! campaign. The development and support of Local Safety Partnerships by DfT and its partners has been a major contributor to local casualty reduction effort in support of the national strategy.

DfT Role: Promotion
- The DfT promotes the shared responsibility for delivery of the road safety strategy and specific strategic themes at national and local levels under the umbrella of the THINK! campaign.
- The Prime Minister and DfT and other key partner ministers play a key role in launching and promoting road safety strategies.
- The DfT contracts out targeted road safety advertising and monitoring in support of the major themes of the national road safety strategy and a calendar of events is maintained.
- The DfT played a major role in establishing safety rating programs which promote various aspects of the strategy.
- The DfT supports community partnerships which promote aspects of the national strategy at local level.

Monitoring and evaluation

1. Establishing data systems to set and monitor final and intermediate outcome and output targets
Great Britain has established a wide range of final and intermediate outcome data and exposure data collection arrangements to inform its final outcome target-setting process and to establish and evaluate its road safety programs.

Exposure data. Vehicle and transport registries sit within an agency within the Department for Transport (see Box 12 on DVLA).

The DfT also carries out the National Travel Survey periodically to collect exposure data on road user travel and trips (see Box 13).

Final outcome data
National police reporting system. The STATS19 system is a national police crash reporting system and results are monitored and reported annually in Road Accidents Great Britain: the Casualty Report. Police data are forwarded routinely to the DfT and to local authorities. The DfT, local
authorities and the police work closely to achieve common reporting standards for road crashes and injuries.

**Health sector data systems.** The health sector has a system on road crash injury reporting. Linkage studies between health and police data are made from time to time by the lead agency to ascertain levels of under-reporting in the national police reported database.

**Justice sector data.** A coroners’ study to ascertain levels of excess alcohol in fatally injured drivers and riders is carried out annually. Coroners’ data are also used to supplement injury information and crash injury mechanisms in-depth crash investigations.

**Intermediate outcome data**

Periodic seat belt use, random breath testing and speed surveys in normal traffic are carried out for research purposes. As shown in Box 15, the DfT also established measurement of the safety quality of vehicles.

**In-depth monitoring**

The lead agency is one of the partners in a co-operative crash injury study (CCIS) which provides in-depth crash investigation of serious and fatal car crashes. Analysis of CCIS database allows monitoring of vehicle safety standards and provides objective information on vehicle safety priorities and the need for adaptation to technical progress.

2. **Transparent review of the national road safety strategy in terms of results, interventions and institutional management functions**

The road safety strategy is assessed by the Department every 3 years using external research organizations and reports are published on the DfT website. The first review was published in April 2004 and the second review began in 2006. Cost-benefit studies are an integral part of national evaluation. Progress is also assessed by the Parliamentary Select Committee on Transport, the Road Safety Advisory Panel and the Road Safety Delivery Board.

**Local authority road safety activity.** The road safety activity of local authorities is presented in the Local Transport Plan. As part of the Comprehensive Performance Assessment scheme, Best Value Performance Indicators have been set by Central Government in order to ensure that local authorities can demonstrate they are improving services. One indicator requires the annual calculation of the number of road accident casualties per 100,000 of population broken down by casualty and road user type. In addition, local authorities can set their own local performance indicators and many of these were set relating to speed reductions, child casualties, accident involvement of young and old drivers and accidents in relation to distance travelled. Each year a Best Value Performance Plan has to be submitted reporting on these indicators.
Police activity. There are different approaches to road policing by the 52 forces both in terms of policy and the way in which officers are deployed. Some forces operate centralized traffic units, others have Basic Command Units responsible for all policing activity, including roads policing, in a defined geographical area. The Home Secretary has ultimate responsibility for policing and police performance which is regulated and assessed through a system of audit and inspection. Currently the Home Office measures police performance against road casualties per 100,000 population. This is the only performance indicator that relates to road policing and has to be included in local policing plans to allow trend analysis and comparisons to be drawn between forces. The police are also required to develop simple and practical indicators of success which can be used locally and which can be reported to the local police authorities. Indicators may include the percentage of breath tests following collisions which show positive, data from speed monitoring devices such as those at safety camera sites and data on observed levels of compliance of seat belt use. Local opinion polling is carried out to monitor how safe and secure people feel on the roads.

3. Making any necessary adjustments to interventions and institutional outputs needed to achieve the desired results
Results of monitoring are fed into strategy review (see Results Focus).

DfT Role: Monitoring and Evaluation
- The DfT is responsible for monitoring the road safety strategy assisted by external research organizations, its Road Safety Delivery Board and the Road Safety Advisory Panel. Reviews of the strategy are carried out every 3 years and are published.
- The DfT has established databases to identify and monitor final outcomes against targets and carries out surveys to establish travel patterns, vehicle use and intermediate outcomes.
- The DfT monitors local authority road safety performance indicators.
- The DfT agencies manage computerized vehicle and driver registries; DfT statistical units and committees oversee the national crash data system and periodic studies establish under-reporting.
- The DfT played a major role in establishing the European New Car Assessment Programme to assist monitoring of vehicle fleet safety. Its Highway Agency is a member of the European Road Assessment Programme which monitors aspects of road network quality.
- The DfT supports in-depth study of crashes to monitor vehicle safety performance.

Research and knowledge transfer

1. Developing capacity for multi-disciplinary research and knowledge transfer
Road safety research and development has underpinned road safety policymaking in Great Britain for several decades. A broad-based annual research program focuses on identification of problems, analysis of causative factors, development and trial of interventions and monitoring and evaluation of implemented policy. The last two strategies and sets of targets were developed following a process of analysis, consultation and statistical forecasting. Policy proposals took account of research findings and recommendations for targets were based on detailed analysis of past casualty trends, impact of major policies and assumptions about the effects of future policies.

Until 1990 Department of Transport research was carried out or managed by the Transport Research Laboratory, which has now been privatised (TRL Ltd). Competitive tenders are now sought from a wide range of contractors. Over the last 15 years, a team of experienced researchers has carried out in-house program formulation and management. A substantial amount of multi-disciplinary road safety research is carried out by university departments, research institutes, non-governmental organizations and consulting firms.

2. Creating a national road safety research strategy and annual program
An external advisory panel on road safety research brings together independent experts to assist the Department with identifying program priorities (see Box 16). The DfT external advisory panels on road user safety research and transport, technology and research panels comprise members of different government departments, representatives of local and regional government, professional organizations, industry and independent road safety experts. In addition, the Advisory Group on Driver Training and Testing discusses research in that area and also covers policy matters. Details of the program and results are published annually.
3. Securing sources of sustainable funding for road safety research

The annual DfT budget for road and vehicle safety research in the 2001/2 year was £9.4 million.

DfT also seeks partners external to government to help fund research. A major vehicle safety research program—the Cooperative Crash Injury Study (CCIS)—has run since 1983 and is an ongoing program of research to conduct in-depth investigations into real world car crashes. The aim of the study is to provide government and industry with crash injury data that will assist in the development of regulations and improvements in secondary safety design features to help mitigate injuries to car occupants and other road users. Some 1,600 vehicles are examined each year by teams from the Vehicle Safety Research Centre at Loughborough, Birmingham Automotive Safety Centre and the Vehicle Inspectorate Executive Agency. The data are collected to similar protocols and are combined for analyses. CCIS is managed by TRL Limited, on behalf of the Department for Transport (Vehicle Standards and Engineering Division) who fund the project with Autoliv, Ford Motor Company and Toyota Motor Europe.

This crash injury research, major research and development activity towards legislative standards and work towards the initial setting up of the European New Car Assessment Programme has led to championing of improvements to car occupant protection standards at EU level bringing benefits internationally.

4. Training and professional exchange

The DfT plays an active international role in knowledge transfer and supports attendance of its personnel at international road safety meetings, seminars, workshops and field visits. Through the Department for International Development, Great Britain has also engaged in knowledge transfer in low and middle-income countries.

5. Establishing good practice guidelines

In order to encourage good practice in road safety locally, the lead agency has encouraged and supported good practice guideline activity over the last few decades conducted either in-house of by professional organizations such as the Institution for Highways and Transportation.

The DfT provides technical guidance to local highway authorities on a wide range of issues. Under the auspices of the DfT, the TRL developed, with the assistance of many local authorities, a Road Safety Good Practice Guide in June 2001 as a tool for the development and coordination of local road safety plans. The DfT also supports a range of conferences and seminars to discuss and disseminate good practice.

6. Setting up demonstration projects

As in other good practice countries, the lead agency has developed and supported demonstration projects to pilot promising approaches and identify any potential implementation problems before publishing guidelines or rolling out projects on a national basis (see Box 17).

DfT Role: Research and Development and Knowledge Transfer

- The DfT has established in-house capacity to manage its research program and coordinated and supported external research in support of the safety strategy.
- The DfT secures funding for road safety research and knowledge transfer in its own budget and engages other funding partners in major research.
• The DfT has an annual road safety research program and external advisory bodies to assist in the identification of priorities.
• The DfT supports attendance of its personnel at international road safety meetings, seminars, workshops and field visits.
• The DfT develops and disseminates good practice guidelines on road safety.
• The DfT funds large demonstration projects to encourage local casualty reduction activities.

Summary: DfT delivery of institutional management functions

Results focus. The Department for Transport’s (DfT) Roads and Vehicles and Standards Directorate is the lead agency for road safety in Great Britain. The DfT is responsible for managing the country results focus and ensuring that system-wide interventions are agreed and implemented by the responsible authorities. It has established a results management framework for appraising performance and identifying what can be achieved in the medium term. The DfT leads the development and delivery of national safety strategies and the current strategy includes targets for final outcomes to 2010. DfT accountability for targets is underpinned by annual performance agreements. It has established Memoranda of Understanding and local agreements with its partners to implement the safety strategy.

Coordination. There is no national coordinating decision-making body outside the Cabinet. The DfT establishes bilateral and trilateral agreements with other government stakeholders (e.g., police, Home Office, Department of Health and the Health and Safety Commission) to implement interventions. It encourages the local adoption of national targets, requires annual progress reports and encourages local multi-sectoral partnerships. It sets up and consults with an inter-governmental Road Safety Delivery Board and a Road Safety Advisory Panel of stakeholders (including the NGO and business sectors) which both monitor progress towards implementing the strategy and reaching targets. The DfT engages with parliamentary committees and groups. European Union safety coordination is pursued within the European’s Commission’s High Level Group on Road Safety and other committees.

Legislation. The DfT has established in-house capacity to set, ensure compliance with, and monitor safety standards for vehicles, roads and people, some of which are agreed at EU level, to provide related policy advice. Inspection and compliance are carried out by DfT agencies and the police. The DfT establishes small in-house rules teams of policy and legal experts to develop and consolidate major legislation and carries out impact assessments and consults widely on draft proposals. It uses a variety of means to find parliamentary slots, when necessary, for safety legislation.

Funding and resource allocation. The DfT ensures sustainable annual safety funding from general tax revenues which it distributes to its agencies through annual agreements and local transport plans. Other funding sources include a cost-recovery system for safety cameras, small grants and private sector funding for promotion, projects and non-governmental organization activities. The DfT has used ring-fenced funding to encourage local safety activities and carries out annual in-house reviews of the value of preventing road deaths and serious injuries to allow a

Box 17: The Safer Cities demonstration project of urban safety management, Gloucester, Great Britain

In Great Britain, the DfT invited local authorities to compete for funding of a £5 million urban safety management demonstration project. Against the background of national casualty reduction targets, a Safer City project ran from 1996 to 2001 in the city of Gloucester. An objective to reduce city-wide casualties by one third by 2002 compared with the average 1991 to 1995 was set. Various urban safety management engineering methods were used, as well as enhanced enforcement and supporting publicity.

The project brought together all those working locally in road safety including engineers, emergency services, magistrates, police, education and training staff, public transport operators, planners and research organizations. Political leadership was provided by a steering group of members from the City Council and Gloucestershire County Council which achieved the required close co-operation. While the target was not met for minor injuries overall, the activity was associated with substantial savings in death and serious injuries. Monitoring to date has shown that compared with the 1991–1995 average serious injuries and deaths fell by 38%. The experiences of the Gloucester experiment were used by the Department for Transport as the basis for new guidelines on Road Safety Strategies for Urban Communities.
strong business case to be made for road safety expenditure. It provides in-house lead agency capacity to evaluate safety costs and benefits, estimate program funding needs and prepare related business cases.

Promotion. Road safety in Great Britain is not driven by a long-term vision and the DfT promotes the shared responsibility for delivery of the road safety strategy as well as specific strategic themes nationally and locally under the umbrella of the THINK! campaign. The Prime Minister and DfT Ministers played a key role in launching and promoting the strategy. The DfT contracts out targeted road safety advertising and monitoring in support of the major themes of the national road safety strategy. It played a major role in establishing safety rating programs which promote various aspects of the strategy and it supports community partnerships at local level to achieve results.

Monitoring and evaluation. The DfT monitors the safety strategy assisted by external research organizations, the Road Safety Advisory Panel and the Road Safety Delivery Board. Reviews are carried out and published every three years. The DfT has set up databases to identify and monitor final outcomes against targets and carries out surveys of travel patterns, vehicle use and intermediate outcomes. It has statistical units and committees which manage the national crash data system and carries out linkage studies of health and police data to establish under-reporting. DfT agencies manage computerized vehicle and driver registries. The DfT played a major role in establishing the European New Car Assessment Programme to assist monitoring of vehicle fleet safety. Its Highway Agency is a member of the European Road Assessment Programme which monitors aspects of road network quality. The DfT supports in-depth study of crashes to monitor vehicle safety performance. It also monitors local authority safety performance indicators.

Research and development and knowledge transfer. The DfT has established in-house capacity to manage its research program and coordinates and funds external research in support of the safety strategy. It secures funding for research and knowledge transfer in its own budget and has engaged other funding partners in major research. The DfT has an annual safety research program and external advisory bodies assist in identifying priorities. It supports staff attendance at international road safety meetings, workshops and field visits, and it develops and disseminates good practice guidelines and funds large demonstration projects to encourage local casualty reduction activities.

Lead agency structures
The aggregate and organizational structures of the lead agency for road safety in Great Britain are set out in Figures 3 and 4.

The Road and Vehicle Safety and Standards Directorate had four main divisions in 2005 with over 80 staff actively engaged in road safety work: Road Safety Strategy, Driver Safety, Transport Technology and Standards (TTS) and Traffic Management. The country focus on results is managed by the Road Safety Strategy Unit (see Figure 4).

These are five other agencies within the DfT with road safety responsibilities (see Figure 3).

Highways Agency (HA). The Highways Agency is responsible for maintaining, improving and managing use of the strategic road network on behalf of the Secretary of State for Transport. This national network comprises over 8,255 kilometers (5,130 miles) of motorways and trunk roads and carries a third of all road traffic in England and two-thirds of all freight traffic, with over 170 billion vehicle kilometers of journeys undertaken each year. The Agency has a specific safety target within its Public Service Agreement to improve safety by reducing road casualties. Its aims are safe roads, reliable journeys and informed travellers. The Agency has 11 main offices in nine regional locations across England. It has an annual budget of around £1.8 billion. The Agency is a member of the European Road Assessment Programme.

Vehicle Certification Agency (VCA). The VCA tests and certifies new models of vehicles and components against European and international safety and environmental performance standards. It also provides a service to manufacturers who wish to be certified as meeting international quality, environmental and safety management system standards. In addition the VCA publishes the definitive data on emissions, fuel consumption and noise. The VCA's employees are based at sites in Bristol, Nuneaton, Detroit (USA), Kelama Jaya (Malaysia) and Nagoya (Japan).

Driver and Vehicle Licensing Agency (DVLA). The principal role of the DVLA is to maintain an up-to-date record of all those who are entitled to drive various vehicles, together with a register of all vehicles entitled to use public
roads. It also collects around £4.2 billion in vehicle excise duty. The DVLA’s main site is in Swansea. It also has a network of 40 local offices throughout Great Britain.

**Driving Standards Agency (DSA).** The DSA is responsible for promoting road safety through improving driving standards. In carrying out its role to promote road safety, DSA works to improve driving standards and test drivers, motorcyclists and driving instructors through theory and practical driving tests. It maintains the register of approved driving instructors and large goods vehicle instructors and supervises training for learner motorcyclists. The DSA has sites in Nottingham, Edinburgh, Newcastle, Birmingham, Bedford, London and Cardiff and in over 400 driving test centres across Great Britain.

**Vehicle and Operator Services Agency (VOSA).** The VOSA was formed in April 2003 following the merger of the Vehicle Inspectorate and the Traffic Area Network. The Agency supports drivers, vehicle owners, operators and the providers of the MOT testing scheme. It helps them to comply with vehicle safety and environmental standards through effective testing and training along with advisory and enforcement services. In addition the Agency licenses...
operators of HGVs and public service vehicles and regis-
ters local bus services. The VOSA’s employees based in
Bristol, Birmingham, Cambridge, Eastbourne, Edinburgh,
Leeds, Swansea and 100 operational sites nationwide.

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1.3 Road safety organization in The Netherlands

National context

<table>
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<th>Key Facts: 2006</th>
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<td><strong>Area:</strong></td>
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<td><strong>Population:</strong></td>
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<td><strong>Kilometers of public road:</strong></td>
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<td><strong>Number of licensed motor vehicles:</strong></td>
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</tr>
<tr>
<td><strong>Road deaths per 100,000 of population:</strong></td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Total police reported road deaths:</strong></td>
<td>730</td>
</tr>
</tbody>
</table>

Source: IRTAD, 2008

The Ministry of Transport, Public Works and Water Management is the lead agency for road safety in The Netherlands. Road safety is a shared responsibility at governmental level between the European Union (which has had key responsibilities in areas such as vehicle safety and driver licensing), national, regional and local government.

Road safety is highly decentralized in The Netherlands. The Dutch Polder model, on which much of public policy is based, is centred around the concept of decentralizing what can be appropriately decentralized and centralizing what must be central. Central government is responsible for national roads, establishing and monitoring targets, coordination, legislation, funding, promotion, monitoring and evaluation and research and development and knowledge transfer. It supports regional and local governments with road safety knowledge and funding. Regional and local governments draw up provincial, regional and municipal traffic and transport plans which include measures for road layout and influencing behavior through information, education, and police enforcement.

Road safety is pursued within a total transport context of sustainable mobility which is set out in the Mobility Memorandum (the national traffic and transport plan which outlines the traffic and transport policy until 2020) which was approved by the House of Representatives and the Senate in February 2006. Road safety policy is promoted in accordance with the Sustainable Safety concept which has much in common with the Swedish Vision Zero, both of which are acknowledged internationally as leading Safe System approaches worthy of widespread adoption.

The Netherlands is the world leader in road safety performance. There is a long tradition of systematic road safety management and The Netherlands has an international reputation for excellence, particularly for innovation in the field of road safety engineering. Target-setting began in 1983 within the context of the first national road safety plan and has ensured that road safety remains high on the political agenda. Since 1970, there have been substantial reductions in road traffic deaths, as shown in Figure 1. The annual socio-economic direct costs are estimated to

\[
\begin{align*}
\text{Road deaths} & \quad 3,500 \quad 3,000 \quad 2,500 \quad 2,000 \quad 1,500 \quad 1,000 \quad 500 \\
\text{Registered road deaths} & \quad \text{Real number of road deaths} \quad \text{Target}
\end{align*}
\]

Figure 1: Road traffic deaths in The Netherlands since 1950
be €5.4 billion (medical and material costs, production losses and handling costs), while indirect costs are officially estimated at around €5.6 billion.

This case study focuses on the country delivery of institutional management functions in The Netherlands and the role of the lead agency in working towards long-term goals and interim quantitative targets.

Country delivery of institutional management functions and lead agency role

Results focus
The Netherlands has a rich tradition in country results focus. A long-term road safety vision for the future safety of the road transport system is well established. Leadership responsibilities and accountabilities for action are defined and an organizational framework exists for analysing data and safety performance and setting final outcome targets at national and regional levels.

Lead agency
The Ministry of Transport, Public Works and Water Management (MoT) is the lead agency for road safety in The Netherlands. Road safety is one of five areas of responsibility of the Ministry which employs 13,000 people, has 4 General-Directorates, 10 regional Departments, several specialist services and other support units. The Roads and Traffic Safety Department (RTSD) was set up in 1970 and sits within the Directorate-General for Passenger Transport. Within the Directorate General for Transport and Logistics, there is also a small section which deals with road safety in relation to freight transport (including small transport vans and including issues such as safety culture in transport companies). The RTSD takes the leadership role.

1. Appraising current road safety performance through high-level strategic review
The MoT reviews road safety performance in-house and also uses external expertise for this task. In-house capacity exists within the Strategy, Programs and Coordination Division and in the AVV, Transport Research Centre, the Ministry’s research arm, for appraisal of road safety performance and strategy review. The MoT commissions independent reviews from the Dutch Institute for Road Safety Research (SWOV) and other research bodies to develop the national strategy and monitor progress. Road safety results are evaluated by the MoT every second year.

2. Adopting a far-reaching road safety vision or goal for the longer term
In the early 1990s the MoT invited the SWOV and other Dutch road safety research institutions to determine a new approach to road safety, following indications that further measures were needed beyond the package of interventions implemented to date. Led by SWOV, researchers presented Towards a sustainable safe traffic system in 1992 which advocated a preventative, structural and systematic approach to road safety known as Sustainable Safety.

Like Vision Zero, the Sustainable Safety concept focuses on addressing human limitations—man is the measure. A sustainably safe traffic system comprises road infrastructure which is adapted to the limitations of human capacity, through proper design; vehicles that are equipped with proper tools and constructed to offer as much crash protection as possible; and users who are adequately informed, educated and, where necessary, controlled. One of the principal goals of the policy is to achieve a uniform and self-explaining national system of speed limits related to road function. In built-up areas, the norm has been established at 30km/h for residential access roads, with a 50km/h limit of urban main roads. The norm on local roads outside built-up areas is 60km/h, with designated local distributors at 80km/h and long-distance main roads and motorways at 100 or 120km/h. Three guiding principles were prescribed to achieve sustainably safe road traffic (see Box 1). An update and broadening of the application of these principles has recently been published in Advancing Sustainable Safety. This introduced two further principles: ‘forgiving roadsides’ to provide a more protective road environment, and ‘state awareness’ to raise road users’ understanding of their differing capabilities to handle the driving task.

Box 1: Sustainable Safety is based on three guiding safety principles:

- **Functionality**: to prevent unintended use of the infrastructure
- **Homogeneity**: to prevent major variations in speed, direction, and mass of vehicle at moderate and high driving speeds
- **Predictability**: to prevent uncertainty among road users
IMPLEMENTING THE RECOMMENDATIONS OF THE WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION

3. Analyzing what could be achieved in the medium term

Work on setting targets (or revising targets) is conducted by a small group of Ministry of Transport officials with preparatory work to support this conducted by the AVV with input from road safety research organizations such as SWOV.

Target-setting in The Netherlands uses a technical bottom-up approach which requires in-depth analysis and forecasting of trends and the modelling of different scenarios. A consultative meeting is carried out with representatives of national, regional and local authorities and, following approval, is presented to parliament.

4. Setting targets by mutual consent across the road safety partnership

A National Road Safety Plan was introduced in 1984. The first target was set in 1985 for 25% fewer deaths and 25% fewer hospitalised victims for the period 1985–2000 and the first long-term plan was issued in 1987. The plan identified various spearheads for action: drinking and driving, the use of safety equipment such as seat belts and crash helmets, speeding, hazardous situations, older and younger users and heavy goods traffic. In 1989, a new version of the plan was introduced which highlighted the importance of action by local and provincial authorities and other stakeholders. In 1990 the target was re-defined as a 50% reduction in deaths and a 40% reduction in injury crashes for the period 1986–2010. The target for 2000 was almost achieved for deaths but not for hospitalizations.

The Mobility Memorandum (2006–2020) stipulated targets against a 1998 baseline that no more than 900 deaths and 17,000 in-patients should occur in 2010 and no more than 580 deaths and 12,250 hospitalizations should occur by 2020. As a consequence of reductions in the number of road deaths in 2004 and 2005, the target for road deaths in 2010 was lowered from 900 to 750. Road safety is pursued in a total transport context and until recently no separate plan or strategy had been developed for road safety since the mid 1980s. In September 2008 a new Strategic Road Safety Plan was approved by parliament and the National Mobility Council with a new target of no more than 500 deaths by 2020 (see Box 2).

The provinces and regions are required to adopt these targets with their administrative and social partners in packages of measures. Regional and local governments draw up provincial regional and municipal traffic and transport plans.

There are no nationally agreed road safety strategy targets for institutional outputs. However, police organizations can and do specify their output targets.

5. Establishing mechanisms to ensure stakeholder accountability for results

The Ministry established contractual agreements with its partners in the Start-Up Program for Sustainable Safety (see Coordination section).

The Ministry monitors and publishes reports of progress against targets which have been produced by AVV and the

Box 2: Current final national and regional outcome targets in The Netherlands

- Reducing the number of traffic deaths to a maximum of 500 by 2020;
- Reducing the number of injuries requiring hospitalization to a maximum of 17,000 injuries requiring hospitalization in 2010 and a maximum of 12,250 injuries requiring hospitalization in 2020 (compared to 2002 this represents a decline of 7.5% and 34% respectively);
- National objectives must be mirrored equally in regional objectives for all provinces to reduce road deaths and hospital admissions at the same percentage rate;
- Retaining The Netherlands position among the top 4 within the European Union in 2010 and 2020;
- The Netherlands has also signed up to European-wide targets set by the European Union and the European Conference of Ministers of Transport (now International Transport Forum) to reduce deaths by 50% by 2010 in EU countries and by 2012 in ECMT (ITF) countries.
Central Bureau of Statistics. There are “normal” auditing procedures and the minister reports on progress and problems to parliament.

The Inspectorate for Transport, Public Works and Water Management (IVW) monitors and promotes the safety of goods transport on the roads as well as safety on water, in the air, and on the railways.

MoT Role: Results Focus

- The Ministry of Transport, Public Works and Water Management (MoT) is the lead agency for road safety in the Netherlands. The MoT’s Roads and Traffic Safety Department has the central responsibility nationally for the development and coordination of road safety targets at national level. The MoT manages the country results focus and ensures that system-wide interventions are agreed and implemented to achieve these by the responsible authorities across government and wider society.
- The MoT has established in-house capacity and supports external capacity for appraising performance and identifying what could be achieved in the medium term.
- The MoT pursues the long-term vision of Sustainable Safety (adopted in legislation) and has established road safety outcome targets in its Mobility Policy Document (2005) as well as regional road safety outcome targets.

The MoT has also signed up to European targets to reduce deaths by 50% in EU (by 2010) and ITF countries (2012).
- The MoT has used contractual agreements with its partners to achieve results.

Coordination

Coordination is carried out at national, regional, local and European levels, given the shared responsibility for road safety. The lead agency’s task has been to ensure horizontal and vertical coordination between sectors and at international levels, in order to achieve a coherent national road safety policy.

1. Horizontal coordination across central government

Outside Cabinet there is no national multi-sectoral body which takes decisions on road safety. The Netherlands has relied more upon contractual delivery partnerships with several stakeholders to cement delivery of aspects of the national road safety strategy. In-house capacity exists for this function within the Strategies, Programs and Coordination divisions of the Road Safety Department.

The OVV (Organization for road safety consultation) was set up in 1992 (see Figure 2) and was broadened subsequently (2005) to become the OPV (Organization for passenger transport) with consultation on road safety as one

**Figure 2: Multi-sectoral structures for road safety coordination in The Netherlands (1992–2004)**

<table>
<thead>
<tr>
<th>OVV—Organization for road safety consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Chairman and secretariat</td>
</tr>
</tbody>
</table>

**Governmental representatives**
- Netherlands Police Institute
- Public Prosecutor’s Office
- Inter-Provincial Co-operation Organization (IPO)
- Dutch Water Boards (UWV)
- Union of Dutch Municipalities (VNG)

**Private sector and social organizations**
- Royal Dutch Tourist Club (ANWB)
- Central Driving Test Organization (CBR)
- Driving Education Organization (BOVAG)
- Vehicle industry (RAI)
- Road haulage industry (TLN)
- Road safety Netherlands (VVN)
- Pedestrians Association (VGV)
- Dutch Cyclists Union
- Motorcyclists Association (KNMV)
- Dutch Traffic Safety Organization (3VO)
- Dutch Association of Insurers
- SWOV—Institute for Road Safety Research
component. The consultation body (past and present) brings together all key partners and stakeholders, including the private sector. Its statutory role is as a platform for mandatory national consultation on the intended policies of the Minister of Transport in relation to organizational matters and transport and traffic-safety related subjects that are primarily the responsibility of other ministries.

2. Vertical coordination from central to regional and local levels of government

Since 1994 the Ministry of Transport has devolved much responsibility for road safety and the implementation of Sustainable Safety to regional and local authorities. At regional level, the Decentralization Agreement of 1994 specified various coordination requirements:

- within the general framework of national policy, policies are drawn up where problems need to be solved;
- each region or metropolitan area should have a Provincial Safety Board (ROV) in which all parties involved in traffic safety coordinate their individual activities at regional and local level;
- each area should coordinate policies at the regional level and local authorities should coordinate locally;
- each region should provide the secretariats of the ROV and encourage activity by local authorities.

Until 2004–05, each of the 12 provinces and 7 metropolitan areas had a ROV (see Figure 3) in which all governmental parties involved in traffic safety coordinated their individual activities at provincial and municipal level. A legal requirement provided for these bodies to be subsidised by central government. Each province provided the secretariats of the ROV and encouraged activity by municipal authorities.

As of 1 January 2005 the state subsidy to the regions and the provinces for road safety was no longer earmarked but included in a combined partial subsidy for regional and local traffic and transport policies. At the same time the legal requirement for coordination and its subsidy was removed which has led to large reported differences in provision. In general, the maximum subsidy is 50% of the project costs. The lead agency provides ‘Measure Indicators’ to encourage evidence-based activity at regional and local level. The Dutch Institute for Road Safety Research (SWOV) provides independent promotional and technical support.

3. Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels

The MoT has established many partnerships in road safety across government, the business sector and civil society towards achieving targets.

The Start-up Program partnerships for sustainable safety.

In 1997 a 5 year agreement was signed between the Minister of Transport, the Association of Local Authorities, the Inter-Provincial Consultation and the Union of Water Boards for a Start-Up program on Sustainable Safety.

This Start-up Program on Sustainable Safety sets out the clear roles and responsibilities of all of the partners. In this contract, the partners agreed to carry out a specific program of measures. The focus was the re-classification of the road network into 6 types of roads in built up and
non-built up areas and taking into account the function of the road: whether flow, distributor or access.

In addition to establishing a clearer hierarchy in terms of speed management this also comprised changes in rules about priority, especially concerning priority to cyclists, rules about where mopeds are ridden, the marking of priorities at all road junctions, improved public information, strengthened enforcement, and integration with land-use planning policies. Previous experience with 30km/h zones in The Netherlands had shown a crash reduction potential of 23%. With the potential of two thirds of the Dutch urban road network being converted to 30km/h zones, the contract between central and local government delivered re-classification of the road network and conversion of 50% of these into 30km/h zones.

The second phase of Sustainable Safety aims to broaden the focus beyond infrastructural measures towards behavioral issues and vehicles as outlined in Advancing Sustainable Safety which was published by SWOV in 2006. Broad agreements between partners are currently incorporated within the National Transport Plan (NVVP).

Ministry of Transport, Ministry of the Interior and Ministry of Justice make arrangements about police deployment and the BVOM (bureau for traffic enforcement) provides additional funds for specific enforcement projects. The regional enforcement teams instituted to spearhead road safety have identified drink-driving as one of five major themes to be addressed. Since 2003, these teams have been active in all twenty-five police districts in The Netherlands.

Ministry of Transport and Ministry of Health agreed to coordinated arrangements on public information campaigns on impairment by alcohol and other drugs and on fitness to drive issues for driver licensing.

European and international coordination
The High Level Group on Road Safety established by the European Commission brings together the heads of road safety for all the member states of the European Union to provide a consultative and coordinating body for EU road safety policy. It meets 2–3 times annually. The Netherlands is a member of the European New Car Assessment Programme which helps to improve vehicle safety as well as providing key monitoring data on car industry performance. The Netherlands is a member of the European Conference of Ministers of Transport (now the International Transport Forum) and also participates in various EU and UN ECE decision-making bodies on vehicle standards and agreements (WP1 and WP 29). The Netherlands also supports the World Bank Global Road Safety Facility and is member of the Facility Executive Board. The Netherlands participates in the UN Road Safety Collaboration and has Memoranda of Understanding with Poland, the Czech Republic and the US on road safety.

Non-governmental sector engagement
There is an active non-governmental sector on road safety in The Netherlands which supports and mobilizes the public at large, challenges government about its responsibilities in support of road safety and sets out to exert positive influence on the behavior of the various road user groups through public relations, education and information.

The Dutch Institute for Road Safety Research (SWOV) plays a major role. In addition, a variety of organizations have merged to create the Dutch Traffic Safety Organization (VVN) that incorporates the former Pedestrian Association and Priority for Children and Road Safety in The Netherlands. The Dutch Traffic Safety Organization receives a subsidy from central government to carry out promotional campaigns. The Dutch Consumers Association has played a major role in the activity of EuroNCAP. The motoring and cyclist organizations ANWB and the cycling association Fietserbond are also very active. These organizations ensure that road user interests, including road safety, are well presented.

Business sector engagement
The Ministry encourages transport companies to create a safety culture and offers a range of tools to assist in this task. These include a digital safety scan with which transport companies can gain insight into their safety performance. Training can be provided for lorry drivers using a simulator, and a protocol is offered to assist companies in making agreements to earn discounts in their insurance premiums in exchange for better safety performance.

The business sector supports a range of activities. A wide variety of companies works in partnership with the Dutch Traffic Safety Organization (3VO). The transport sector (haulage) is interested in safety culture in their compa-
nies, the insurance sector deals with safety culture in commercial vehicle use policies, and the motor vehicle industry considers safety as a social responsibility. The private sector is consulted regularly when it comes to defining action plans. Alongside academic institutions, the private sector also participates in the large nationally subsidised transport research program (Transumo) and in independent institutes such as SWOV.

4. Parliamentary relations at central, regional and local levels
An informed all-party approach to road safety policies is encouraged in The Netherlands and good contact and coordination with parliament is maintained by the lead agency and road safety organizations. All-party support from the Parliamentary Standing Committee on Transport, Public Works and Water Management was key to the establishment of Sustainable Safety in The Netherlands and its eventual adoption in legislation.

MoT Role: Coordination
- Outside the Cabinet, there is no national multi-sectoral body which takes decisions on road safety.
- The MoT provides in-house capacity for coordination and consultation and has set up contractual delivery partnerships with several stakeholders to cement delivery of aspects of the national road safety strategy.
- The MoT established, managed and funded a system of multi-sectoral consultation at the national level to engage all key players with governmental responsibilities in road safety as well as other key players in achieving road safety results.
- The MoT engages with parliament, the non-governmental and business sectors in road safety activity.
- The MoT engages very actively in international coordination.

Legislation
The Netherlands has a robust legislative framework for road safety which has evolved over several decades. Following a period of increased motorization between the mid 1940s and the mid 1970s accompanied by sharp increases in road deaths (which peaked in 1972), many legislative measure were introduced over a decade which resulted in an average annual reduction in risk of about 9% (1973–1985). These measures included speed limits for different parts of the network, drinking and driving legislation, traffic calming in built-up areas and motor vehicle occupant protection measures (see Box 3).

1. Reviewing the scope of the legislative framework periodically
Periodic review of legislative needs takes place. Officials in the road safety department of the Transport Ministry develop policy proposals and, if these require a change of legislation, early contact is made with the Ministry’s legislative department and other government departments as appropriate. If proposals affect other government departments early contact is also made.

Box 3: Examples of road safety legislation in The Netherlands

<table>
<thead>
<tr>
<th>Year</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>Introduction of emergency telephones alongside motorways</td>
</tr>
<tr>
<td>1971</td>
<td>Mandatory fitment of seat belts on front seats of new cars; headrests on front seats of cars</td>
</tr>
<tr>
<td>1972</td>
<td>Mandatory helmet use for motorcycle riders Speed limit on motorways for cars and motorcycles of 100 km/h Speed limit on other rural roads for cars and motorcycle of 80 km/h Introduction of blood alcohol limit of 0.05% and random breath testing</td>
</tr>
<tr>
<td>1975</td>
<td>Mandatory helmet use for moped riders Mandatory front seat belt use, where fitted Restraint use requirements for children Introduction of “woonerf” (home-zones)</td>
</tr>
<tr>
<td>1976</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>Legislation to provide for 30 km/h zones</td>
</tr>
<tr>
<td>1984</td>
<td>Periodic vehicle inspection testing for cars more than 3 years old</td>
</tr>
<tr>
<td>1987</td>
<td>Introduction of evidential breath testing</td>
</tr>
<tr>
<td>1990</td>
<td>Fitment of rear seat belts</td>
</tr>
<tr>
<td>1992</td>
<td>Mandatory uses of seat belts in lorries and vans, if fitted</td>
</tr>
<tr>
<td>1996</td>
<td>Speed limiters for lorries (over 12 tons) and buses</td>
</tr>
<tr>
<td>2000</td>
<td>Mopeds have to use carriageway rather than cycle paths</td>
</tr>
<tr>
<td>2002</td>
<td>Priority on arterials and right of way for all traffic from the right</td>
</tr>
<tr>
<td>2006</td>
<td>New Blood Alcohol Limit of 0.02% for new drivers, New driver and moped driver licensing legislation</td>
</tr>
</tbody>
</table>
2. Developing legislation needed for the road safety strategy

A well-developed framework exists for technical input by policy officials and legislative expertise, consultation with the State Council which provides legal advice on each legislative proposal that goes to parliament, and broad consultation with a range of stakeholders including regional and local research organizations, user organizations and other affected bodies at an early stage.

Adaptation to technical progress of European vehicle standards is a resource-intensive process and in-house capacity is provided in the Vehicle Policy Division of the Road Safety Department.

3. Consolidating legislation

Key legislation is consolidated from time to time for ease of reference.

4. Finding legislative slots in government and parliamentary programs

The lead agency plays an active role in finding appropriate slots in government and parliamentary legislative programs.

MoT Role: Legislation

- The MoT has established in-house capacity to set and update vehicle, roads and user rules and standards, some of which are agreed at EU level, with inspection and compliance carried out by departmental agencies and the police.
- The MoT establishes small in-house rules teams involving policy and legal experts in developing and consolidating major primary legislation.
- The MoT consults widely at an early stage on proposals for legislative change.
- The MoT has the responsibility to find parliamentary slots, where necessary, for road safety legislation.

Funding and resource allocation

1. Ensuring sustainable funding sources

Whereas Vision Zero in Sweden is driven by public health considerations in the first instance, the driving force of safety in The Netherlands has been to reduce socio-economic cost. SWOV has estimated such costs at more than 9 billion Euros annually. Investment in road safety to reduce socio-economic cost is a key theme of Sustainable Safety.

Resources are allocated out of general tax revenues. The total national budget to be dedicated to road safety measures (excluding major infrastructure improvement or works) for the period 2004–2010 is planned to amount to €0.4 billion and for the period 2011–2020 to amount to €0.8 billion. Whereas specific allocations were made for many years for road safety into a regional road safety fund, the state subsidy to provincial and municipal governments since 2005 is for regional and local traffic and transport policies in general. The maximum subsidy is 50% of the project costs. The provinces and large urban areas have the responsibility for distributing funding to road safety partners in the municipalities involved.

2. Establishing procedures to guide allocation of resources across safety programs

Cost-benefit analysis is used widely in The Netherlands. The allocation of funding is targeted at those measures which give the most effect at reasonable cost.

MoT Role: Funding and Resource Allocation

- The MoT ensures sustainable annual funding source for road safety from general tax revenues.
- The MoT, until 2005, specifically allocated resource to to the Regional Road Safety Agencies (in addition to their own sources of funding sources) via a road safety fund of around Euro 20 million.
- The MoT periodically establishes review of the value of preventing road traffic deaths and serious injuries to allow a strong business case to be made for expenditure on road safety.
- The MoT provides in-house lead agency capacity to evaluate safety costs and benefits, program funding and related business cases.

Promotion

1. Promoting the far-reaching road safety vision or goal

Road safety is promoted by national, regional and local governments in accordance with the Sustainable Safety concept. The Ministry funded and promoted Sustainable Safety, the development of which was managed by the Institute for Road Safety Research (SWOV), as the basis of the Dutch government’s approach to road safety work.

The sequence of promotional activity leading to the start of Sustainable Safety is outlined in Figure 4. In 2004, SWOV invited 150 road safety professionals to discuss the
next steps to achieve further improvements in the future towards helping to define the content of the next stage of Sustainable Safety. The responses were published in Thinking about sustainable safety. On the basis of these, an updated concept Advancing Sustainable Safety covering the period 2005–2010 has been developed and launched.

2. Championing and promotion at a high level
Ministers and parliamentarians (at national and European levels) engage in the championing and promotion of road safety programs in The Netherlands. All-party support from the Parliamentary Standing Committee on Transport, Public Works and Water Management was the key to the adoption of Sustainable Safety in The Netherlands.

3. Multi-sectoral promotion of effective intervention and shared responsibility
The MoT has used the consultation bodies at national and regional levels to promote effective intervention and specific initiatives such as the Start-Up program (see Coordination).

4. Leading by example with in-house road safety policies
No notable organizational examples were found.
5. Developing and supporting safety rating programs and the publication of their results
Alongside lead agencies in Great Britain and Sweden, the MoT played a key role in the development and subsequent support of the European New Car Assessment Programme to promote improvements in vehicle safety (see Monitoring and Evaluation).

6. Carrying out national advertising
National and regional and local public information campaigns are a permanent part of the Dutch road safety policy.

The Dutch Traffic Safety Organization receives a subsidy from central government to carry out promotional campaigns. Factsheets are produced on a range of issues by the Ministry’s research arm, the AVV.

7. Encouraging promotion at the local level
Sustainable Safety continues to be promoted at the local level. The municipalities played a key role in the Start-Up program and in demonstration projects designed to increase professional and public support.

MoT ROLE: PROMOTION
• The MoT promotes the shared responsibility for road safety using Sustainable Safety.
• Lead agency ministers and parliamentarians played a key role in launching and promoting Sustainable Safety.
• The MoT coordinates multi-sectoral promotion and contracts out targeted road safety publicity in support of major road safety interventions.
• The MoT helped to set up and support the European New Car Assessment Programme which promotes vehicle safety.
• The MoT promotes and encourages the achievement of road safety results to local and regional levels of government.

Monitoring and evaluation

1. Establishing data systems to set and monitor final and intermediate outcome and output targets
The Netherlands has established a comprehensive set of databases across transport, health and justice sectors to inform road safety problem analysis, target-setting, and the monitoring and evaluation of programs, measures and performance (see Box 4). These include exposure data, final outcome and intermediate outcome data and information on penalties. A range of organizations are engaged in these data activities.

Exposure data
Vehicle and transport registries. The vehicle and driver registries are departmental agencies—the Central Bureau for Driving Licences and the Central Office for Road Traffic.

National Travel Survey (NTS). Since 1978, the Central Bureau of Statistics (CBS) carried out the National Travel Survey (NTS) which has since been conducted by the AVV. The survey’s purpose is to describe the travel behavior of the Dutch population. It uses a sample of households, and each person within these households is requested to record all journeys made in a particular day. For each journey, the following is registered:

• place of origin, place of destination, distance travelled;
• time of departure, time of arrival, journey time;
• modes of transport;
• journey purpose.

Box 4: Data systems in The Netherlands (2006)

- Ownership and use of commercial vehicles (CBS)
- Population of the municipalities in The Netherlands (CBS)
- Causes of Death (CBS)
- Use of protection devices
- International Road Traffic and Accident Database IRTAD
- IIS (Injury Surveillance System)
- National Patient Register (NPR)
- National Road Database (NRD)
- Accidents and Physical Activities in The Netherlands (APAN)
- National Travel Survey (NTS)
- Car Panel PAP (CBS)
- Periodic Regional Road Safety Survey (PRRSS)
- Survey of drinking and driving in The Netherlands
- Speed measurements on state/national motorways (TRC)
- Road Statistics (CBS)
- Motor Vehicle Statistics (CBS)
- Passenger Traffic Statistics (CBS)
- Road crash registration (BRON)
- Traffic Offenses

Source: SWOV, 2006

$^2$The discussion of monitoring and evaluation in this case study reflects organization up until 2007. In 2008, AVV merged with another governmental research group to form the DVS Centre for Transport and Navigation in the Department of Traffic and Shipping of the Ministry of Transport, Public Works and Water Management.
Other data gathered concerning respondents includes: age group, gender, province, vehicle ownership, and driving license. Road user data are very important to be able to calculate exposure to risk expressed as crash rates in crashes per billion kilometers travelled (SWOV, 2006).

National Road Database (NWB). The NWB makes it possible to analyze road safety in relation to traffic volume and features of the infrastructure. The NWB is a digital database of virtually all public roads in The Netherlands with a street name or number. Separate footpaths and bicycle tracks and unsurfaced roads are also included if they have a street name. If a road has a dual carriageway, they are processed in the database as separate road segments. The geometry of the NWB is identical to the centre lines of the TOP10 maps database of the Dutch Ordnance Survey. Therefore the geometrical accuracy is the same as maps with a scale of 1:10,000. The NWB is a network consisting of junctions joined together by road segments. The NWB 2005 consists of 895,789 road segments and 643,071 junctions. The NWB links various data sources to one another; road crashes are linked to the NWB; registrations of road features make use of the NWB; and road authorities link their traffic counts to the NWB.

Final outcomes

Police data
Road safety statistics were first compiled separately in 1934 and data requirements follow the 1968 UN Vienna Convention. The number and rates of road deaths and injuries in The Netherlands are published annually and jointly by the Ministry of Transport, Public Works and Water Management, Directorate-General for Public Works and Water Management and the Ministry’s AVV Transport Research Centre.

The police record road traffic crashes and provide the AVV Transport Research Centre with this data. As in other countries, a large number of casualties go unreported and towards greater accuracy, the AVV, the Central Bureau of Statistics and the SWOV Institute for Road Safety Research have laid down a system of scientific extrapolation methods to determine the official road safety figures for The Netherlands on the basis of data from the National Medical Registers (LMR).

Health sector data
National Patient Register (NPR). The NPR was set up for research and policy purposes. Among other purposes, this database is used to determine the “real” size of the road safety problem. The data are provided by all teaching, general, and virtually all specialised hospitals. The discharge data of patients who have been admitted to a Dutch hospital (i.e., in-patients) form the basis of this database. The NPR contains:

- (anonymous) personal data such as age-group and sex;
- admission date;
- injury diagnoses;
- operation codes;
- type of road accident and transport mode of the patient;
- length of stay;
- type of discharge.

The injury diagnoses are available at a very detailed level (via a code) but are usually presented in a clustered form, such as:

- injury pattern (the percentage distribution of injuries by body parts);
- injury type (such as fractures, wounds, sprains etc.).

Injury Surveillance System. This comprises Accident & Emergency (A&E) data which are collated by the Dutch Consumer Safety Institute and it further contributes to providing a more accurate picture of injuries that would otherwise go unreported. The registered data are personal data, accident type and injuries of all crash victims who were treated in the A&E departments of 17 general and teaching hospitals throughout the country. 15% of the patients registered were victims of road crashes.

Intermediate outcomes

Surveys of intermediate outcomes or performance indicators are carried out by AVV (e.g., on levels of speed, seat belt use, drinking and driving, and a range of other indicators).

Speed surveys. Since 1983, the Ministry’s AVV measuring system has measured both the speeds of passing vehicles and the traffic volumes (at 100 locations) by vehicle type. The measurement period is 60 minutes so that the average speed per hour per type can be obtained.

Seat belt use surveys. Observations of the use of seatbelts and child restraints and how head rests are adjusted, are made in a random sample of cars in moving traffic. The
data provide a picture of the national developments in the use of protection devices in cars; linked to a number of personal characteristics, road features, and day of the week. The study is made during four consecutive working days and weekend days from 07.00 to 17.30 h. There are 48 observation locations: in every province on four roads of various types, urban and rural. Observations from a distance provide seatbelt use by gender. If there are any rear car passengers, observations are made from close-by to see if the seatbelts are being used. A questionnaire is also handed out concerning knowledge about and attitudes towards seatbelt wearing; and since 2000, also about the presence of airbags and ABS. The Ministry commissions these surveys from national research organizations (SWOV, 2007).

Survey of drinking and driving. Since 1973, the alcohol consumption of drivers has been systematically studied. Data is available about the percentage of car drivers with a BAC > 0.05% grammes per litre, per province, and has, since 1993, also been available by age, gender, origin, police region, and time of day. Every autumn, a minimum of 1500 motorists per province are tested during weekend nights.

The police measure the blood alcohol content (BAC) or breath alcohol content (BrAC) of a random sample of moving traffic. The breath testing is done with digital breath testers that have been approved by the Dutch Forensic Institute (NFI) and the Ministry of Justice. Besides the BAC or BrAC, the day, time of day, gender, age, origin, main region, province, and municipality size are also registered. Until 1999, the survey was carried out by SWOV. Since 2000, the AVV has carried out the surveys.

Vehicle fleet and road network quality. The Ministry is a member of both the European New Car Assessment Programme and the European Road Assessment Programme which provide intermediate outcome data on aspects of vehicle and road network safety.

2. Transparent review of the national road safety strategy in terms of results, interventions and institutional management functions.

The AVV (now DVS) and the Central Bureau of Statistics play the key role in government in monitoring final outcomes and the effects of targets and analyzing road safety problems. Recent statistical analyses have confirmed that the main contributing factors in deaths in The Netherlands are:

- 20–30% due to alcohol and drugs
- 20% of crashes are due to speeding
- 50% of the serious crashes are caused by single vehicles running off the road
- 16% of the serious crashes involve moped riders
- most of these crashes take place on rural roads with 80 km/h speed limits and on 50 km/h roads inside built-up areas

The Sustainable Safety agreements have been evaluated by the Start Up partnership. Evaluation of road safety activity is also carried out by national research organizations. For example, the SWOV in co-operation with the Ministry of Interior’s Bureau of Traffic Enforcement set up a program to evaluate a 4 year long national police enforcement intensification program carried out in 8 of the 25 police regions, focussing on speeding on trunk and urban through roads, drinking and driving, red light running, seat belt and helmet use by moped riders. The enforcement program is based on a problem analysis of each region.

The Dutch Transport Safety Board (now the Dutch Safety Board) was set up by statute in 1999 to conduct independent investigation into the causes of accidents or incidents in all transport sectors, and to monitor the implementation of recommendations on accidents and incidents. In previous years a Dutch Road Safety Council existed which acted as a road safety watchdog.

3. Making any necessary adjustments to interventions and institutional outputs needed to achieve the desired results

For follow-up from monitoring and evaluation, see Results Focus section.

MoT Role: Monitoring and Evaluation

- The MoT has ensured a comprehensive framework for the monitoring and evaluation of road safety outcomes which is delivered by its agencies assisted by a wide range of organizations.
- The MoT publishes road safety results annually and reports these to parliament.
- The MoT’s research arm—the AVV (now DVS)—manages crash injury databases, carries out periodic monitoring of road safety targets and collects and publishes road safety data, together with the Central Bureau of Statistics, comprising final and intermediate outcome measurement.
- The MoT agencies manage the vehicle and driver registries.
• The MoT establishes and publishes the socio-economic cost of road traffic injuries periodically.
• The MoT helped to establish and participates in the European New Car Assessment Programme to assist monitoring of vehicle fleet safety.

Research and knowledge transfer

1. Developing capacity for multi-disciplinary research and knowledge transfer

The Netherlands has an active research and development sector and its activities are well supported by the Ministry of Transport and the AVV, one of its specialist departments.

AVV Transport Research Centre is part of the Ministry of Transport and acts as a specialist service to provide knowledge for policymaking. Road safety is a specific research activity alongside a wide range of other transport topics.

SWOV, the Dutch Institute for Road Safety Research is an independent non-governmental organization which is the central research institute for road safety in The Netherlands. Its aim is to pioneer and innovate in road safety research towards safer road traffic. It has a vision of promoting road safety and participates in the social debate and policy preparation.

SWOV is overseen by a Board of Governors with an independent Chairman, a representative from a municipality, the RAI Association, the ANWB motoring organization and a representative commissioned by the SWOV Employees Council. The Board determines SWOV’s research strategy and types of cooperation, as well as budgets, financial reports and requests for subsidy. It meets 4 times a year. In 2006, SWOV employed 55–65 staff. The total budget in 2003 was Euro 4.5 million. Its programs of research which are mainly funded (90%) by the Ministry of Transport with external project funding coming from the European Union and other sources. The structure of SWOV is set out in Figure 5.

TNO, the Netherlands Organization for Applied Scientific Research is another major research institute which has a broader remit than road safety but carries out a significant amount of safety research. A small part of its work is subsidized by the Ministry of Transport and it relies upon external funding for road and vehicle safety, with a large part coming from the car industry.

In addition, various universities and educational institutes work on aspects of road safety including the University of Gröningen and the Technical University of Delft.

2. Creating a national road safety research strategy and annual program

Road safety forms one part of the MoT AVV’s large research program. There is no published road safety research program.

3. Securing sources of sustainable funding for road safety research

The MoT ensures sustainable annual funding for both in-house and external road safety research.

4. Training and professional exchange

The MoT plays an active international role in knowledge transfer and supports attendance of its personnel at international road safety meetings.

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3The discussion of research in this case study reflects organization up until 2007. In 2008, AVV merged with another governmental research group to form the DVS Centre for Transport and Navigation in the Department of Traffic and Shipping of the Ministry of Transport, Public Works and Water Management. The road safety research unit within DVS has similar road safety functions to those of AVV.
5. Establishing best practice guidelines
The MoT also play a key role in commissioning guidelines. New guidelines have been developed for road safety infrastructure measures such as roundabouts, speed humps, 30 km/h zones, school zones and so on.

*CROW*, the Centre for Regulation and Research in Civil Engineering and Traffic Technology is a non-profit making foundation which brings together national government, provinces, municipalities, contractors, public transport organizations, consultants and educational establishments to cooperate on the basis of common interests in the design, construction and management of roads, traffic and transportation facilities. It is responsible for developing and maintaining the national design standards for roads and traffic provisions on national highways, rural roads and in urban areas. One of its key road safety initiatives is to produce urban safety guidelines and be a key agent in the implementation of sustainable safety principles by formulating and publishing guidelines for the layout and maintenance of sustainably safe roads. Some activity is financed by the Ministry of Transport.

A new organization has been created recently around knowledge transfer—the KpVV. Dutch professionals are very active in the international arena (e.g., OECD, ECMT, PIARC, EU, EEVC, FERSI, ETSC and the World Bank Global Road Safety Facility).

6. Setting up demonstration projects
The MoT co-financed four large-scale demonstration projects in the western part of the Province of Zeeland, the area of Oosterbek, the area of Grubbenvost and part of the NW Overijssel. The aim was to gather practical experience and transfer knowledge about the application of and decision-making processes involved in implementing sustainable safety principles in conformity with the CROW guidelines.

**MoT Role: Research and Development and Knowledge Transfer**
- The MoT has established both in-house capacity and external capacity for research and development and knowledge transfer aimed at achieving road safety results.
- The MoT secures funding for road safety research and knowledge transfer in its own budget.
- The MoT supports attendance of its personnel at international road safety meetings for professional development.
- The MoT supports and disseminates good practice guidelines on road safety and demonstration projects to assist regional and local activity.

**Summary: MoT delivery of institutional management functions**

**Results focus.** The Ministry of Transport, Public Works and Water Management (MoT) is the lead agency for road safety in The Netherlands. The MoT’s Roads and Traffic Safety Department (RTSD) has the central responsibility for the development and coordination of road safety targets, strategies and programs at national level. It manages the country results focus and ensures that system-wide interventions are agreed and implemented to achieve related targets by the responsible authorities across government and wider society. The MoT has established capacity for appraising performance and identifying what could be achieved in the medium term. It pursues the long-term vision of *Sustainable Safety* (adopted in legislation) and has established road safety outcome targets in its Mobility Policy Document (2005) as well as regional road safety outcome targets. It has also signed up to European targets to reduce deaths by 50% in EU (by 2010) and ECMT (now ITF) countries (2012), and has established contractual agreements with its partners to achieve results.

**Coordination.** Outside the Cabinet there is no national multi-sectoral governmental body set up specifically to take decisions on road safety. The MoT provides in-house capacity for coordination and consultation and has set up contractual delivery partnerships with several stakeholders to cement delivery of aspects of the national road safety strategy. The MoT established, managed and funded a system of multi-sectoral consultation at the national level to engage all key players with governmental responsibilities in road safety as well as other key players in achieving road safety results. It engages with parliament, the non-governmental and business sectors in road safety activity. It also engages actively in international coordination.

**Legislation.** The MoT has established in-house capacity to set and update vehicle, roads and road user rules and standards, some of which are agreed at EU level, with inspection and compliance carried out by departmental agencies and the police. It also establishes small in-house rules teams engaging policy and legal experts in developing and consolidating major primary legislation. The MoT
consults widely on proposals for legislative change at an early stage.

**Funding and resource allocation.** The MoT ensures a sustainable annual funding source for road safety from general tax revenues. Until 2005 it specifically allocated resources to the Regional Road Safety Agencies (in addition to their own sources of funding sources) via a road safety fund of around €20 million. The MoT periodically reviews the value of preventing road traffic deaths and serious injuries to allow a strong business case to be made for expenditure on road safety. It provides in-house lead agency capacity to evaluate safety costs and benefits, estimate program funding needs and prepare related business cases.

**Promotion.** The MoT promotes the shared responsibility for road safety in accordance with the Sustainable Safety strategy which lead agency ministers and parliamentarians played a key role in launching and promoting. The MoT coordinates multi-sectoral promotion and contracts out targeted road safety publicity in support of major road safety interventions. It helped to set up and supports the European New Car Assessment Programme which promotes vehicle safety. It also promotes and encourages the achievement of road safety results to local and regional levels of government.

**Monitoring and evaluation.** The MoT has ensured a comprehensive framework for the monitoring and evaluation of road safety outcomes which is delivered by its agencies and assisted by a wide range of organizations. It publishes road safety results annually and reports these to parliament. Its research arm—the AVV (now DVS)—manages crash injury databases, carries out periodic monitoring of road safety targets, and collects and publishes road safety data, together with the Central Bureau of Statistics (comprising final and intermediate outcome measurement) and it carries out periodic monitoring of road safety targets. MoT agencies manage the vehicle and driver registries. The MoT establishes and publishes the socio-economic cost of road traffic injuries periodically. It also participates in the European New Car Assessment Programme to assist monitoring of vehicle fleet safety.

**Research and development and knowledge transfer.** The MoT has established both in-house capacity and external capacity for research and development and knowledge transfer aimed at achieving road safety results. It secures funding for road safety research and knowledge transfer in its own budget. The MoT supports attendance of its staff at international road safety meetings for professional development and supports and disseminates good practice guidelines on road safety and demonstration projects to assist regional and local activities.

**Lead agency structures**
The aggregate and organizational structures of the lead agency for road safety in The Netherlands are set out in Figures 6 and 7.

Coordination structures and a description of related processes are set out in the section on *Coordination* and in Figure 2.

The consultation body (formerly OVV, now OPV) brings together all key partners and stakeholders, including the private sector. Its statutory role is as a platform for mandatory national consultation on the intended policies of the Minister of Transport in relation to organizational matters and transport and traffic-safety related subjects that are primarily the responsibility of other Ministries (see Figure 2 and section on *Coordination*).

The Roads and Traffic Safety Department (RTSD) was set up in 1970 and sits within the Directorate-General for Passenger Transport. In 2005 RTSD comprised 24 staff members, including an international coordinator. Within the Directorate General for Transport and Logistics, there is also a small section which deals with road safety in relation to freight transport (including small transport vans and including issues such as safety culture in transport companies).
Figure 6: Aggregate structure of the Road and Traffic Safety Department in Ministry of Transport, Public Works and Management, The Netherlands (1992–2004)

Ministry of Transport, Public Works and Water Management

Roads and Traffic Safety Department within the Directorate-General for Passenger Transport has the main responsibility for road safety management.

Other departments with road safety responsibilities within the Ministry include:

- Directorate-General of Publics and Water Management—national road authority
- Directorate-General for Freight Transport—freight safety
- Directorate-General of Public Works and Water Management and 10 regional Departments—Policy implementation
- Transport and Water Management Inspectorate—Compliance with legislation
- AVV Transport Research Centre*
- Central Bureau for Driving Licenses
- Central Office for Road Traffic—vehicle registry

Consultation and coordination bodies

OVV Organization for road safety consultation (until 2004)
High Level Group on Road Safety—European Union
European Conference of Ministers of Transport—43 European countries

Figure 7: Organizational structure of the Road and Traffic Safety Department in Ministry of Transport, Public Works and Management, The Netherlands (2005)

Road and Traffic Safety Department

Director

Policy on users and behavior
Alcohol and drugs
Driving licenses, Campaigns, enforcement

Policy on vehicle safety
Vehicle policy (including intelligent speed adaptation etc., daytime running lights, Euro NCAP etc.)

Strategies, programs and coordination
General road safety approaches, Sustainable Safety, relations between central government and regional/local government

* In 2008, AVV merged with another governmental research group to form the DVS Centre for Transport and Navigation in the Department of Traffic and Shipping, Ministry of Transport, Public Works and Water Management
Bibliography


Institute for Road Safety Research (SWOV) www.swov.nl


1.4 Road safety organization in Sweden

National context

**Key Facts: 2006**

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
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<tr>
<td>Area</td>
<td>449,964 km²</td>
</tr>
<tr>
<td>Population</td>
<td>9.5 million</td>
</tr>
<tr>
<td>Kilometers of public road</td>
<td>215,000</td>
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<tr>
<td>Number of licensed motor vehicles</td>
<td>5.2 million</td>
</tr>
<tr>
<td>Road deaths per 100,000 of population</td>
<td>4.9</td>
</tr>
<tr>
<td>Total road deaths</td>
<td>445</td>
</tr>
</tbody>
</table>

*Source: IRTAD, 2008*

Road safety in Sweden is a shared responsibility at governmental level between the European Union (which has key responsibilities in areas such as vehicle safety and driver licensing), and national and local government. Road safety is pursued within a total transport context characterized by the demand for integrated service delivery that meets the multiple goals of sustainable development. While the Ministry of Industry, Employment and Communications has legal responsibility for national road safety, the Swedish Road Administration (SRA) is the national authority assigned the overall sectoral responsibility for the entire road transport system.

Road safety in Sweden is more centralized than most of the other high-income case study countries. The road network is divided into national roads (the vast majority), local authority roads and private roads. Regionally, Sweden is divided into 21 counties and 289 municipalities which, within certain limits, can make local decisions in road safety.

Sweden has a long tradition in road safety work and is a global leader. Road safety is a national priority. Sweden’s aim is to create a well-developed, extensive and long-term sustainable transport system that enables safe and secure accessibility and eliminates the risk of fatal and serious road crashes. Road safety is integrated into urban planning, the design of the road environment, quality assurance in transport, work environment measures and vehicle development. Legislation underpins a long-term goal and interim road safety targets for motivating and involving a broad spectrum of stakeholders.

In the 1940s and 1950s the motorization level in Sweden increased rapidly and the number of road traffic deaths increased in parallel. This development continued until the transition from left to right hand traffic in 1967. This event marked the start of systematic road safety management and of a long-term trend in decreasing death rates, as shown in Figure 1. A stand-alone agency for road safety was created in 1968—the National Road Safety Office—which had coordination responsibility but little executive responsibility and resource. Deaths declined over a period of around 15 years but then started to increase. After an investigation into how road safety management could be made more efficient, the National Road Safety Office became part of the SRA in 1993.

Since 1997 Sweden has been working towards its highly ambitious long-term goal to eliminate death and serious injury in its road traffic system. *Vision Zero* has been a key driver of innovation based on well-established safety principles and wider implementation of key interventions. The general focus since its introduction has clearly been leading edge work towards sustainable longer term improvements to save lives and prevent serious injuries into the future. *Vision Zero* has also created significant international interest. Several European countries and Australian States have based safety strategies on this concept.

This case study focuses on the country delivery of institutional management functions in Sweden, the lead agency role and the structures and processes put in place to meet long term goals and interim quantitative targets.

**Country delivery of institutional management functions and lead agency role**

**Results focus**

Sweden has a long tradition in country results focus and has defined a new performance frontier for country ambition for road safety. A long-term road safety vision for the future safety of the road transport system has been set, leadership responsibilities and accountabilities for action are well defined, and an organizational framework exists for analysing data and safety performance and setting final and intermediate outcome targets at national level.

**Lead agency**

The SRA is the accountable lead agency for road safety in Sweden. Its mission is to create a safe, environmentally sound and gender-equal road transport system that con-

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4Some of the SRA's institutional management functions including legislation and inspection are being transferred to a new Swedish Transport Agency which was established in January 2009. A new road safety strategy department was established in SRA's Society and Traffic Department in 2008.
tributes to regional development and offers individuals and the business community easy accessibility and high transport quality. Road safety is integrated into all areas of operation.

1. Appraising current road safety performance through high-level strategic review
A Commission of Inquiry into Road Traffic Responsibility was set up in 2000 to review shared institutional responsibilities and the establishment of a new Inspectorate in support of Vision Zero.

The SRA establishes and reviews road safety performance in-house, in cooperation with other government agencies (e.g., the Swedish Institute for Transport and Communications Analysis (SIKA) and the Road Traffic Inspectorate) and external experts and discusses these within its consultation bodies. The SRA chairs reviews of road safety performance, commissions background papers and makes proposals for follow-up action.

A full road safety management capacity review by independent experts using the assessment framework used in World Bank road safety work was commissioned by the SRA in 2007 and published in 2008 (Breen, Howard & Bliss, 2008). The aim of the review was to assist in the preparation of interim targets and a new road safety strategy to 2020. The review’s purpose was to examine the capacity of the current road safety management system to deliver Vision Zero and identify priority initiatives to be taken to ensure success. Information and assessments were provided by more than 40 stakeholders at senior management level in government, civil society and business.

2. Adopting a far-reaching road safety vision or goal for the longer term
The Vision Zero is that eventually no one will be killed or seriously injured within the road transport system. In 1998, Vision Zero was adopted as a goal of the National Transport Policy (see Boxes 1–2).

Vision Zero is profoundly influencing global road safety thinking and policy. It has led to innovative strategies and solutions which have inspired and engaged national stakeholders as well as road safety professionals worldwide.

3. Analyzing what could be achieved in the medium term
There is a long tradition of research and analysis in the target-setting process is Sweden. Analytical work has
Box 1: The Swedish Vision Zero

*Vision Zero* is a traffic safety policy developed in Sweden in the late 1990s and based on four elements: ethics, responsibility, a philosophy of safety, and creating mechanisms for change. The Swedish Parliament voted in October 1997 to adopt this policy and since then several other countries have followed suit.

**Ethics.** Human life and health are paramount. According to *Vision Zero* life and health should not be allowed in the long run to be traded off against the benefits of the road transport system, such as mobility. Mobility and accessibility are therefore functions of the inherent safety of the system, not vice versa as it is generally viewed today.

**Responsibility.** Until recently responsibility for crashes and injuries was placed principally on the individual road user. In *Vision Zero* responsibility is *shared* between the providers of the system and the road users. The system designers and enforcers—such as those providing the road infrastructure, the car industry and the police—are responsible for the functioning of the system. At the same time the road user is responsible for following basic rules, such as obeying speed limits and not driving while under the influence of alcohol. If road users fail to follow such rules, the responsibility falls on the system designers to redesign the system, including rules and regulations.

**Safety philosophy.** In the past the approach to road safety was generally to put the onus on the road user. In *Vision Zero* responsibility is divided between the providers of the system and the road users. The system designers and enforcers—such as those providing the road infrastructure, the car industry and the police—are responsible for the functioning of the system. At the same time the road user is responsible for following basic rules, such as obeying speed limits and not driving while under the influence of alcohol. If road users fail to follow such rules, the responsibility falls on the system designers to redesign the system, including rules and regulations.

The amount of energy in the system must be kept below critical limits by ensuring that speed is restricted.

**Driving mechanisms for change.** To change the system involves following the first three elements of the policy. While society as a whole benefits from a safe road transport system in economic terms, *Vision Zero* relates to the citizen as an individual and his or her right to survive in a complex system. It is therefore the demand from the citizen for survival and health that is the main driving force. In *Vision Zero* the providers and enforcers of the road transport system are responsible to citizens and must guarantee their safety in the long term. In so doing they are necessarily required to cooperate with each other, for simply looking after their own individual components will not produce a safe system. At the same time the road user has an obligation to comply with the basic rules of road safety. In Sweden the main measures undertaken to date include:

- setting safety performance goals for various parts of the road traffic system;
- focusing on vehicle crash protection, and support for the consumer information program of the European New Car Assessment Programme (EuroNCAP) and securing higher levels of seat-belt use and fitting smart, audible seat-belt reminders in new cars;
- installing crash-protective central barriers on single-carriageway rural roads and encouraging local authorities to implement 30 km/h zones;
- wider use of speed camera technology; and an increase in the number of random breath tests;
- the promotion of safety as a competitive variable in road transport contracts.

While the *Vision Zero* does not say that the road safety historically have been wrong, the actions that would have to be taken are partly different. The main differences probably can be found within how safety is being promoted; there are also some innovations that will come out as a result of the vision, especially in infrastructure and speed management.

**A tool for all.** *Vision Zero* is relevant to any country that aims to create a sustainable road transport system, and not just for the excessively ambitious or wealthy ones. Its basic principles can be applied to any type of road transport system, at any stage of development. Adopting *Vision Zero* means avoiding the usual costly process of trial and error, and using from the start a proven and effective method.

Box 2: Adopting Vision Zero and the role of the lead agency

The Swedish Vision Zero was an initiative of the Swedish Road Administration (SRA), the lead agency for road safety. In 1995, the SRA started to express the idea that road safety should follow the same principles that healthcare had been following for many years, namely that everything possible should be done to prevent the loss of human life. The Road Safety Director started to formulate a number of ethical rules on which road safety work could be based.

After further development by the SRA, Vision Zero was launched and vigorously promoted by the lead agency and the Transport Minister. The introduction of Vision Zero facilitated lead agency communication with parliamentarians and decision-makers on road safety and changed political attitudes at national, regional and local levels. The marketing of Vision Zero towards politicians proved successful and in 1997 Vision Zero was raised in parliament and approved, with a 10 year numerical target as a first step, as the basis for the future road safety work in Sweden.

Vision Zero secured more money for road safety and rapid acceptance locally where much road safety work in Sweden is carried out. Another effect of Vision Zero was to help create demand amongst the public for action on the part of policymakers. In its promotional work, the SRA secured cross-government support for the Vision Zero strategy in national transport policy and secured its role as the main driver for road safety work in Sweden.

While there were 70 fewer deaths annually since 1997, the interim target was not met.

Swedish practice in recent years has been for top-down quantitative national fatality targets to be set. The target was mandated by parliament in 1997 together with Vision Zero. In 1999, an 11 point plan was presented by the Swedish Ministry of Industry, Employment and Communications setting out measures to address the interim target (see Box 3).

The effects of these measures were assessed by the SRA in 1999 and it was concluded that the 11 point program would probably be insufficient to realise the target set for 270 fatalities in 2007. Since 2000, there has been very significant road safety activity but no subsequent published plan of specific and agreed multi-sectoral casualty reduc-

Box 3: Swedish government’s 11 point plan (1999)

- Safer traffic in built-up areas. Separating various categories of road users. Where various categories of road users have to share the same space, reduce the speed limit.
- Roundabouts. Conversion of intersections to roundabouts.
- Safer vehicles. To increase passive vehicle safety (crash-worthiness) standards. The Swedish Road Administration is a member of the European New Car Assessment Programme (Euro NCAP).
- Cable guard rails. Special central crash barriers
- Safer motorways. Safety improvement of older motorways by placing guards rails at steep cliffs, and replacing rigid posts and guard rails with types that yield.
- Right speed. Review of speed limits on national roads, in order to adjust the speed limit to the safety standard of the road.

Sweden is advanced in research into Intelligent Speed Adaptation (ISA), with currently thousands of equipped vehicles.

- Seat belt reminders.
- Cycle helmets. Campaigns to increase the use of cycle helmets.
- ‘Knights of the road.’ Timely help at a crash scene can save lives and reduce the seriousness of injuries. Professional drivers are often the first on site, and are being trained in first aid.
- Speed surveillance. Enforcement of speed limits by speed cameras.
- Safer road transport. Safer commercial vehicle operations.
- Travel policy in companies. Integrating safety into company travel policy, demanding employees to abide by the speed limit, to use seat belts, and not to drink and drive.
tion measures has been implemented to address the 2007 target. The SRA works to its long term strategic plan for 2008–2017 (see Box 4).

The national interim targets were disaggregated regionally with each SRA region required to reduce deaths by the same proportion as the national target. Municipal targets and plans have been set in several cities and municipalities including Stockholm and Göteborg. The vehicle manufacturer Volvo has also set a target that by 2020, no-one should be killed or severely injured in or by a Volvo.

Sweden has also signed up to targets set by the European Union and the European Conference of Ministers of Transport (now ITF) to reduce deaths by 50% by 2010 in EU countries and ECMT countries.

Intermediate outcome targets
Sweden was one of the first European countries to establish a results management framework using intermediate outcome targets. In the 1995–2000 program 11 intermediate outcome targets were set, including increasing seat belt use, reducing speed or reducing drinking and driving (see Box 5).

It is anticipated that targeting and monitoring a range of intermediate outcomes will provide the basis for the new strategy to meet its interim casualty reduction targets.

5. Establishing mechanisms to ensure stakeholder accountability for results
The SRA’s responsibilities for road safety are set out every year in its Annual Report. The SRA target is the same as the national target but further annual goals are specified in performance agreements. For example in 2003, the specified goal was to implement cost-effective road safety measures on the state road network so that the number of deaths is reduced. Measures that aim to improve traffic safety of children are to be prioritised.

The outputs and contributions of other key partners are based on formal Declarations of Intent and are published on the SRA website. The independent review in 2007 noted that to achieve the high ambition of Vision Zero the lead agency role required strengthening and broad engagement across the government partnership was called for. It concluded that internal reviews by agencies and Ministries would be needed to ensure that management capacity is available to deliver agreed targets en route to Vision Zero.
SRA Role: Results Focus

- The SRA has the main responsibility in Sweden for managing the country results focus.
- The SRA reviews performance, proposes goals and targets and carries out intervention in the road network.
- The SRA developed and leads Vision Zero and is responsible for the achievement of national targets, underpinned by a performance agreement with the Ministry of Industry, Employment and Communications.

Coordination

In recent years, the SRA has been expanding its external partnership capacity to deliver the challenging Vision Zero strategy which, in addition to its own efforts, necessitates meaningful shared responsibility for road safety by all those who have an effect on, or participate in road traffic.

1. Horizontal coordination across central government

The Cabinet supported by the Ministry of Industry, Employment and Communications and SRA is at the top of the national decision-making hierarchy.

Within SRA three organizational entities deal with the coordination of interventions, each having their own small secretariat situated within the SRA. These are:

- the SRA’s Director General’s Advisory Council on Road Safety which is a high-level group of 7 governmental and non-governmental stakeholders which meets twice a year. It was set up as an advisory group to the Director-General with members invited individually.
- the National Coordination Assembly (NCA) has 8 members (Ministry of Enterprise, Energy and Communications, Swedish Association of Local Authorities and Regions, National Society for Road Safety, National Police Board, Swedish Work Environment Authority, Folk-sam, Toyota Sweden AB, Swedish Road Administration), brings together 15–20 people and meets 6 times a year. The aim is ‘to share knowledge and coordinate the activities of key players with the intention of making Vision Zero a reality.’ A NCA steering group acts as a reference group for proposals for the new interim target.
- the National Road Safety Assembly (started in 2002 at the instruction of the Ministry of Industry, Employment and Communications) brings together a very broad group of stakeholders (about 40—road user and transport industry stakeholders are prominent) at national (3 meetings a year) and regional levels. The Assembly works in specific areas: speed, drinking and driving, seat belt use, children and young people in traffic and two wheeled motor vehicle crashes and reports over 3000 individual activities (see Box 6).

The consultation/coordination hierarchy for road safety in Sweden is set out in Figure 2.

The independent review in 2007 noted that an effective inter-departmental decision-making body for policy, legislation and budgets could enhance Sweden’s impressive

<table>
<thead>
<tr>
<th>Box 6: The National Road Safety Assembly, Declarations of Intent, and the OLA method in Sweden</th>
</tr>
</thead>
</table>
| **Phase 1:** Parties involved come to a consensus around a problem scenario—objective facts  
**Phase 2:** Based on these facts, ideas for short and long term solutions are identified  
**Phase 3:** Each party then devises measures to avoid such a death occurring again formulated as declarations of intent which are followed through. |

To date OLAs have been carried out in the following areas: heavy good vehicles in urban areas, bus passenger safety, safer moped traffic, young drivers aged 16–24, safer heavy goods vehicle transport and moped safety. The Inspectorate follows up all national OLA projects and makes random checks of regional projects.
array of consultation/coordination bodies in the delivery of Vision Zero and interim targets.

2. Vertical coordination from central to regional and local levels of government
Responsibility for infrastructure in Sweden has primarily been with central government and in 1991 it became directly responsible for the whole national network. The main road safety engineering programs have always been defined at national level. The seven regional SRA offices prepare long-term strategies in support of targets based on long-term SRA strategic guidelines and annual instructions in their annual transport policies and programs. The regional office liaises with local government and pump-primes local initiatives. Agreements between the municipalities and the regional offices for specific actions are common.

In 2007, the National Police Board started to coordinate the national road safety policing strategy with the 21 autonomous county police authorities. Specific allocations of funding outputs and equipment have been used by SRA to encourage roll out of effective activity at regional level towards achieving national road safety results.

Vertical coordination of activity also takes place within the framework of the National Road Safety Assembly.

3. Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels
SRA and the Swedish Work Environment Authority. A strong partnership exists between the SRA and the Swedish Work Environment Authority in pursuit of safer work-related travel and the shared responsibility of employers for road safety.

SRA and local authority partnerships. The SRA at national level has also developed a strong working partnership with the Swedish Association of Local Authorities and Regions which is represented in the National Assembly for Road Safety. In 1992 and in partnership with the lead agency, 102 local authorities re-classified their road network to better reflect safety needs under the Safer Traffic in the Municipalities program. Since 1998 local authorities have been able to reduce urban speed limits to 30km/h, which has led to increased implementation of 30km/h streets in Sweden. In support of this activity, the Swedish Association of Local Authorities in co-operation with the SRA and Swedish Police created a tool for planning and implementation called Calm Streets. This outlines a strategy for lower speeds in urban street networks and has engaged about 90 municipalities. In partnership with the SRA, local authorities conduct traffic network analysis and action programs with the work partially funded by the SRA.
SRA and police partnerships. A strong partnership between SRA and the police at regional and national levels has been developed. Formal contractual agreements have resulted in enhanced and data-led enforcement activity which continues to develop. SRA funding, for example, has boosted police activity on enforcing excess alcohol legislation.

SRA and the National Agency for Education collaborate and monitor road safety education in schools.

Non-governmental sector engagement
The non-governmental sector is active in Sweden and is well supported by the SRA. For example, the SRA has actively over a long period of time engaged and provided financial support for the main umbrella organization, the National Society for Road Safety (NTF), and contributed around 60% of NTF’s funding. NTF participates in all the SRA coordination committees. NTF consists of 23 county road safety federations, 70 national, interest and professional organizations and many local voluntary associations. The national office employs 27 staff and there are around 80 regional office staff. Its key function is promotion of Vision Zero. NTF’s objectives are to stimulate public awareness of the right to safe road traffic in which deaths and serious injuries are considered unacceptable, increase people’s will to call for and their ability to contribute to safe road traffic and to promote awareness of the importance of road safety to public health. The SRA has also established important working relationships with the Swedish Association of Motorists Against Drink Driving (MHF), to promote interventions aimed at reducing drinking and driving and the Swedish Automobile Association to establish and promote Euro RAP.

Business sector engagement
The SRA has actively and successfully engaged with the business sector. Together with the Swedish Work Environment Authority and other partners, it has worked with transport industry groups towards specific outcomes. SRA has also developed effective partnerships with the car and truck and insurance industries to advance the fitment nationally of key technologies (e.g., seat belt reminders, alcohol interlocks and electronic stability control (see Box 7)).

The Swedish Work Environment Authority encourages employers who operate vehicles as part of their work to develop road safety policies and programs (e.g., seat belt use, driving without alcohol and drugs), monitoring of employees compliance with these rules by the employer, and the installation of safety equipment in vehicles (e.g., seat belt reminders, alcohol ignition interlock for commercial vehicles).

The SRA had also encouraged Swedish car manufacturers to engage in demonstration projects. Saab, for example, fitted seat belt reminders, speed limiters and alcohol-interlock devices in vehicles used in the Trollhättan demonstration project. Volvo and Folksam also engage in national co-operative research and Folksam Research has developed a used car safety rating system to provide objective information for prospective car buyers.

European coordination
There is also coordination with European partners as Sweden is a member of the European Union and UN ECE which determine international vehicle safety standards. At EU level, the SRA, as an agent of the Ministry of Industry, Employment and Communications, contributes to bodies

Box 7: Lead agency initiatives to engage the business sector in Sweden

Examples include:
• Helping to establish the European New Car Assessment Programme publishing ratings on the crash performance of new cars which has led to significant improvements in safe car design
• Using safety ratings in SRA travel policies to encourage demand for improvements in vehicle safety
• Encouraging local car industry to fast track the fitment of seat belt reminder systems
• Encouraging road haulage and taxi companies to adopt a range of safer practices e.g., the fitment of alcohol-lock devices to detect excess alcohol and the fitment of seat belt reminders by stipulating safety demands such as these in transport contracts.
• Engaging the business sector and other organizations through establishing the National Assembly for Road Safety. This consultative and coordinating body encourages traffic stakeholders to make far-reaching promises to improve road safety. The taxi and road haulage sectors, for example, made commitments regarding the increased use of seat belts, better observance of speed limits and driving without alcohol.
such as the European Commission’s High Level Working Group on Road Safety and its sub-groups and the Motor Vehicles Working Group which work on the EU road safety policies. The SRA was also a key founding partner of the European New Car Assessment Programme (Euro NCAP) which is currently chaired by the SRA Director of Safety. SRA has actively supported the European Road Assessment Programme (Euro RAP) and provides key technical expertise for the development of its protocols. These provide consumer information and safety rating to road users in Europe. Sweden was also a member of the European Conference of Ministers of Transport (now ITF) and played an active part in its work. SRA has also actively supported specific activities of the Brussels-based European Transport Safety Council.

4. Parliamentary relations at central, regional and local levels

The ministry and the SRA engaged actively in parliamentary relations in the development of Vision Zero. The Swedish Parliament’s Committee on Transport and Communications comprising 17 members deals with road safety. The parliament has a discussion on road safety at least once a year and influences the road safety budget. Road safety problems have been investigated by the Committee and policies developed. This Committee played a key role in enshrining the Vision Zero policy in legislation and introducing numerical fatality reduction targets to 2007 to encourage fast action and focus. In 2004, the Committee organized a European meeting of parliamentary Select Committees on Transport to discuss priority actions for European Union road safety policy.

At regional level, elected representatives have taken part in SRA regional meetings. The Swedish Association of Local Authorities and Regions has produced a guide One Moment, which it has distributed to elected representatives. Funded by the SRA, the guide is to increase awareness of the key road safety issues and principles involved in Vision Zero

SRA Role: Coordination

- The SRA established, chairs, manages and provides a dedicated secretariat in-house for three coordination bodies which engage all the main players with governmental responsibilities in road safety as well as other key players in addressing Vision Zero and national targets. These bodies, however, are designed more for sharing knowledge, discussing interventions and stimulating stakeholder contributions rather than being decision-making bodies at the national level.
- The SRA also ensures that there is vertical coordination between governmental bodies and funds tools and specific road safety outputs for use by regional and local authorities.
- In recent years, the SRA has expanded its external partnership capacity to deliver the Vision Zero concept and has developed partnerships with a wide range of professional, research, non-governmental, user and industry groups.
- The SRA tries to ensure stakeholder accountability through its OLA process which involves the use of Declarations of Intent.

Legislation

Sweden has enacted a broad range of legislative instruments over the last 50 years which provide the foundation for road safety work as illustrated by the examples presented in Box 8. Of particular note is that Sweden has a combination of the lowest blood alcohol limits and speed limits in Europe. An interesting omission in relation to international practice is a working penalty points system and the use of owner-liability procedures in speed camera enforcement.

The two main Acts related to road safety are the Road Traffic Ordinance (1998:1276) and the Road Act (1971:948) which, together with other legislation on road traffic, are primarily administered by the Ministry.

1. Reviewing the scope of the legislative framework periodically

The SRA, in consultation with its partners, reviews legislative needs from time to time.

Commissions of Inquiry. Before the government submits a proposal for a new law to the Riksdag (Swedish Parliament), it normally has to examine the various alternatives available. This task is assigned to a Commission of Inquiry comprising experts, officials or politicians. The Commission of Inquiry submits its recommendations in a report. The government then refers the report to various public agencies, organizations and municipalities for consideration.

The government set up a Commission of Inquiry into Road Traffic Responsibility in 2000. It recommended to the government that Vision Zero and the responsibility of
the system designers for road safety be regulated by law and that a road traffic inspectorate be established. Legislative provisions for Vision Zero and the establishment of an inspectorate were subsequently enacted.

Periodic review of the legislative needs of the strategy by government takes place on a measure by measure basis. For example, in 2005, the compulsory use of bicycle helmets for children under 15 was introduced. Legislation was approved in 2007 to amend the Swedish classification of speed limits. Results of a review of alcohol interlocks were published in 2007. A new strategy provides for the introduction of alcohol interlocks for all convicted drinking and driving offenders (one third are recidivists); a change in EU rules to introduce alcohol interlocks or other techniques that prevent impaired driving in all new commercial buses and lorries (drinking and driving is as common here as in other driving); companies to be encouraged to fit alcohol interlocks to company cars; alcohol interlocks in all public transport and enabling legislation to be introduced. In several instances, however, the SRA has proposed important amendments to legislation which have not been taken up (e.g., age of access to moped use and definitions of shared institutional responsibility for Vision Zero).

2. Developing legislation needed for the road safety strategy

Proposals from government. Once the Commission of Inquiry has presented its report to the government, the government adopts a position on the recommendations and proposals in the report and from the various referral bodies. It then presents its own proposal for a new law in a government bill. The government bill is normally sent to the Council on Legislation which examines whether the new law conflicts with any existing legislation. Government then sends the proposal to parliament which is forwarded to the relevant parliamentary committee.

Members of parliament. The Riksdag can also submit proposals concerning legislation in the form of private member’s motions. These motions may be submitted by one member or by a group of members. Private member’s motions are submitted after the government has submitted a Bill to the Riksdag and must be based on the proposal put forward by the government.

The Committee on Transport and Communications of 17 members representing the parties in proportion to their relative strengths in the Riksdag deals with matters relating to railways, postal and telecommunications (PTT) services, roads, road transport and safety, shipping, civil aviation and meteorological services, information technology (IT) and communications research. The members of the parliamentary committee discuss the matters that are raised in the committee with their party colleagues in the Riksdag followed by Chamber debates and votes. Government is then informed of its decision leading to implementation.

With primary legislation or enabling legislation in place, many road safety regulations are introduced by simpler procedures.
3. Consolidating legislation
Key legislation is consolidated from time to time.

4. Finding legislative slots in government and parliamentary programs
A special road traffic legislation unit exists within the SRA to deal with government legislation. The main role, however, is performed by the Ministry of Industry, Employment and Communications which also takes on the liaison role with other government departments in deciding on legislative needs and exploring opportunities for legislative slots. Around 10 people in the transport policy department of the Ministry work on road safety.

SRA Role: Legislation
• The SRA has established a comprehensive legislative framework which has evolved over the years.
• The SRA proposes vehicle, roads and user rules and standards, some of which are agreed at EU level, with inspection and compliance carried out by departmental agencies and the police.
• The SRA has established in-house capacity to propose, ensure compliance with and monitor road safety standards for vehicles, roads and people as well as to provide policy advice.
• The SRA establishes small Commissions of Inquiry in developing and consolidating major primary legislation.

Funding and resource allocation

1. Ensuring sustainable funding sources
Road safety in Sweden is mostly funded by government and through general revenue which is then distributed to the SRA and other sectors.

In 1999, following the introduction of Vision Zero, funding to the SRA was doubled with a total of SEK 8.5 billion to be made available for road safety over 10 years. An increased and earmarked allocation was made to allow resource for road safety engineering measures such as roads with median cable barriers, safer intersections and road shoulders. SRA has also directly funded several police outputs aimed at casualty reduction. Recent annual expenditures by SRA on road safety include: approximately SEK 1.8 billion spent on infrastructure safety projects (2+1 treatments), with approximately SEK 80 million provided to police for operation of the speed camera program, approximately SEK 200 million spent on other road safety programs and some SEK 150 million spent on road safety research.

In addition, around 75% of the sale of personalized license plates is allocated primarily to road safety. The SRA is also permitted to retain a proportion of parking fines to cover administration costs, around 35% of each fine.

2. Establishing procedures to guide allocation of resources across safety programs
Vision Zero is not bound by procedures that will trade-off safety for other gains. However, procedures are established for benefit-cost analysis which is used to identify priorities for infrastructure spending, although such analyses are not used widely for other types of intervention in Sweden. Estimates of socio-economic costs are not formally established annually.

SRA Role: Funding and Resource Allocation
• The SRA ensures sustainable annual funding for road safety from general tax revenues which it allocates to its agencies through annual agreements and transport plans in support of Vision Zero intervention.
• The SRA has used ring-fenced funding on a regional basis to encourage local road safety engineering activity and Vision Zero demonstration projects as well as directly funding some police outputs to achieve results.
• Procedures are established for benefit cost analysis which is used to identify priorities for infrastructure road safety spending.
• Estimates of the value of preventing death and serious injury are not made annually, nor is cost-benefit analysis used widely in resource allocation for road safety work in the public sector.

Promotion

1. Promoting the far-reaching road safety vision or goal
Sweden has been active in promoting evidence-based road safety work, particularly in recent years through Vision Zero which has led the wide implementation of evidence-based measures, leading by example measures and the creation of new mechanisms for multi-sectoral promotion and engagement.

The introduction of Vision Zero (see Box 2) in Sweden marked a fundamental change in the promotional strategies for road safety. Prior to Vision Zero the emphasis in the promotional activity of the Swedish Roads Administra-
tion and the National Society for Road Safety was on how people in the community should behave. After Vision Zero, the emphasis in the activity of both organizations was the individual’s right to health in the transport system and the importance of demanding safer systems from the road operators. The promotion of Vision Zero requires engagement with society over the right to safety and the promotion of systems that are intrinsically safe, providing all parties meet their responsibilities.

2. Championing and promotion at a high level
The introduction of Vision Zero facilitated communication on road safety with politicians and decision-makers and changed political attitudes at national, regional and local levels. The Swedish Minister of Transport at that time engaged fully in advocacy of Vision Zero. The consequence of this positive attitude towards Vision Zero was to secure more money for road safety and rapid acceptance locally where much road safety work in Sweden is carried out.

3. Multi-sectoral promotion of effective intervention and shared responsibility
In Vision Zero, responsibility is shared between the providers of the system and road users. The system designers and enforcers—such as those providing the road infrastructure, the car manufacturing industry and the police—are responsible for the functioning of the system. At the same time, the road user is responsible for following basic rules, such as speed limits and not driving while under the influence of alcohol. If road users fail to comply with such rules, the responsibility falls on the system designers to redesign the system, including rules and regulations. The key stakeholders are brought together by government by means of a range of coordination arrangements to create partnerships and commitments to deliver this shared responsibility (e.g., the National Road Safety Assembly). The Assembly encourages members to issue declarations of intent and devise measures to promote improved road safety in the areas of speed, safety systems, sobriety on the roads and children and young people in traffic. The declarations are published on the SRA website.

4. Leading by example with in-house road safety policies
Another effect of Vision Zero was to help create demand for action on the part of policymakers and to create a market for road safety in Sweden. SRA cites evidence that safety is now selling in Sweden. In 2006, 91% of new cars sold were fitted with electronic stability control, 80% of new cars sold in Sweden were fitted with seat belt reminders and just over 50% of new cars sold in Sweden were 5 star (Euro NCAP car occupant rating). This fast-tracking of fitment of safety equipment has been encouraged by in-house policies.

Using safety ratings in travel policies. SRA has created a demand for road safety products and services as well as demonstrating the consistency of its approach by introducing in-house road safety policies. The rationale is that organizations are responsible for the work transport activity of their employees and should take active steps to reduce risks and promote safe and environmentally sound travel. The SRA has adopted a travel policy requiring a high level of safety using European New Car Assessment Programme information, limited weight and limited fuel consumption on all cars owned or rented. Most road safety stakeholders in Sweden now have safe travel polices.

Incorporating safety demands in transport contracts. Contracts have also been used to encourage safer transport services. The SRA has, for example, stipulated that the award of road transport contracts is conditional on the fitting of alcohol interlocks in all vehicles used by its contractors. In Sweden, alcohol interlocks are now installed in over 2000 vehicles and, since 2002 two major truck suppliers have been offering alcohol interlocks as standard equipment on the Swedish market. Advice has also been provided to local government on how to be more oriented towards safety in their dealings and contractual arrangements with suppliers of transport services and vehicles.

5. Developing and supporting safety rating programs and the publication of their results
The SRA has played a major role in the establishment and continued development of the European New Car Assessment Programme and European Road Assessment Programme (see Monitoring and Evaluation section). SRA using these safety ratings in its results management framework and publishes results widely.

6. Carrying out national advertising
In recent years, this activity has been carried out mainly by the National Society for Road Safety (NTF) and other non-governmental organizations have been active in promoting specific road safety issues through information and publicity.
7. Encouraging promotion at the local level
The Swedish Association of Local Authorities and Regions has been active in promoting road safety to professionals and elected representatives at local level, as has the NTF through its regional offices.

SRA Role: Promotion
• The SRA promotes the shared responsibility for road safety using Vision Zero.
• Lead agency ministers and parliamentarian played a key role in launching and promoting Vision Zero.
• The SRA coordinates multi-sectoral promotion and contracts out targeted road safety information which, in recent years, has been directed more to organizational stakeholders than the general public.
• The SRA helped to set up, chairs and supports the European New Car Assessment Programme which promotes vehicle safety. It has helped to develop and supports the European Road Assessment Programme.
• The SRA promotes the need to achieve road safety results to local and regional levels of government.

Monitoring and evaluation
Sweden has a long tradition in monitoring and evaluation of road safety. This, in general, is carried out comprehensively by the lead agency (at national and regional level), the Swedish Institute for Transport and Communications Analysis (SIKA), the Road Traffic Inspectorate (since 2003), research organizations, the municipalities and independent national and international experts.

1. Establishing data systems to set and monitor final and intermediate outcome and output targets

Vehicle and transport registries. The Traffic Registry and the Driving Standards Division of the SRA are profit centres that work within the framework of law and regulations. The units are responsible for the road traffic registry, driving licence system, and driver testing and supervision of examiners.

Final, intermediate outcome and exposure data. Official road traffic crash statistics are based on police data. The Swedish Institute for Transport and Communications Analysis (SIKA) is responsible for general and official statistics in the field of communication and transport. It publishes reports, statistical publications and annual reports (e.g., fatal and serious injuries in police reported road accidents and the number of vehicles registered in different categories).

The Swedish Traffic Accident Data Acquisition (STRADA) is a new information system which brings together police and hospital information to provide a better overall picture of serious road crash injury occurrence and consequence.

Intermediate outcome data is collected annually and published in the SRA’s Annual sectoral Report. The SRA has been instrumental in developing the technical protocol for the European cooperation program EuroRAP in 2001 which aims to provide information of road infrastructure safety. To date, around 7,000 km of national roads have been road safety classified according to EuroRAP.

In depth crash investigation. In 2003, the SRA was given the responsibility for coordinating and carrying out in-depth studies of all road traffic crashes. It conducts in-depth crash investigation of all fatal crashes and identifies whether or not fatal and serious injury could have been prevented.

2. Transparent review of the national road safety strategy in terms of results, interventions and institutional management functions
Final and intermediate outcomes are monitored against targets and by the SRA in its published Annual Report, the Swedish Institute for Transport and Communications Analysis (SIKA) and the Road Traffic Inspectorate, which also report on suggested improvements on the basis of specific studies and investigations. The research sector in Sweden and abroad (e.g., VTI and TOI) are also engaged in aspects of current performance review. Casualty results and performance indicators are published annually.

The Road Traffic Inspectorate was established in 2003 as a division of the SRA to monitor take up of Vision Zero by system designers and providers. While it enjoys a large degree of independence it is not entirely independent, as many stakeholders would have preferred. The Managing Director of the Road Traffic Inspectorate reports directly to the Board of SRA organization, and otherwise has a separate annual budget, program and decision-making hierarchy. It has sixteen staff members and an annual budget of around SEK 20,000,000 ($US 2.6 million). The tasks of the Inspectorate are as follows:

• To monitor and analyse conditions that could substantially affect the design and functioning of the road transport system through taking a holistic view of the
road safety goals adopted by public authorities, municipalities and others.

• In dialogue with the players referred to above, work to ensure that they apply a systematic procedure to prevent road accidents that result in death or serious injury.
• To cooperate with other players to improve traffic safety on roads.
• To initiate research and development within the road safety sector and monitor research of importance to the operations at the Inspectorate.

The Road Traffic Inspectorate follows up all national OLA projects identified in the Coalition for Road Safety and makes random checks of regional projects. To date OLA has been carried out in the following areas: heavy good vehicles in urban areas, bus passenger safety, safer moped traffic, young drivers aged 16–24, safer heavy goods vehicle transport and moped safety.

A University of Lund study for the Road Traffic Inspectorate in 2005 carried out a review of the SRAs in-depth studies of all fatal crashes and its work in respect of OLA. The Inspectorate concluded in 2006 that the National Assembly project, now renamed Joint Campaign for Road Safety, has been given well-defined goals and organizational structure by SRA. However, there is no evaluation or analysis, as yet, of the extent to which these areas contribute to the road-safety goal. It is recognised that the declarations of interest by stakeholders require active monitoring. SRA is moving to provide an increased focus on measurement of levels of achievement.

The Road Traffic Inspectorate’s management system for quality is based on ISO 9001:2000. The approach is process-based with production processes that are linked with the Inspectorate’s duties. The Analysis process creates and communicates analyses and conclusions regarding the conditions in road traffic. Discussion creates improved conditions in road traffic. Interaction creates the prerequisites for improved conditions and Research & Development creates and communicates new knowledge on the conditions in road traffic.

An independent peer review of road safety in Sweden was commissioned by the SRA in 2007. Sweden is the first high-income country to carry out and publish a qualitative assessment of current road safety management, using the World Bank framework and assessed its capacity to address the Vision Zero goal (Breen, Howard and Bliss, 2008). This involved transparent review of the national road safety strategy and its performance along the dimensions of results focus for the system as a whole, for interventions, and for institutional management functions.

At local level a special road safety audit for the road safety plans of municipalities was introduced in 2006 by the Swedish Association of Local Authorities and Regions. To date, around 30–35 municipalities have been assessed using this methodology.

3. Making any necessary adjustments to interventions and institutional outputs needed to achieve the desired results

Results of monitoring are fed into in-house and consultation body review (see Results Focus).

SRA ROLE: MONITORING AND EVALUATION

• Sweden has a long tradition in monitoring and evaluation of road safety. This, in general, is carried out comprehensively by the lead agency (at national and regional level), the Swedish Institute for Transport and Communications Analysis (SIKA), the Road Traffic Inspectorate (since 2003), research organizations, the municipalities and independent national and international experts.
• The SRA and its partners have established databases to identify and monitor final and intermediate outcomes against targets and the results are published annually.
• The SRA played a key role in the establishment of the European New Car Assessment Programme and European Road Assessment Programme, both of which monitor vehicle fleet and aspects of road network safety.
• The SRA established the Road Traffic Inspectorate to help monitor road safety performance and the effectiveness of stakeholder activity.
• The SRA commissioned and published a road safety management capacity review in terms of results, interventions, and institutional management functions.

Research and knowledge transfer

1. Developing capacity for multi-disciplinary research and knowledge transfer

Sweden has long recognized the importance of road safety research in informing its road safety strategies and activities. A recent report carried out by the Institute for Trans-
port Economics in Oslo (TOI) confirmed that research has had a major impact on Swedish road safety policy development and road safety results. The SRA maintains a ‘total effect’ catalogue which outlines the effectiveness of different interventions.

A number of research funding organizations were amalgamated in 2001. VINNOVA and the SRA are the two national governmental agencies which provide government funding for road safety research as well as in-house capacity and management. A large variety of organizations—both from Sweden and abroad (e.g., TOI and Monash)—engage in national as well as EU-funded research. These include the Swedish National Road Research Institute (VTI), the Traffic Inspectorate, Folksam Research, Chalmers University of Technology, the Universities of Lund and Uppsala, and Volvo.

**Swedish National Road Research Institute (VTI).** Conducts a wide range of research in the road transport field including road safety. Its research is mainly funded by government.

**Folksam** a Swedish insurance company has carried out road safety research for many years and produces and publishes safety ratings on in-car safety. Research focuses on in-depth car crash investigation. Many projects are conducted together with Swedish universities (e.g., Chalmers Institute for Technology), government and the car industry. In 1999, Folksam introduced a safety and environmental policy for all rental cars used by Folksam policyholders.

**Volvo** has long been involved in in-car safety research towards improved safety design and has a vehicle safety test centre in Göteborg which conducts full-scale crash tests, simulations and component testing.

### 2. Creating a national road safety research strategy and annual program

There is no published national road safety research and development program.

### 3. Securing sources of sustainable funding for road safety research

There is a large public sector budget for road safety research with major governmental support for vehicle technology and industry-led programs. A joint SRA/industry working group has been established to examine the potential benefits of new technologies under development.

### 4. Training and professional exchange

The SRA has been active in encouraging the transfer of knowledge on best practice and has supported national organizations and international organizations (e.g., activities of the European Transport Safety Council) towards this end. The Swedish International Development Agency (SIDA) works with road safety in international development and is a member of the World Bank Global Road Safety Facility.

### 5. Establishing good practice guidelines

SRA has cooperated with the Swedish Association of Local Authorities in preparing a range of technical guidelines, planning tools and road safety handbooks (e.g., on school transport for local use). The Association has been successful in communicating a wide range of good practice to practitioners in the municipalities for the implementation of *Vision Zero* strategies (e.g., *Calm Streets* (1998)), and to elected representatives (e.g., *One Moment*). It is currently producing a catalogue of proven cost-effective local measures.

### 6. Setting up demonstration projects

The SRA has also funded demonstration projects such as *En Route to Vision Zero* at Trollhättan to illustrate how *Vision Zero* can work in practice. The 2 year project commenced in 2000 and was carried out in co-operation with the Trollhättan Municipality, Saab Automobile AB, the National Society for Road Safety, the Police Authorities, the Swedish Association of Local Authorities and the Western Götaland regional authorities. In this project a 39km circuit of ordinary municipal streets and state roads was redesigned according to the principles of *Vision Zero* including raised pedestrian crossings, bus stops in the shape of an hour glass preventing cars from passing while the passengers board and alight, advanced traffic signals, roundabouts, central guardrails and separated cycle lanes on the highway as well as removal of intersections and fixed objects. The inhabitants of Trollhättan were informed and engaged throughout the project. Road safety professionals from all over the world come to Trollhättan and could drive along the circuit in a number of best practice Saab 9–5 cars equipped with an alcohol interlock, a new type of seat belt reminder and an Intelligent Speed Adaptation system. A study showed that 75% of the 53,000 inhabitants gave positive feedback to the demonstration project.
SRA Role: Research and Development and Knowledge Transfer

- Sweden has a long and internationally recognized tradition in road safety research which has had a major impact on policy and results.
- The SRA has ensured secured funding and capacity for road safety research and knowledge transfer.
- The SRA supports attendance of its personnel at international road safety meetings, seminars, workshops and field visits.
- The SRA and its partners have developed and disseminated best practice guidelines on road safety.
- The SRA funds Vision Zero demonstration projects.

Summary: SRA delivery of institutional management functions

Results focus. The Swedish Road Administration (SRA) is the accountable lead agency for road safety in Sweden. It has the main responsibility in Sweden for managing the country results focus, reviewing performance and proposing goals and targets and carrying out interventions in the road network. The SRA developed and leads Vision Zero and is responsible for the achievement of national targets underpinned by a performance agreement with the Ministry of Industry, Employment and Communications.

Coordination. The SRA established, chairs, manages and provides a dedicated in-house secretariat for each of the three consultative bodies which engage governmental partners in road safety as well as other key stakeholders in addressing Vision Zero and national targets. These bodies aim to share knowledge, discuss interventions and stimulate stakeholder contributions rather than act as decision-making bodies at the national level. The SRA also ensures that there is vertical coordination between governmental bodies and funds tools for use by regional and local authorities, as well as specific road safety outputs. In recent years it has expanded its external partnership capacity to deliver the challenging Vision Zero concept and has developed effective road safety partnerships individually and through its consultation bodies with a wide range of professional, research, non-governmental, user and industry groups. It seeks to ensure stakeholder accountability through its OLA process which involves the use of Declarations of Intent.

Legislation. The SRA has established a comprehensive legislative framework which has evolved over the years. It proposes vehicle, roads and road user rules and standards, some of which are identified and agreed at EU level, with inspection and compliance carried out by departmental agencies and the police. The SRA has established in-house capacity to propose, ensure compliance with and monitor road safety standards for vehicles, roads and people as well as to provide policy advice. It establishes Commissions of Inquiry when developing and consolidating major primary legislation.

Funding and resource allocation. The SRA ensures sustainable annual funding for road safety from general tax revenues which it allocates to its agencies through annual agreements and transport plans in support of Vision Zero interventions. It has used ring-fenced funding on a regional basis to encourage local road safety engineering activity and Vision Zero demonstration projects, as well as directly funding some police outputs to achieve results. Procedures are established for cost-benefit analysis to identify priorities for infrastructure road safety spending. However, estimates of the value of preventing death and serious injury are not made annually, nor is cost-benefit analysis or cost-effectiveness analysis used widely in resource allocation for safety work in the public sector.

Promotion. The SRA promotes the shared responsibility for road safety using called for by the Vision Zero strategy. Ministers and parliamentarians played a key role in launching and promoting Vision Zero. The SRA coordinates multi-sectoral promotion and contracts out the dissemination of targeted road safety information which recently has been directed more to organizational stakeholders rather than the general public. It helped to set up, chairs and supports the European New Car Assessment Programme which promotes vehicle safety. The SRA also promotes the need to achieve road safety results to local and regional levels of government.

Monitoring and evaluation. Sweden has a long tradition in the monitoring and evaluation of road safety. This is carried out comprehensively by the lead agency (at national and regional levels), the Swedish Institute for Transport and Communications Analysis (SIKA), the Road Traffic Inspectorate (since 2003), research organizations, the municipalities and independent national and international experts. The SRA and its partners have established databases to identify and monitor final and intermediate outcomes against targets and the results are published annually. Safety rating programs are used to monitor aspects of vehicle fleet and road network safety respectively. It established the Road Traffic Inspectorate to help monitor

**Research and development and knowledge transfer:** Sweden has a long and internationally recognised tradition in road safety research which has had a major impact on policy and results. The SRA has ensured secured funding and capacity for road safety research and knowledge transfer. It supports the attendance of its staff at international road safety meetings, seminars, workshops and field visits. The SRA and its partners have developed and disseminated good practice guidelines on road safety. The SRA also funds Vision Zero demonstration projects.

**Lead agency structures**
The aggregate and organizational structures of the lead agency for road safety in Sweden are set out in Figures 3 and 4.

Coordination structures and a description of related processes are set out in the section on *Coordination* and in Figure 2.

The overall responsibility for road safety rests within the Journeys by Citizens Department which is one of two main horizontal Departments of the SRA. A Traffic Safety Director sits within the Director-General’s senior management team who has the central controlling function for all road safety work. Road safety expertise sits mainly within the Society and Traffic Department of the SRA. The operational activity is mainly conducted by the 7 regional offices. Road safety is integrated into the multiple goals of sustainable development with the SRA’s road safety responsibilities set out in a 1998 policy statement (see Box 9).5

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5 Some of the SRA’s institutional management functions including legislation and inspection (and the Inspectorate) are being transferred to a new Swedish Transport Agency which was established in January 2009. A new road safety strategy department was established in SRA’s Society and Traffic Department in 2008.
**Figure 4:** Organizational structure and processes of the Society and Traffic Department of the Swedish Road Administration (2006)

**Box 9: Role and responsibilities of the SRA for road safety—1998 Policy Statement**

- The Swedish Road Administration has been commissioned with the overall responsibility for road safety within the road transport system. Every head of division is responsible for the effect his/her area of responsibility has on road safety. Road safety endeavours shall be conducted as an integral part of other operations.
- In its capacity as the central administrative agency responsible for the entire road transport system, the Swedish Road Administration has been commissioned with the overall responsibility for road safety within the road transport system and shall monitor and actively promote developments within this area. This also means an obligation to endeavour to improve the transport system as a whole as required by road safety considerations.
- In its capacity as road manager the Swedish Road Administration is responsible for road safety on the state road network. Included in this responsibility is that the construction and maintenance works contracted by the Swedish National Road Administration shall be subjected to stringent environmental demands and that the Administration shall encourage contractors to develop production methods that are adapted to road safety.
- As an organization the Swedish Road Administration is responsible for road safety in all internal activities. Our dominant position as a road authority offers us a great potential for being able to promote road safety considerations in technological developments relevant to our sphere of operations.

- The Director-General is ultimately responsible to the Board of Directors for ensuring that road safety is taken into consideration within all areas of operation at the Swedish Road Administration.
- Every head of division is to ensure that road safety is taken into consideration within his/her area of responsibility. He/she shall also endeavour to ensure that fellow colleagues increase their awareness and knowledge about the impact of their own activities and that of the entire road transport system on road safety. It is also incumbent on him/her to set the style and through his/her leadership strive to increase road safety awareness. This obligation also includes ensuring adherence to this policy.
- Every employee at the Swedish Road Administration shall be familiar with the road safety policy and work according to its intentions.
- All employees are expected to set a good example through respecting traffic rules and otherwise exhibiting good conduct in traffic, both during and outside working hours.
- The Traffic Safety Director’s department monitors the work conducted on road safety within the entire organization and throughout the road transport system as a whole.”

*Source: SRA, 2006.*
The recent independent review on road safety management noted that the SRA has been the lead agency for road safety since 1993 and has established an international reputation over the years for enlightened road safety leadership.

Before 2002 a single organizational unit existed for road safety. Since then road safety functions have been distributed among a number of sections.

**Bibliography**

1.5. Road safety organization in the State of Victoria, Australia

National and state context

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Source: VicRoads, Victoria

The State of Victoria, located in the south eastern corner of mainland Australia, occupies only 3% of the nation’s land mass but has one quarter of the country’s population, more than 70% of whom live in Melbourne. While geographically small on the Australian scale, Victoria is larger than many European countries.

Australia has a National Road Safety Strategy 2001–2010 which was drawn up and is administered by the Australian Transport Safety Bureau (ATSB) which is part of the Australian Department of Transport and Regional Services in Canberra. The National Strategy reflects the aspirations of its 5 states and 2 territories. It was adopted by the Australian Transport Commission (ATC) comprising the Ministers of Transport from all the states and territories in Australia. The ATC is supported by two national organizations: Austroads and the National Transport Commission.

VicRoads is the road agency within the Department of Infrastructure which leads the preparation and delivery of the State road safety strategy and targets. It reports to the Minister for Roads and Ports. VicRoads was formed in 1989 during a period of corporatization of government services.

Road safety responsibilities in Victoria are shared at national, state and local levels. The state has responsibilities for setting and securing compliance with standards for the planning, design and operation of the road network, driver licensing and testing, emergency medical care and the development of road safety visions, strategies and targets for Victoria. Responsibility for road safety is shared between federal, state, local, and government as well as private operators. Others increasingly rest with local authorities, who are responsible for road safety engineering and other activities on local roads. Decentralization of the operational activity of the State Police has also taken place.

Victoria has a performance-based approach to the government delivery of services. Over the years, state agency strategic planning and output planning have emerged as the key drivers of implementation. Road safety is integrated into transport and health policies and promoted to local government, developers and the planning community as a prime consideration in significant land use planning and development decisions. Improving road safety is one of the key priorities of the Victorian government’s vision for building friendly, confident and safe communities under Growing Victoria Together. Prompt and effective medical treatment is estimated to have the potential to prevent up to 11% road deaths in Victoria and the strategy states that the responsible sectors will undertake to develop and implement improved trauma and emergency services in Victoria, supported by the key road safety agencies. Road safety strategies also reflects the contribution of public transport to achieving the government’s goals by addressing issues such as the safety and accessibility of the State’s train, tram, bus and taxi interchanges. The Arrive Alive! Strategy was delivered in accordance with the Linking Victoria transport strategy, the Victorian Motorcycle Road Safety Strategy 2002–2007 and Victoria’s Vehicle Safety Strategy 2004–2007.

Victoria has long been regarded, nationally and internationally, as an innovative leader in road safety policy and action and in its efforts to reduce road casualties. Victoria’s road traffic death per 100,000 of population is at the forefront among nations with similar levels of motorization and similar patterns of urbanisation and vehicle mix/road use. This is attributed to a regularly reviewed and clearly defined strategy which sets out the roles and accountabilities of agencies, and an integrated and strategic approach by the key stakeholders with good liaison and strong performance management in outputs and contracts. A continuing and substantial decrease occurred within the life of the last strategy 2002–2007 (see Figure 1).

Victoria’s emphasis has been principally on the strategy of setting and securing compliance with key road safety rules, although a new Safe System approach has recently been devised. Road safety legislation has been enforced vigorously and Victoria operates one of the most controlled road use regimes in the western motorized world. In 2002 over 1.4 million Victorians were breath tested under the random breath testing program and over 30 million drivers had their speed checked by cameras. Sig-
significantly, the community has accepted the restrictions as being in the public interest due to the willingness of the primary institutions (the transport agency, the government injury compensation insurer and the police) to work cooperatively, the advocacy of opinion-leaders from the medical profession and academia, support from the all-party Parliamentary Committee and, especially in the earlier years, strong media support.

This case study focuses on State delivery of institutional management functions, the lead agency role and the structures and processes put in place to achieve road safety results.

**State delivery of institutional management functions and lead agency role**

**Results focus**

Leadership responsibilities in the State of Victoria and accountabilities for action are well defined and relate closely to the coordination function. An organizational framework exists for analyzing data and safety performance and setting final and intermediate outcome targets at State level as well as allowing effective response to the national agenda.

**Lead agency**

VicRoads (the Victoria Road Corporation) is the lead agency for road safety in the State of Victoria. VicRoads works very closely in a partnership with the Transport Accident Commission, Victoria Police and the Department of Justice, who play a major role and whose ministers have also signed up to the national road safety strategy.

Road safety is one of four core businesses for VicRoads led by a General Manager, who reports to the Chief Executive. VicRoads has a dedicated Road Safety Department comprising 55 staff. VicRoads’ stated road safety aim is to achieve a sustainable reduction in the number and severity of road crashes and the cost of road trauma by delivering road safety programs that target all road users.

**1. Appraising current road safety performance through high-level strategic review**

VicRoads’ Road Safety Department leads performance review, target-setting work and road safety strategy development and dedicates a large part of its road safety department to the Strategies and Programs Section which has five units.
In developing new targets and strategies, substantial in-house review and discussion of road safety performance takes place in consultation with partner organizations in the coordination hierarchy.

2. Adopting a far-reaching road safety vision or goal for the longer term

The Victorian government road safety agencies have adopted the Safe System approach. This approach anticipates that no-one should lose their life or be permanently disabled on Victoria’s roads if they are obeying the road rules, and the key safe system elements are in balance and at “best practice” levels. This approach has much in common with the Vision Zero and Sustainable Safety concepts. Its emphasis however, is on aiming to obtain road user compliance with adequate road rules and thereafter balancing three key areas: safer roads and roadside collisions, safer vehicles, and a safer speed environment. The approach is based on the premise that crashes will happen (despite the focus on prevention) and that people should be able to withstand the external forces of collisions to avoid the outcome of death or serious injury.

The Safe System approach was adopted in Victoria in 2003 as a basis for reducing road trauma. A new State strategy arrive alive 2008–2017 incorporating this approach was introduced in February 2008 (though this has not specifically stipulated a long term goal of elimination of deaths and disability, as in Vision Zero).

3. Analyzing what could be achieved in the medium term

A bottom-up targeting process is used in determining Victoria’s final outcome targets. Preparatory technical work was carried out by the Monash University Accident Research Centre for Victoria’s last two road safety strategies. A safety impact analysis of a variety of initiatives in the draft a strategy was conducted. On the basis of this and traffic and casualty forecasting, the lead agency proposed targets and a strategy which followed the input and consultation findings from the key partners in the coordination hierarchy. The projected outcome target was based on detailed analyses which established likely outputs by the main stakeholders for certain key policy initiative inputs.

4. Setting targets by mutual consent across the road safety partnership

Final outcome targets

Victoria has engaged in strategic road safety planning and target-setting since 1990, although the first target of a 50% reduction in deaths and plan was not published. This was followed by the first formal strategy (though without targets and accountability mechanisms) in 1995—Safety First 1995–2000. The government’s last road safety strategy, Arrive Alive! was underpinned by a final outcome target to reduce death and serious injuries on Victorian roads by 20% between 2002–2007. It was proposed by the lead agency and approved by the Ministerial Council and the Victorian parliament. The strategy addressed a total of 17 key system-wide road safety challenges and Victoria achieved a 19.7% reduction between 2002 and 2007. In the new arrive alive 2008–2017 strategy, the Victorian government aims to reduce deaths and serious injuries by 30% by 2017.

Output targets. Police road safety outputs have been a feature of police and road safety strategies for many years. For example, reducing the road casualty toll and the incidence of road trauma by 20% by 2007 as targeted in Arrive Alive! was one of four policing performance targets in Victoria Police’s published business plan for 2003/4. In this plan, Victoria Police’s road traffic law enforcement activity was based on analysed trends and patterns in the available information, to determine which activities would have the greatest impact in terms of reducing the level and impact of road trauma on the Victorian community. Two sets of Victoria Police output targets dealt explicitly with road safety: targeting driver behavior and partnership policing.

The targeting driver behavior output focused on initiatives, programs and operations designed to reduce the incidence of impaired driving and other traffic offenses. The quantity measures for this output reflect specific strategies employed by police to effect driver behavior and effectiveness is measured by the level of compliance with road traffic laws. The 2003/2004 output targets and results are presented in Table 1.

5. Establishing mechanisms to ensure stakeholder accountability for results

The roles and responsibilities of the key governmental stakeholder are set out in Victoria’s road safety strategy and in annual stakeholder plans. VicRoads works in close partnership with the Transport Accident Commission, Victoria Police and the Department of Justice, who play a major role and whose ministers sign up to national road safety strategies.

Each agency reports to the Ministerial Council on Road Safety. The Chief Executive of VicRoads, which is respon-
sible for road safety strategy within the tri-partite partnership, has the reduction of road crash death and injury as a formal criterion in the performance-driven employment remuneration package. The road safety policing performance targets were noted in the previous section.

VicRoads Role: Results Focus

- VicRoads leads the management of state focus on achieving safety results and works to ensure that system-wide interventions are agreed and implemented by the responsible authorities.
- VicRoads proposed the Safe System approach which has been adopted by government.
- VicRoads has established a results management framework for appraising performance and identifying what could be achieved in the medium term. It leads the development and delivery of safety strategies and action plans agreed with its high-level coordinating body. This strategy includes interim targets for deaths and serious injuries as well as institutional outputs for policing activity.
- VicRoads’ responsibility for the achievement of state road safety targets is underpinned by a performance agreement with the Minister of Transport. VicRoads is also annually accountable for a range of outputs associated with the safe planning, construction, and operation of state roads.
- Stakeholder accountability is established by the main governmental stakeholders who sign up at the highest level to a published strategy with quantitative targets.
- VicRoads has established substantial in-house capacity for road safety strategy development and its coordination, legislative needs, funding and resource allocation, monitoring and evaluation, knowledge transfer and the management of external research and development.

Table 1: Performance measure of institutional outputs—Victoria Police

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Coordination

1. Horizontal coordination across central government

One notable feature of road safety organization in Victoria is the sophistication of coordinated activity at multiple levels to allow high-level decision-making, as well as broad consultation in the lower levels of the hierarchy, to achieve results. The structure of the coordination hierarchy is shown in Figure 2.

The Ministerial Road Safety Council was established in 1999 which comprises the ministers responsible for VicRoads, the TAC, and Victoria Police as well as the Department of Justice. With Victoria’s past focus on behavioral legislation, the partnership between the four state agencies has provided a robust means of achieving difficult implementation, where more than one agency is required to be involved, in communication to the public when difficulties in implementation arise and, above all, in achieving support from government for new and sometimes challenging initiatives.

The Council meets four times each year and ensures the achievement of a coordinated approach to road safety in Victoria. It has provided a powerful voice in Cabinet for the pursuit of road safety policies and has been critical in achieving support across government for funding of new initiatives as well as legislation. The role of Chair of Council rotates at each meeting. The group has signed off successive Arrive Alive! road safety strategies.

The Road Safety Executive Group comprises the chief executive officers and senior road safety representatives of
the same organizations represented on the Ministerial Road Safety Council to which it reports, supports and from which it receives direction. The Group determines strategic directions, monitors and reports progress to the government through the Ministerial Council. The Group meets approximately four times annually and the role of the Chair rotates between agencies.

The Road Safety Management Group with representation from senior road safety officer from the four key stakeholders and the Departments of Education and Training and Human Services meets monthly and the chair is rotated. There are many specialist groups linked to the Management Group including Education, Local Government and Community Road Safety Councils. There is a link to national road safety activity through a national forum which meets twice yearly. With VicRoads as the key link, the group coordinates implementation of the road safety strategy, develops and implements programs and interventions to give effect to the strategy, reviews identified programs, identifies and implements research priorities, maintains links with the National Road Safety Strategy, promotes a coordinated state-wide program of activities, and supports development and implementation of educational initiatives including the Traffic Safety Education Action Plan.

The Road Safety Reference Group meets quarterly and is chaired by the VicRoads’ General Manager of Road Safety. It comprises a broad range of stakeholders, including road user, road transport industry and medical organizations. The Group develops action and research proposals,
sets up issue-based action groups to tackle major concerns and coordinates the activities of its members.

The *Transport Industry Safety Group* meets 6 times each year. It comprises the road safety partners, transport industry and unions, the WorkSafe Authority and the State Coroner’s Office and focuses on heavy vehicle-related safety issues.

**Local government.** Each municipality identifies local issues, develops and implements municipal road safety strategies and action plans, builds links with community groups interested in road safety and Community Road Safety Councils and interventions to give effect to the strategy.

The *Saferoads Partnership* between the Municipal Association of Victoria, Local Government Professionals, VicRoads, Victoria Police, the TAC and the Royal Automobile Club of Victoria was established in 1999 with the aim of reducing the incidence and severity of road crashes in municipalities through multi-action programs, increased use of local government networks and increased road safety awareness and resourcing at the local level. A Memorandum of Understanding between the Saferoads partners has been established setting out clearly the roles and responsibilities of each partner. Councils are encouraged to develop municipal road safety strategies and incorporate them into their Corporate Plans. VicRoads and local authorities provide 50% funding to programs.

There are 24 *Community Road Safety Councils* in Melbourne and rural areas comprising representatives of government stakeholders, and a range of organizations and individuals. Their aims are to develop and implement community programs consistent with Victoria’s road safety strategy, and to develop support and close liaison between the groups involved. CRSCs play a significant advocacy and public awareness role in promoting road safety at a local level. Their funding comes from VicRoads ($1.89 million in 2005–2006) and local business and community groups.

The *Traffic Safety Education Group* consists of senior managers from the key agencies, the Department of Education, Employment and Training and representative bodies. The Group plans activities, organizes/implements activities, monitors implementation of actions.

*Trauma and Emergency Service* consists of members of the relevant government departments and health care professionals responsible for the provision of the Victorian State Trauma System. The Victorian Trauma Foundation aims to provide a better system of trauma care for all Victorians who are critically injured on the road, at work or at home to be achieved through better coordination and improved infrastructure and research within the trauma system. One of the Foundation’s initial priorities is to establish systems for monitoring and evaluating the processes and outcomes of trauma management. The Foundation includes representation of key stakeholders and professionals involved in the management of trauma services in Victoria, and oversees funding allocation for projects urgently required and most likely to deliver measurable improvements.

A dedicated and funded coordination secretariat sits within VicRoads (see Box 1).

*Victoria Police* is an arm of the Department of Justice, and its role in road safety is enforcement, crash investigation, reporting and prosecution and community education which it carries out over five regions and a network of 63 local policing areas. It employs more than 13,100 people, including police, public servants, forensic officers, reservists and protective security officers operating out of 328 police stations and other facilities. Victoria Police’s annual budget in 2003/04 was approximately $1.2 billion.

**Box 1: The role of the coordination secretariat in Victoria**

The Road Safety Department of VicRoads provides the secretariat for the work of all coordinating committees for road safety in Victoria. The primary role of the secretariat is to:

- Initiate, develop and deliver road safety strategies and programs that contribute to the road safety outcomes of strategies such as the *Arrive Alive! Victoria’s Road Safety Strategy 2002–2007* having regard to the trends in road trauma.
- Coordinate and influence the development and implementation of road safety strategies, provide effective support and facilitate the management of the road safety management and coordination structure.
- Work in partnership with national umbrella organizations, local government and community groups to increase their involvement, participation and commitment to improving road safety outcomes.
- Improve existing partnerships and establish new external partnerships to increase their contribution to Victorian road safety programs.
The Traffic and Transport Services Department of Victoria Police is one of many support departments for the five regions and provides technical support and coordination for the road safety activity of Victoria Police as well as other traffic functions. The department has its own separate budget and it also manages other non road safety-related activity. There are approximately 458 members of staff.

The Traffic and Transport Services Department’s State Traffic Advisor coordinates the Regions’ Traffic Officers Forum which meets monthly, to work towards road safety strategies agreed with corporate partners. Enforcement activity in Victoria is coordinated with publicity and other events organized by other stakeholders using an annual diary of events. Various units have been established within the Department to carry out or advise on traffic safety activity:

- **Policy Unit** (13 staff) was established in 2000. The role of the Unit is to develop, plan and evaluate road safety legislation, policies and programs in agreement with the State Road Safety Strategy.

- **The Traffic Alcohol Section** (63 staff) was established in 1961 and runs seven 'booze buses' within their fleet. It has the responsibility for the coordination of 'booze bus' operations, blood sampling systems, breathtesting and training, legal and technical services, and education about drink and drink impaired driving. The Section undertakes around one million random breath tests per year via the metropolitan bus program. They manage the hospital blood sampling system and provide proactive programs in support of compliance with the drink driving legislation. The Section manages all drink driving technology across the State providing legal and technical support to police personnel. As well as bus operations, the Section provides a targeted covert enforcement operation directed at repeat drink-drivers.

- **The Road Safety Task Force** (22 staff) is primarily oriented towards targeted traffic enforcement that involves the detection and apprehension of offending drivers. The Highway Section consists of unmarked vehicles targeting traffic and commercial heavy vehicle operations. Enforcement operations are balanced by the provision of advice and training to other areas within Victoria Police and the transport industry. Success has been achieved within the transport industry through continuing liaison, education programs and safety-based strategies undertaken in cooperation with employer and employee representative groups.

- **Safety Camera Program** (41 staff). Over 150 speed cameras and 75 red light cameras currently operate throughout Victoria. Police carry out additional speed enforcement measures, using mobile radar laser equipment, in areas where speeding has been identified as a problem. On average over 2.8 million vehicles are checked every month. The aim of speed and red light cameras is to change driver behavior, not to catch out motorists and raise revenue. Since being introduced safety cameras have contributed to a significant decrease in the number of fatal and serious injuries on Victoria’s roads.

- **The Special Solos (Motorcycles)** (21 staff) provide a specialist service both on and off road throughout the State. The key area of deployment is targeted traffic law enforcement on road infrastructure and off-road in forests and parks. Members are committed to increasing awareness of motorcycle safety within the community and work with government and community groups to achieve safer roads for riders.

- **The Major Collision Investigation Group** (40 staff). The MCIG is normally required to inspect and investigate fatal hit-run vehicle collisions, fatal crashes where there is evidence of criminal negligence by a surviving driver, and multiple vehicle collisions involving three or more fatalities. In relation to fatal motorcycle collisions, the MCIG maintains an investigative role only. This role is restricted, however, to those situations where there is evidence that the surviving motorcycle rider or the driver of another vehicle involved, was criminally negligent in causing the fatality.

- Victoria Police has also put in place an in-house vehicle fleet management and safety policy which, amongst other things, is designed to provide employees with the safest vehicles possible.

Delivery partnerships of Victoria Police feature as output targets in their annual plan. The partnership approach to road safety requires coordination with other agencies and service providers, involving Federal, State and Local Government organizations and non-government organizations. Road safety comprises one of six targeted partnerships and 123 road safety partnerships were targeted for 2003/4 (see Table 2).

**Transport Accident Commission (TAC).** The TAC is a Victorian governmental organization set up in 1986. Its role is to operate a no-fault injury insurance scheme and to provide investment in road safety interventions, public
awareness, and advertising. Funding used by the TAC to perform these functions comes from payments made by Victorian motorists when they register their vehicles each year with VicRoads. The TAC’s mission is to reduce road trauma and its impact on the lives of crash victims in a caring, efficient and financially responsible manner. Its role is set out in legislation (see Box 2) and in the government’s road safety strategy.

The TAC’s road safety strategy is to:

- be a leader in innovative, effective road safety programs and communications;
- invest significant resources in areas:
  - likely to deliver highest safety impact as evidenced by reputable research
  - where the problem is well defined and behavior is modifiable
  - where there is strong legislation/enforcement support
- evaluate the costs and benefits of all major programs;
- support the initiatives of key road safety partners.

2. Vertical coordination from central to regional and local levels of government

Key responsibilities for road safety are devolved to local highway and regional police authorities in Victoria and, as in other countries, steps have been taken to provide central encouragement and support through a variety of mechanisms.

The importance of local activity was underlined in the state road safety strategy with the stated aim of strengthening linkages with local government through provision of support in the development and implementation of municipal road safety strategies and through the work of Local Priority Policing Committees.

Local Priority Policing was introduced in 1999 and, organizationally, Victoria Police went from a Central to a Regional command structure. District Traffic Management Units comprise traffic personnel who are also available for other duties as required. Local Safety Committees established under the Local Priority Policing Strategy are consulted about the allocation of traffic enforcement resources at high-risk locations and to address high-risk behaviors. Enforcement activity in Victoria is coordinated with publicity and other events organized by other stakeholders using an annual calendar of events (see Box 3). A range of delivery partnerships with other stakeholders has been established.

Local road safety partnerships. The lead agency has developed, supported and participated in various initiatives aimed at encouraging local activity in road safety. These include the Saferoads partnerships and RoadSafe—the network of Community Road Safety Councils.

Saferoads is a partnership between Local Government Professionals, Municipal Association of Victoria, VicRoads, Victoria Police, TAC and RACV. The Saferoads strategy launched in 1999 was an important milestone for local road safety. The Strategy launched by local government aims to reduce the incidence and severity of road casualties through multi-action programs, increased use of government networks and increased road safety awareness and resourcing at the local level. A Memorandum of Understanding between the Saferoads partners has been es-

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Box 2: Transport Accident Act 1986 and the road safety objectives of the TAC

• To collect and assess data and statistics in relation to transport accidents.
• To provide advice to the minister in relation to matters specifically referred to the Commission by the minister and generally in relation to the administration of the Act and the compensation scheme under the Act.
• To promote the prevention of transport accidents and safety in use of transport.
• To promote, so far as is possible, a program designed to secure the early and effective medical and vocational rehabilitation of persons injured as a result of transport accidents to whom or on behalf of whom the Commission is or may become liable to make any payment under the Acting Powers of the Commission.
Box 3: Police partnerships in Victoria and the Road Safety Calendar

All day to day traffic policing activity is a consequence of the Victorian Road Safety Strategy which is a dedicated partnership between Victoria Police, VicRoads and the Transport Accident Commission (TAC). The Chief Commissioner of Police and the Chief Executive Officers determine overall protocols, budgets, direction and goals for the forthcoming year’s commitment. Once the protocols have been determined, the department heads meet to determine issues such as enforcement strategies and other relevant operational activity.

The Road Safety Calendar is then published and circulated to all stakeholders. Victoria Police distribute it to all District Commanders for implementation. The Calendar is updated every 6 months. The Calendar coordinates publicity and enforcement by indicating what and when enforcement activity is to be carried out and when activities are to be advertised in the press. The calendar encourages unified state-wide enforcement but is sufficiently flexible to allow traffic policing to address any unique local problems.

3. Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels

VicRoads and TAC are members of the Australasian New Car Assessment Programme (ANCAP) and promote its safety ratings. They also promote the Used Car Crash Ratings program to encourage fleet and private vehicle purchasers to give priority to safety when buying a vehicle.

The VicRoads Vehicle Information Package (VIP) provides important current and historical vehicle registration information that enables prospective purchasers to make more informed decisions when buying a second-hand car.

Non-governmental engagement

A range of non-governmental and community organizations are represented on the coordination hierarchy in the Road Safety Reference Group and in Saferoads. The leading non-governmental road safety organization in Victoria is the leading road injury prevention research organization—Monash University Accident Research Centre (MUARC) which, at senior level, champions the state focus on results and evidence-based interventions and carries out research, monitoring and evaluation (see research and knowledge transfer section).

The Royal Automobile Club of Victoria is also an active in promoting the State road safety strategies through Saferoads, in particular, and in communicating views on road transport policy, including road safety, to government, parliament and the media.

Business sector engagement

In Victoria business support for road safety is encouraged by the lead agency in a variety of ways. The road transport and vehicle manufacturing industries are represented in Victoria’s road safety co-ordination hierarchy in the Transport Industry Safety Group which meets 6 times each year.

Work-related road safety is promoted by a national strategy and improved fleet safety is a key objective of Victoria’s Vehicle Safety Strategy and associated action plan. VicRoads has also adopted an in-house safe fleet purchase policy and has produced guidance to employers on safer driving. At local level, in 2005, 30 municipalities had developed safe driving policies, stimulated by Saferoads Programs.

Business sector support for promotion of the national road safety strategy is sought, for example, through support for events such as the annual Saferoads conference.
4. Parliamentary relations at central, regional and local levels

An all-party Parliamentary Road Safety Committee has existed in Victoria since the 1970s. Its public inquiries paved the way for much of the government’s innovative action including the introduction of seat belt legislation and a range of other measures. It has proven to be an effective means of de-politicizing issues and ventilating matters for public debate. VicRoads and other road safety partners engage with the Committee in the coordination hierarchy and contribute to briefings and hearings. For example, in 2005–2006, VicRoads coordinated the preparation of the draft government response to the Committee inquiries into the Country Road Toll and Crashes Involving Roadside Objects. The government supported 57 of the 70 recommendations in the former and 48 out of 50 recommendations in the latter.

The Parliamentary Road Safety Committee comprises seven members of parliament drawn from both Houses and all Parties. The Committee elects the Chair. The Committee has a secretariat of 4—an executive officer, two research officers and an officer manager.

The functions of the Committee are set out in legislation and are: ‘... to inquire into, consider and report to the parliament on any proposal, matter or thing concerned with (a) road trauma; (b) safety on roads and related matters.’ The Road Safety Committee does not have legislative or regulatory powers. It holds public inquiries, reporting to parliament with recommendations and government is required to respond within 6 months. There are five distinct phases of the Inquiry process:

1. The Committee advertises its Terms of Reference and calls for submissions (providing guidance to the public on how to make a submission). A Discussion Paper may be prepared and published.
2. The Committee gathers information, including fact and opinion found in submissions and presented in Public Hearings, inspections and field trips.
3. The Committee considers the arguments, evidence and data it has gathered. Findings and recommendations are agreed upon.
4. The Committee tables a report, including its recommendations, in the parliament.
5. The minister who initiated the Inquiry or who has portfolio responsibility for the matter addressed by the Inquiry (usually the Minister for Transport) is responsible for replying to the Committee’s recommenda-

The Committee typically investigates one major road safety issue in each calendar year and since 1992 it has produced 11 reports (www.parliament.vic.gov.au/committees).

VicRoads Role: Coordination

- VicRoads manages a system of multi-sectoral coordination to engage all key players with governmental responsibilities in road safety as well as other key players in the state road safety strategy.
- VicRoads has established strong delivery partnerships for the strategy and key interventions with the police, the government insurance organization and the Department of Justice.
- VicRoads provides in-house capacity for the secretariat of the coordination hierarchy and its committees.
- VicRoads establishes tools and programs for use by regional and local authorities and develops and supports community programs and partnerships (Saferoads) at local level.
- VicRoads engages actively with the Parliamentary Road Safety Committee, the research, business and non-governmental sectors.

Legislation

Victoria has been a world leader in legislation designed to curtail high risk behaviors and facilitate the enforcement of such legislation. Examples of legislative measures are shown in Box 4.

1. Reviewing the scope of the legislative framework periodically

VicRoads as the Victorian government’s road authority has the responsibility of establishing road and user standards for the network. This also includes the setting of speed limits on state and national roads.

The General Manager—Road Safety from VicRoads through the Road User Behavior Unit and the VicRoads Legal Services Department have responsibility for reviewing and developing proposals for major road user safety legislation in consultation with the road safety partnership. The key governmental partners in this process are the Department of Justice Enforcement Unit, the Department of Justice Legal Services for criminal on-road offenses and Victoria Police who review enforceability. One
IMPLEMENTING THE RECOMMENDATIONS OF THE WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION

Box 4: Key legislative interventions in Victoria over a 40 year period

1961 Compulsory helmet wearing for motorcyclists
1970 Compulsory seat belt wearing for all passenger vehicle occupants
1974 Compulsory testing for blood alcohol level of injured persons (over 14 years) treated at hospital
1976 Legislation to permit random breath testing (RBT)
1981 Compulsory use of child restraints where children are carried in front seats
1983 Red light cameras introduced
1984 Zero blood alcohol law for first year drivers (extended in 1987 to the three years of licensing)
1986 Speed cameras introduced
1990 Compulsory helmet wearing for bicyclists
1992 Zero blood alcohol level for heavy vehicle drivers
1998 Speed camera operation by civilians
2001 Mandatory loss of license for BAC > 0.07
2003 Legislation to permit random roadside saliva testing to detect drivers under the influence of illicit drugs
2003 Mandatory alcohol interlocks for repeat drink driver offenders @ BAC 0.15 and above
2003 Introduction of point-to-point speed measurement legislation
2004 Implementation of random drug testing.

2. Developing legislation needed for the road safety strategy

The Minister for Transport (VicRoads’ Minister) has responsibility for the Road Safety Act (and Regulations) which are subject to Cabinet and parliamentary approval. Prior to consideration by the Cabinet, proposals are required to be circulated to major departments for comment. The initiating department collates comments further and lodges the bill. When bills are introduced into the House, the Opposition often requests full briefings by the Road Safety Department staff. A Business Impact Assessment is required for legislative proposals to Cabinet and Regulatory Impact Statements (published for comment) are required for regulations.

Vehicle standards legislation is introduced at federal level, although Victoria participates in research and development and is consulted, along with other states, on the content of national proposals for Australian Design Rules and standards agreed internationally. The peak body for decision making on these matters is the Australian Transport Council (ATC). VicRoads is responsible for licensing vehicle testers and premises to carry out annual roadworthiness testing on vehicles prior to registration transfer, for the clearance of vehicle defect notices and for carrying out random vehicle testing site audits. Auditing and the provision of field support for the network of 37 private sector inspectors within the Vehicle Identity Validation System is also carried out by VicRoads. VicRoads approves signatories to the Victorian Vehicle Assessment Signatory Scheme whereby signatories can certify that modified, individually constructed or imported vehicles comply with Victoria’s standards for registration.

Victoria uses its coordination hierarchy as well as public consultation processes to consult on new policy options and strategies.

3. Consolidating legislation

The consolidation of road safety regulations takes place every 10 years. State experts from the lead agencies also play a role in helping to consolidate federal legislation. For example, in the interests of ensuring that road rules were up to date and consistent throughout the country, Australian Road Rules were harmonized and consolidated in 1999 which eliminated many differences between the rules of different states which had existed mainly for historical reasons. Legal teams from road safety departments in the state lead agencies played a key role in this process.

4. Finding legislative slots in government and parliamentary programs

VicRoads uses its coordination body to explore the opportunities for legislative slots in developing governmental programs of legislation with its road safety partners at the higher levels of the hierarchy.

VicRoads Role: Legislation

- VicRoads uses its coordination hierarchy to find legislative slots for road safety and for consultation on proposals for legislative change.
- VicRoads establishes in-house capacity to help set, ensure compliance with and monitor road safety standards for vehicles, roads and people as well as to provide policy advice.
The road safety department plays a major role in developing, consulting on and consolidating major primary road safety legislation.

The lead agency provides a Business Impact Assessment for legislative proposals to Cabinet and Regulatory Impact Statements (published for comment) are required for regulations.

Funding and resource allocation

1. Ensuring sustainable funding sources
The principal sources of funding for road safety in Victoria are state government funding, some national government funding and revenue raised from the compulsory state injury insurance scheme administered by the TAC as well as revenue from speed and red light camera fines. A road safety levy was originally set at 3% of the injury insurance premium but the current level is 10%. Victoria’s governmental expenditure on road safety for 2004/5 is shown in Box 5.

The VicRoads Road Safety Department administers road improvement funding through VicRoads’ five rural regions and two metropolitan regions. In 2002, additional allocations for safer road infrastructure were made, as a prerequisite for achieving Arrive Alive targets, resulted in substantial increases. In the 2003/2004 financial year, $71 million (representing 7.5% of VicRoads total expenditure) was allocated to road safety.

The Transport and Traffic Services Department of Victoria Police has a budget of around $29 million. In addition, each region’s budget allocates a certain amount of resources to traffic operations and road safety outputs.

The Transport Accident Commission’s annual budget for road safety initiatives is approximately $25 million. Of this around, 80% is spent of public education campaigns (production and media placement) and the remainder on other road safety programs.

VicRoads Role: Funding and Resource Allocation

- VicRoads ensures dedicated funding sources for road safety from the National Road Fund and provided a means through the Road Safety Administration program to finance road safety outputs from different ministries.
- VicRoads reviews periodically the value of preventing road traffic deaths and serious injuries to allow a strong business case to be made for expenditure on road safety.
- VicRoads provides in-house lead agency capacity to evaluate safety costs and benefits, estimate program funding needs and prepare related business cases.

Box 5: Victoria’s expenditure on road safety 2004/5

Victoria’s expenditure on road safety (across Victoria Police, VicRoads, the Department of Justice and the Transport Accident Commission (TAC)) in 2004/5 was formally estimated at more than $370 million:

- $53 million in direct expenditure on road safety programs in VicRoads
- $62 million for the safer roads infrastructure program ($240 million over the life of the program)
- $18 million for the state-wide blackspot program ($240 million over the life of the program)
- $149 million for general road infrastructure improvement of which 10 percent was estimated to be for safety improvements and $195 million of VicRoads expenditure on maintenance (of which 10 percent was considered as a contribution to road safety)
- $50 million for processing traffic infringements
- $25 million for road safety awareness, enforcement and technology programs at the TAC
- $130 million for Victoria Police road enforcement and road incident traffic management

In the 2005/6 budget, the government announced that from 1 July 2005, all speed and red-light camera fines revenue would be spent on road safety. In 2005/6, revenue is predicted to increase to $233.4 million.

Sources: Ministerial Council for Road Safety and the Department of Justice, Auditor-General of Victoria’s Report, Making travel safer: Victoria’s speed enforcement program, Melbourne 2006
Promotion

1. Promoting the far-reaching road safety vision or goal
The Safe System concept provides the future vision for road safety work in Victoria and is the focus of current promotional effort within the framework of Arrive Alive! strategies.

2. Championing and promotion at a high level
Political leadership from government ministers is established in the Arrive Alive! strategies with each of the lead agencies coming together in the Ministerial Council for Road Safety.

The Monash University Accident Research Centre (MUARC), makes an important contribution to high-level championing of the road safety strategy. The mission of MUARC is through ‘... high-standard research and independent recommendations, to challenge and support citizens, government and industry to eliminate serious health losses due to injury.’ As well being a leading contributor of research and evaluation of road safety policies, MUARC contributes to parliamentary hearings and public debate.

3. Multi-sectoral promotion of effective intervention and shared responsibility
Strong partnerships have been formed by the main agencies to promote effective intervention and shared responsibility (see Box 6).

4. Leading by example with in-house road safety policies
Both VicRoads and the TAC have in-house road safety and fleet purchasing policies.

5. Developing and supporting safety rating programs and the publication of their results
VicRoads is a member of and supports the Australasian New Car Assessment Programme. The program is supported by Australian and New Zealand automobile clubs, the state government road and transport authorities of Victoria (VicRoads), NSW, South Australia, Queensland, Tasmania and Western Australia and the New Zealand government.

VicRoads also funds and publishes Used Car Safety Ratings (developed by Monash University Accident Research Unit) on its website.

6. Carrying out national advertising
The TAC’s primary role in the Victorian government’s road safety strategy is to develop effective communication Programs on speeding, drink-driving, fatigue, driver inexperience, and safer vehicles. In addition to major media campaigns addressing these issues, lower budget tactical campaigns address other issues of concern such as motorcycle safety and youth risk taking. Other programs managed by the road safety area include:

- research and demonstration projects to explore and showcase new technologies and ways of addressing road safety issues e.g., TAC SafeCar project which trialled a range of high end safety technologies in average fleet vehicles
- enhanced enforcement projects in partnership with police to develop new enforcement technologies and innovative traffic enforcement programs
- websites and other on-line products to assist targeted road user groups (e.g., the learnerslog.com.au—an interactive logbook which enables learner drivers to enter their driving hours and experiences on line and howsafeisyourcar.com.au—a website that allows motorists to compare the safety ratings of cars they are thinking about purchasing).

The majority (80%) of its annual road safety budget ($25 million) is spent on media campaigns to influence attitudes and support traffic enforcement and to developing and supporting education. The TAC has also provided financial support for police activity, in supporting breath...
testing and providing speed detection equipment. It also undertakes road safety research.

TAC has also sought to maximize promotional opportunities for road safety from its sports and music sponsorships such as appointing a young Victorian footballer as the TAC Youth Road Safety Ambassador. Besides its VicRoads and Victoria Police partnerships, it has developed partnerships with not-for-profit organizations such as REACH which targets the welfare of young people.

7. Encouraging promotion at the local level
Community Road Safety Councils play a significant advocacy and public awareness role in promoting road safety at a local level supported by the lead agency.

RoadSafe involves the community in reducing road trauma by addressing local road safety issues. It consists of a coordination network of 24 RoadSafe Community Road Safety Councils across Victoria. Membership includes interested volunteers such as:

- road user groups
- health/education professionals
- local government
- emergency services
- media representatives
- senior/youth representatives
- local businesses
- Victoria Police

Saferoads Strategy provides a framework for councils to develop and implement local road safety strategies targeting key local issues to save lives and reduce the devastating costs of road crashes. Saferoads is a partnership between Local Government Professionals, Municipal Association of Victoria, VicRoads, Victoria Police, TAC and RACV.

VicRoads Role: Promotion

- VicRoads promotes the shared responsibility for delivery of the road safety strategy through the Safe System approach.
- Lead agency ministers play a key role in launching and promoting the strategy.
- VicRoads participates in multi-sectoral promotion in support of the major themes of the strategy.
- VicRoads supports the Australasian New Car Assessment Programme.
- VicRoads develops community road safety strategies and tools to promote the state strategy at local level.
- VicRoads provides in-house capacity for promotion of the state strategy and community programs.

Monitoring and evaluation

1. Establishing data systems to set and monitor final and intermediate outcome and output targets
Responsibilities for different crash data/exposure data/health data systems fall principally to VicRoads, the TAC, the Department for Human Sciences and Victoria Police. Monash University Accident Research Centre (MUARC) plays a key role in managing and hosting information systems, including the Victorian Injury Surveillance and Applied Research Centre (VISAR). The National Coroners Information System (NCIS) is at the Institute of Forensic Medicine and the Victorian Trauma Registry (VSTORM) is based at the Department of Epidemiology and Preventive Medicine.

Socio-economic costs. The socio-economic costs of crashes in Victoria in 2003 were estimated by the Victorian Auditor General at $3.4 billion (on the basis of lost output and direct costs).

Vehicle and transport registries. The Transport Registry comprising vehicle and driver registries is part of the VicRoads organization.

Travel data. VicRoads has collected in-house or commissioned key data for several decades. For example, the Victorian Activity and Travel Survey (VATS) was launched in 1993 as a continuous year round household survey of travel patterns in Melbourne.

Final outcomes

Police-reported data. About 38,000 crashes per year are reported to the police on a standardized collision report form. Initial crash reports are received within 10 days, although crashes involving fatalities are reported daily on incident fact sheets. There are five levels of collision investigation, although these are not applicable to all crashes:

1. Reporting—basic data collection and identification of vehicles and persons
2. At-scene investigation—examination and recording of physical evidence
3. Technical preparation—delayed data collection by those with special training
4. Professional reconstruction—investigation requiring engineering and scientific skills
5. Cause analysis—determination of the cause of the collision

The data collected from the collision reports are used to do the following:

- Identify and validate safety camera sites.
- Identify black spot intersections and locations (VicRoads).
- Identify areas for enforcement and local road safety initiatives.
- Assist with the deployment of Booze Buses.
- Identify locations for road environment improvements (VicRoads, TAC and police).
- Report under the Victoria Police Business Plan.
- Measure road trauma outcomes each year.
- Update the Victoria Police Intranet and Internet Web pages.
- Map locations and trends.
- Deploy resources.
- Provide information for the Victoria Police Media Unit.

A minor crash is reported, fault is established, and a penalty notice may be issued if the law is breached. A moderately serious crash is reported with a scene investigation, and a brief is prepared or a penalty notice is issued. A major crash is reported, and depending on the circumstances, the scene is investigated, a technical investigation and reconstruction are conducted, and the result is preparation of a summary and a criminal or coroner’s brief of evidence.

**VicRoads enhancement of crash data.** Crash data input from Victoria Police is used to identify and understand road safety issues, develop policy and strategy, develop programs and projects, measure performance and benchmarking, evaluate outcomes, and conduct safety research and development.

The Road Information Systems group at VicRoads supports road crash data systems management. The data collection and data support activities are conducted under contract to the Road Safety Department at VicRoads. The information from the police collision forms obtained from Victoria Police is GIS coded and linked to other information databases in VicRoads. Accident classification is added as well as alcohol data from the hospitals and coroner. VicRoads’ Road Crash Information System (RCIS) provides access to fatality accidents within 24 hours and information on injury accidents within about 2 months delay. The RCIS is used to identify high-risk sites and lengths of road and to provide updates on government performance indicators. A parallel system has been developed for Intranet and Internet access on the VicRoads website which is updated every 6 months.

**The Transport Accident Commission’s claims database** contains details of road crash victims whose injuries are serious enough to allow them to make a claim for damages under the no-fault compulsory insurance scheme.

**The Monash University Centre for Coronial Information** was established in 1997 to manage the development of a National Coroners’ Information System (NCIS). Information contained in the Coroner’s database includes medical reports, pathologist reports on causes of death, witness and police reports. This data supplements crash data already in the police and VicRoads crash databases.

MUARC is responsible for the **Victorian Injury Surveillance and Applied Research Program (VISAR)** which has been funded by the Department of Human Services since 1993. It provides a comprehensive injury surveillance system, including death data from the Australian Bureau of Statistics, coroner data from the National Coronial Information System, as well as hospital admissions and emergency department data.

**The Victorian State Trauma Registry** monitors the state-wide system of trauma management in order to reduce preventable deaths and permanent disability from major trauma. It was established in 2001 coordinated by the VSTORM group based at the Department of Epidemiology and Preventive Medicine at Monash University. The Victorian State Trauma Registry aims to collect information on major trauma patients from every hospital and healthcare facility managing trauma patients across the state. In its second year of operation, the registry collected information from 129 facilities.

**The National Transport Injury Database (NTID)** was initiated by the Australian Transport Safety Bureau in 2002. It contains hospital data for all patients in Australian hospitals and is checked and amended for duplicates, anomalies etc.

Annual monitoring of final outcome targets takes place in Victoria and is published on VicRoads and TAC websites.
There is monitoring in annual reports of a range of final outcomes shown in Box 7.

Periodic reporting of road crash fatalities (daily) and road crash information (monthly and on demand) is used for many purposes.

**Intermediate outcomes**

VicRoads commissions surveys of free travel speeds in Melbourne and regional Victoria every six months. It calculates average speeds for the Melbourne sites, median speeds for the rural sites and 85th percentile speeds for all sites. VicRoads also commissions seat belt surveys from time to time. The Transport Accident Commission assembles the Victoria Police data on BAC testing rates monthly. The Australian Road Assessment Programme (AusRAP) provides monitoring data of elements of the safety of the road network across Australia, including Victoria. VicRoads is a member of the Australian New Car Assessment Programme (ANCAP) and contributed $150,000 to the crash testing program in 2005–2006.

**Outputs**

The outputs of Victoria Police which contribute to output targets are given in Table 1.

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**Box 7: Final outcomes—performance indicators used by VicRoads**

<table>
<thead>
<tr>
<th>Road safety strategies and coordination</th>
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<tbody>
<tr>
<td>Annual fatalities</td>
<td>Number of blackspots/black lengths treated</td>
</tr>
<tr>
<td>Serious casualties</td>
<td>Number of crashes where fixed objects were hit</td>
</tr>
<tr>
<td>Casualties</td>
<td>Number of crashes involving trains at level crossings</td>
</tr>
<tr>
<td>Casualties per 100 million vehicle kilometers</td>
<td></td>
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<tr>
<td>Number of serious casualty crashes per 100,000 population</td>
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<tr>
<td>Number of serious casualty crashes per 100 million vehicle kilometers</td>
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<tr>
<td>Number of persons killed per 100,000 population</td>
<td></td>
</tr>
<tr>
<td>Number of persons killed per 100 million vehicle kilometers</td>
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<tr>
<td>Number of persons killed per 10,000 vehicles registered</td>
<td></td>
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<tr>
<td>Number of persons hospitalized per 100,000 population</td>
<td></td>
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<tr>
<td>Number of persons hospitalized per 100 million vehicle kilometers</td>
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<tr>
<td>Social cost of serious casualty crashes per 100,000 population</td>
<td></td>
</tr>
<tr>
<td>Social cost of serious casualty crashes per 100 million vehicle kilometers</td>
<td></td>
</tr>
</tbody>
</table>

| Safer users |  |
| Number of motorcycle fatalities per 10,000 motorcycles |  |
| Number of pedestrian fatalities per 100,000 population |  |
| Number of truck occupant fatalities per 100 million vehicle kilometers |  |
| Number of drivers (and riders) killed with a blood alcohol concentration (BAC) greater than .05 |  |
| Number of pedestrians killed with a blood alcohol concentration (BAC) greater than .05 |  |
| Percentage of drivers killed detected with an illegal blood alcohol concentration (BAC) |  |
| Young drivers (and riders) killed/seriously injured as a percentage of all drivers (18 to 25 years) |  |
| Older drivers (and riders) killed/seriously injured as a percentage of all drivers (60 plus years) |  |

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2. **Transparent review of the national road safety strategy in terms of results, interventions and institutional management functions**

The road safety strategy is subject to a mid-term review with a program for the implementation of road safety priorities being carried out throughout the life of the strategy. There is parliamentary scrutiny of performance with an annual report for VicRoads to the Road Safety Committee.

Evaluations of individual measures to reduce crash incidence and severity are carried out by independent research organizations. The contracts for these tasks are usually funded and managed by VicRoads and/or TAC. The proposals are either put out to tender or are put into the baseline program of MUARC or, if funded by Ausroads, can be put on the ARRB Group program. For example, MUARC undertook evaluations of the ‘booze bus’ and speed camera programs including their supporting publicity campaigns. Other projects estimated the contribution of other factors to the overall reductions in casualty crashes including the accident black spot program, bicycle helmet wearing and the downturn in the economy.

A multi-disciplinary in-depth crash investigation project was put out to tender by VicRoads and won by MUARC. The project includes interviews with hospital victims and...
IMPLEMENTING THE RECOMMENDATIONS OF THE WORLD REPORT ON ROAD TRAFFIC INJURY PREVENTION

looks at issues including enforcement, vehicle and road design and driver behavior. A team of trained investigators and road safety experts investigate approximately 80 representative crashes involving a fatality or severe injury.

3. Making any necessary adjustments to interventions and institutional outputs needed to achieve the desired results

Regular review of road safety performance is carried out by the lead agency and partners and presented and discussed in the state coordination committees. The *Arrive Alive 2008–2017 strategy* states that ‘analysis of trends in road trauma will continue during the life of the strategy to ensure that planned initiatives remain applicable. Over five years, changes will occur that may require adjustment of the proposed initiatives before implementation, to allow Victoria to take advantage of the latest approaches to road safety and trauma reduction.’

**VicRoads Role: Monitoring and Evaluation**
- Monitoring of the road safety strategy is a VicRoads responsibility and performance reviews and follow up are discussed within the coordination hierarchy.
- VicRoads and other governmental stakeholders have established roads authority, insurance and health sector databases to identify and monitor final and intermediate outcomes and outputs against targets.
- VicRoads establishes and publishes the socio-economic cost of road traffic injuries on a periodic basis.
- VicRoads manages the vehicle and driver registries, carries out travel surveys and participates in the Australasian New Car Assessment Programme to assist monitoring of vehicle fleet safety.
- VicRoads reports annually on road safety performance to parliament.

**Research and knowledge transfer**

1. Developing capacity for multi-disciplinary research and knowledge transfer

Victoria has well-developed capacity for road safety research. While much of the early research was carried out in-house, most research is now carried out by external research institutions which are independent of government.

A variety of research organizations and universities contribute to building road safety knowledge both in transport and health sectors. Monash University Accident Research Centre (MUARC) and the Australian Road Research Board are two examples of leading research institutions carrying out road safety research in Victoria.

*Monash University Accident Research Centre (MUARC).* MUARC was established in 1987 and is Australia’s largest multi-disciplinary, injury and injury prevention research institute covering transport, the workplace, the home, and recreational and other community locations. It carries out over 60% of Victoria’s road safety research. MUARC is independent of government and receives external funding from a range of sources. It publishes its accounts annually and subjects its activity to regular independent review. It works co-operatively with both public and private sector organizations to define the scope of research projects and encourage the adoption of recommended injury prevention measures. Many of the senior researchers at MUARC are active at the national and international level.

MUARC is part of Monash University and has a Board of Management which brings together senior representatives of governmental agencies responsible for road safety and a road user organization. The Board monitors the general performance and direction of the Centre’s program. The Centre has around 100 staff and postgraduate students covering many disciplines. Most staff are involved principally with road safety. The annual income is around $8 million. The two main sources of funding are government and research grants (mainly from commercial research).

MUARC was set up originally to meet a need for an independent, multi-disciplinary research organization to undertake longer term road research as well as safety evaluation. It was considered that outsourcing research to a University Centre would be more effective and efficient than undertaking it within government departments.

The Centre evaluated the ‘booze bus’ and speed camera programs including their supporting publicity campaigns. The initial process and outcome evaluations provided early feedback to the police and TAC, which was used to fine tune the programs. The large benefit/cost ratios calculated for these two programs (greater than 20:1) were important in decisions to continue investment of considerable resources in these programs. Further analyses, for additional projects, estimated the contribution of other factors to the overall reductions including
the accident black spot program, bicycle helmet wearing and the downturn in the economy. MUARC has provided policy and strategic advice based on research, through representation on the Victorian Road Safety Coordination Council and its successor, the Road Safety Reference Group. Staff have provided advice on the results of Victorian road safety initiatives to road safety authorities and police internationally. MUARC also carried out a road safety impact analysis of the initiatives of the state road safety strategy. In addition MUARC coordinates the Victorian Trauma Registry.

ARRB Group (formerly Australian Road Research Board). The ARRB’s founding purpose in 1960 was to conduct public interest research, and this endeavor continues. With its head office based in Melbourne, the ARRB group carries out consultancy and research on various aspects of road safety, road safety strategy, road user behavior and road safety engineering. It also develops crash risk analysis tools and good practice guidelines.

2. Creating a national road safety research strategy and annual program
The arrive alive 2008–17 strategy includes an integrated road safety research component to be delivered primarily via a restructured Monash University Accident Research Centre (MUARC) baseline program to which VicRoads and partners contribute financially. An MOU was drafted which specifically aligned the baseline program with the arrive alive strategy and the associated action plans. The arrive alive 2008–17 strategy states that ‘Victoria will remain at the forefront of road safety research through continual interaction with global experts, the Monash University Accident Research Centre and other research specialists. A significant step in research will be the establishment of a specific program with MUARC to develop solutions for activities central to achieving strategy goals and ensuring targets are achieved.’

3. Securing sources of sustainable funding for road safety research
VicRoads together with other governmental partners such as the Transport Accident Commission ensures annual support for research through the strategy and from own budgets.

4. Training and professional exchange
VicRoads runs a professional exchange program involving staff secondments of one or more years’ duration between VicRoads, the ARRB Group and Monash University Accident Research Centre. It also runs a road safety course aimed at professionals working in road safety in Australia and internationally. VicRoads also plays a role in international road safety development initiatives.

5. Establishing good practice guidelines
Aided by professional organizations such as Austroads, ARRB, the Royal Australian College of General Practitioners, MUARC, the Community Road Safety Council and Saferoads partnership, VicRoads and its governmental road safety partners develop and fund a range of activities focused on developing professional knowledge and promoting best practice. In developing new guidance typically VicRoads sets up an Advisory Group comprising a range of stakeholders and experts such as the Speed Limits Advisory Group or the Work-related Road Safety Advisory Group to encourage multi-sectoral approaches and ownership.

Austroads is the association of Australian and New Zealand road transport and traffic authorities. Austroads members are the six Australian state and two territory road transport and traffic authorities, the Federal Department of Transport and Regional Services (DOTARS), the Australian Local Government Association (ALGA), and Transit New Zealand. It plays a key role in knowledge transfer in Victoria by carrying out research, preparing guidelines and other tools for information exchange. Austroads has set up a National Road Safety Taskforce with senior road safety representatives from all state road authorities and the federal Australian Transport Safety Board to oversee the national road safety research program.

6. Setting up demonstration projects
Demonstration projects are undertaken periodically by the road safety partnership in support of the road safety strategy and to demonstrate emerging technologies. For example, the TAC SafeCar project aimed to stimulate demand in Australia by company fleet car owners, and in the longer term by the general community, for in-vehicle ITS technologies that have significant potential to reduce the incidence and severity of road trauma. This was a joint research, development and evaluation project involving as key partners the Victorian Transport Accident Commission, Ford Australia and the Monash University Accident Research Centre (MUARC). This group was supported by VicRoads and a broad range of local and international supporting partners from government and industry including...
VicRoads Role: Research and Development and Knowledge Transfer

- VicRoads has ensured the establishment of comprehensive state-wide capacity for road safety research and knowledge transfer and, with its partners, assigns annual budgets for road safety external research.
- VicRoads ensures in-house capacity for road safety research management.
- VicRoads and its partners align research provision to strategy needs.
- VicRoads makes provision for training and professional exchange program and runs an annual international road safety course.
- VicRoads supports the production and dissemination of good practice guidelines, as well as demonstration projects.
- VicRoads plays a role in international development initiatives.

Summary: VicRoads’ delivery of institutional management functions

**Results focus.** VicRoads (the Victoria Road Corporation) is the lead agency for road safety in the state of Victoria. It leads the management of the state’s focus on achieving road safety results and works to ensure that system-wide interventions are agreed and implemented by the responsible authorities across government and wider society. VicRoads works with a Safe System approach adopted by government. It has established a results management framework for appraising performance and identifying what could be achieved in the medium term, and leads the development and delivery of safety strategies and action plans agreed within its high-level coordinating body. This strategy includes interim targets for deaths and serious injuries, as well as institutional outputs for policing activity. VicRoads’ responsibility for the achievement of state road safety targets is underpinned by a performance agreement with the Minister of Transport. It is also annually accountable for a range of outputs associated with the safe planning, construction, and operation of state roads. Accountability is established by the main governmental partners who, at the highest level, sign up to a published strategy with quantitative targets. VicRoads has established appropriate in-house capacity for road safety strategy development and its coordination.

**Coordination.** VicRoads manages a system of multi-sectoral coordination to engage all key players with governmental responsibilities in road safety as well as other key players in the state road safety strategy. It has established strong delivery partnerships of the strategy and key interventions with Victoria Police, the Transport Accident Commission (the government insurance organization) and the Department of Justice. VicRoads provides in-house capacity for the secretariat of the coordination hierarchy and its committees. It establishes tools and programs for use by regional and local authorities and develops and supports community programs and partnerships (Saferoads) at the local level. VicRoads engages actively with the Parliamentary Road Safety Committee, and the research, business and non-governmental sectors.

**Legislation.** VicRoads has built in-house capacity to help set, ensure compliance with, and monitor road safety standards for vehicles, roads and people as well as to provide policy advice. It plays a major role in developing and consolidating primary road safety legislation. VicRoads provides a Business Impact Assessment for legislative proposals to Cabinet, and Regulatory Impact Statements (published for comment) are required for new regulations. It also uses its coordination hierarchy to find legislative slots for road safety and for consultation on proposals for legislative change.

**Funding and resource allocation.** The principal sources of funding for road safety in Victoria are state government funding, some national government funding, and revenues raised from the compulsory state injury insurance scheme administered by the TAC and from speed and red light cameras. A road safety levy was originally set at 3% of the injury insurance premium and the current level is 10%. VicRoads reviews periodically the value of preventing road traffic deaths and serious injuries to allow a strong business case to be made for expenditure on road safety. It provides in-house lead agency capacity to evaluate safety costs and benefits, estimate program funding needs and prepare related business cases.

**Monitoring and evaluation.** Monitoring of the road safety strategy is VicRoads responsibility and performance reviews are discussed within the coordination hierarchy. VicRoads and other governmental stakeholders have estab-
lished roads authority, insurance and health sector databases to identify and monitor final and intermediate outcomes and outputs against targets. VicRoads establishes and publishes the socio-economic cost of road traffic injuries on a periodic basis. It manages the vehicle and driver registries, carries out travel surveys and participates in the Australasian New Car Assessment Programme to assist the monitoring of vehicle fleet safety. VicRoads reports annually on road safety performance to parliament.

Research and development and knowledge transfer. VicRoads has ensured the establishment of a comprehensive state-wide capacity for road safety research and knowledge transfer and, with its partners, assigns annual budgets for road safety external research. It ensures in-house capacity for road safety research management. VicRoads and its partners align research provision to strategy needs. VicRoads makes provision for training and professional exchange programs. It also supports the production and dissemination of good practice guidelines, as well as demonstration projects. VicRoads plays a role in international development and runs an international road safety training course.

Lead agency structures
The aggregate and organizational structures of the lead agency for road safety in Victoria are set out in Figures 3 and 4.

Coordination structures and a description of related processes are set out in the section on Coordination and in Figure 2.

VicRoads has a dedicated road safety department with 55 staff. The department comprises a broad range of policy units covering the safety of different elements of the road traffic system and allowing the delivery of its management functions. The size of the strategy and programs unit reflects the substantial program development role of VicRoads as well as its multi-sectoral coordination role.

Figure 3: Aggregate structure of the lead agency for road safety in Victoria, Australia (2005)
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1.6 Road safety organization in the State of Western Australia

National and State context

**KEY FACTS: 2006**

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</tr>
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<td>202</td>
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</table>

*Source: Office of Road Safety, Western Australia*

Western Australia (WA) is the largest of the six states and two territories that make up the Commonwealth of Australia. It occupies the western third of the Australian mainland and covers an area which is over four times the size of the area of France. However it is home to only 10% of the country’s total population, with 80% of the state population living in the capital city Perth.

Each Australian state has responsibility for roads, health and education, police services, motor vehicle registration and driving licensing. Vehicle standards however, are largely determined at the national level. Transport is also primarily a state concern, although federal government funds are provided for national roads. Local government is responsible for constructing and maintaining most roads not included in the national or state network. National and state government funding is provided for some state-managed and locally maintained roads under various schemes, including a national black spot funding program. Within the framework of the *National Road Safety Strategy 2001–2010*, all states and territories cooperate and work within an agreed National Road Safety Action Plan.

WA’s experience in developing and implementing a results-oriented road safety strategy is enabling it to play a key role in relation to the National Strategy. Its development reflects the assistance and support received from other jurisdictions and especially from the state of Victoria (see previous case study).

With over 50,000 kilometers of sealed and 127,000 kilometers of unsealed roads, and minimal passenger rail services outside Perth, WA relies extensively on its road network for transporting both people and freight and many Western Australians travel long distances by motor vehicle for business, to attend educational institutions, access health services or simply for recreation or social purposes.

While roads, in general, are of a reasonable standard, given the kilometers covered and the low population density, most major roads outside the Perth metropolitan area have two undivided traffic lanes and are not of a standard that would be considered high in many other developed countries. Given its size, and strong dependence on road transport, Western Australia faces some very special challenges in attempting to reduce road trauma in rural and remote areas, especially amongst the indigenous (Aboriginal) population.

Road crashes are one of the leading causes of premature death in WA, with an average of 39 years of potential life lost per death. The estimated cost to society of fatal and serious injury road crashes is high, around $1.8 billion annually. Significant progress, however, has been made in reducing road death rates during the last 15 years as shown in Figure 1.

The Office of Road Safety (ORS) forms part of the Department of the Premier and Cabinet. It is the lead agency within government for the development, coordination, communication (including mass media), monitoring and reporting on progress of road safety policy and strategy. It works in close partnership with the state coordinating body—the Road Safety Council.

The current institutional arrangements for managing road safety owe their origin to a Parliamentary Committee. In 1995 the Fifth Report of the Select Committee on Road Safety *Administration and Coordination of Road Safety in Western Australia* reported that the key inhibitors to significant improvements in road crash statistics included:

- lack of a central agency to take responsibility for road safety;
- inadequate coordination of road safety efforts;
- inappropriate allocation of ministerial portfolios and organizational responsibilities;
- inadequate levels of funding for some aspects of safety improvement; and
- an inadequate framework to enable road trauma issues to be identified and overcome.

In early 1996, the state government recommended ‘fundamental administrative changes to improve road safety in Western Australia.’ In 1997, the Office of Road Safety (ORS),
and the Road Safety Council (RSC) of WA were established in legislation. The police service, which previously had been responsible for road safety, continues its data collection, crash investigation and enforcement functions.

In recent years the WA government has moved to place a greater emphasis on outcomes, outputs and strategic goals in its corporate governance requirements. Broad goals and strategic outcomes for the state are set out in *Better Planning: Better Services—A Strategic Planning Framework for Western Australia*. Goal number one within that framework ‘is to enhance the quality of life and well being of all people throughout Western Australia.’ Strategic outcomes for that goal include: ‘safe and secure Western Australian communities;’ and ‘enhanced, safety, security and well-being of the vulnerable within our community.’ The government’s regional development policy, *Regional Western Australia—A Better Place to Live*, also includes as a priority ‘a substantial reduction in regional road fatalities.’

This case study focuses on state delivery of institutional management functions, the lead agency role and the structures and processes put in place to achieve road safety results.

**Results focus**

Western Australia moved to a results-oriented focus in managing road safety, with the publication of the *Way Ahead* road safety strategy in 1997, *Arriving Safely: Road Safety Strategy for Western Australia 2003–2007* and in its new strategy *Towards Zero* which was adopted in March 2009. An organizational framework exists for analysing data and safety performance and setting final and intermediate outcome targets at state level as well as allowing effective response to the national agenda.

**Lead agency**

The Office of Road Safety (ORS) is an unusual lead agency type, comprising a small road safety dedicated coordinating agency with a staff of 22. It is hosted by a parent agency that has a stated objective of reducing the number of serious injuries and fatalities on Western Australian roads, but does not have core responsibility for primary service delivery in any road safety or transport-related function. The ORS serves, in effect, as the governmental executive arm of the Road Safety Council (RSC)—the main road safety advisory body which has legislative responsibility for advising government on programs and initiatives for reducing road trauma in WA.

1. **Appraising current road safety performance through high-level strategic review**

High-level strategic review of road safety outcomes is carried out by the Road Safety Council which also makes recommendations to government on next steps.

An Annual Review of outcomes is provided by the ORS, endorsed by the Road Safety Council and tabled in both Houses of Parliament by the ORS Minister.
The ORS has responsibility for monitoring road safety performance in Western Australia and for communicating results to the Road Safety Coordination Council. It carries out this function with the assistance of external expertise.

2. Adopting a far-reaching road safety vision or goal for the longer term

The Safe System approach was adopted in Western Australia in 2003. In March 2009, parliament approved the Towards Zero strategy with its long term goal of eliminating road traffic deaths and serious injuries, following a proposal from the lead agency and coordination council. The strategy will be published shortly.

3. Analyzing what could be achieved in the medium term

The Arriving Safely (2003–2007) targets and strategy and the Towards Zero targets were developed independently by the Monash University Accident Research Centre (MUARC) in Victoria. A key aspect of Towards Zero was to develop a model to encompass the projected benefits of a combination of best-practice Safe System interventions to allow the definition of challenging and achievable targets for the medium term. To identify the best mix of initiatives for Western Australia’s road safety strategy attention was primarily directed to a relatively small number of large and severe problems, using proven high impact solutions.

The process for the development of the strategy for 2008–2020 involves a greater degree of community and stakeholder engagement than has been the case previously. The strategy development process involved four phases.

• Phase 1–Gauging views and engaging the community and stakeholders and undertaking scientific research into best practice
• Phase 2–Identifying the preferred strategy for WA
• Phase 3–Formal Acceptance of the strategy by government.
• Phase 4–Communicating the endorsed WA Road Safety Strategy 2008–2020 to the public and stakeholders

The proposed strategy and the associated documentation were finalised in conjunction with the Office of Road Safety and the Road Safety Council. The strategy focuses on evidence-based intervention to reduce road trauma and maps out the commitment and actions required from government, industry and the community to work towards this long term vision (see Box 1).

Levels of funding have still to be ascertained but if all recommendations of the Towards Zero Strategy were to be fully implemented it has been estimated that there would be a 40% reduction in current road deaths and serious injuries by 2020.

4. Setting targets by mutual consent across the road safety partnership

Final outcome targets. Arriving Safely specified an interim outcome target to reduce the number of deaths per 100,000 of the population to a level that was equal to the best in Australia (expected to be a rate of about 5 per 100,000 people) which was not met. The Road Safety Council adopted a corresponding goal which was to reduce hospitalisations as result of a road crash to a rate of 72.4 per 100,000 of the population. In adopting this target, WA hoped to be able to encourage improvements across the different components of the Safe System approach through concerted, additional effort.

Intermediate outcome targets. These have not been used in WA road safety strategies.

Output targets. These have not been specified in the road safety strategies but are set in annual performance agreements. For example, the performance agreement of the Executive Director of the ORS includes a requirement to conduct four major media campaigns per year. The police have agreed outputs for a range of enforcement activity in line with road safety strategy objectives.

For each of the 10 strategy components (see Box 2), a set of performance indicators (PIs) was identified through which progress of the Strategy was monitored (see Monitoring and evaluation).
5. Establishing mechanisms to ensure stakeholder accountability for results

The Arriving Safely strategy and targets were endorsed by the state government in 2003 and signed by the Minister for Community Safety. Annual performance agreements underpinned agency responsibilities and the ORS used Memoranda of Understanding to underpin working relationships. However, no governmental agency was directly accountable for achieving outcome targets in terms of reducing deaths and serious injuries, as is the case in the other high-income jurisdictions described in these case studies.

ORS Role: Results Focus

- The ORS is responsible within government for leading, developing, coordinating, promoting and monitoring the state safety strategy, program and targets.
- The ORS ensures that background papers on road safety performance are presented and discussed in the coordination body to inform new activity.
- The ORS has studied and proposed a far-reaching road safety vision for the longer term which has been adopted, commissioned modelling of future road safety potential by experts and proposed new targets and strategies to the road safety partnership.
- The ORS uses Memoranda of Understanding to underline agreements about the way in the members work together in matters related to road safety.

Coordination

1. Horizontal coordination across central government

The main multi-sectoral bodies in WA’s coordination and decision-making hierarchy are the Ministerial Council on Road Safety, the Road Safety Council and the Road Safety Senior Officers Support Group. The Office of Road Safety provides the executive arm.

The coordination hierarchy for Western Australia structure is shown in Figure 2.

The Road Safety Council of Western Australia was established in 1997, to advise government on programs and initiatives for reducing the level of road trauma in Western Australia. Chaired by an Independent Chairman, the Road Safety Council comprises representatives from the range of governmental agencies with responsibilities for road safety as well as a motoring organization. The principal functions of the Council are results management and implementation arrangements. Interventions or policy outputs are carried out by the Council’s members.

The Council’s functions set out in the Road Safety Council Act 2002 are:

(a) identify measures to improve the safety of roads in the State and to reduce the deaths of people, the injuries to people, and the damage to property, resulting from incidents occurring on roads in the State;
(b) recommend to relevant bodies and persons the action that should be taken to implement those measures;
(c) coordinate the implementation of those measures by relevant bodies and persons;
(d) evaluate and monitor the effectiveness of those measures;
(e) evaluate and monitor the safety of roads in the State; and
(f) recommend to the Minister how money standing to the credit of the Account should be spent to implement those measures and to facilitate the performance of the Council’s functions.

The Road Safety Council brings together representatives of all the key operational agencies and road users which reports to a Ministerial Council which is comprised of the five ministers responsible for the main member agencies and which is chaired by the Minister for Community Safety who is also currently the Minister for Police. The Executive Director of the ORS is a member of the Road Safety Council.

The work of the Council is supported at an operational level by the Road Safety Council Officers Support Group (ROSCOS). Membership mirrors that of the RSC, with the same government and non-governmental agencies being represented. ROSCOS is chaired by the Director of Policy and Strategy from the Office of Road Safety. ROSCOS also provides a formal and an informal forum for the sharing of ideas and for networking between agencies with differ-
ent but often interlocking responsibilities (for example Police and Main Roads are both involved in activities designed to achieve ‘safer speeds’).

Under these institutional arrangements, the RSC and the ORS are together able to provide strong leadership and coordination in the key areas of policy, research, program evaluation, and community education and encourage activities towards achieving the targets and priorities for action set out in the road safety strategy. The structure also provides role clarity and together with RTTF funding, has promoted the development of delivery partnership. The ORS and the RSC provide the policy framework, funding, research and evaluation support that allows operational agencies and community groups to implement projects. As part of its coordinating role, the RSC publishes an annual calendar that lists the dates for each campaign and other major road safety events. This enables all agencies at both head office and local levels to plan supporting initiatives.

2. Vertical coordination from central to regional and local levels of government

Local partnerships. The Western Australian Local Government Association’s RoadWise Program is designed to encourage local government involvement and facilitate community participation in the implementation of the WA Road Safety Strategy. Primarily funded through the Road Trauma Trust Fund, RoadWise supports road safety officers based in all ten regions of the state who build and support a community road safety network. Local road safety committees, the formal part of this network, provide a mechanism for the planning and coordination of local road safety action, promotion and advocacy.

Since its inception the Road Safety Council has encouraged each region of the State to develop and implement road safety initiatives relevant to that region. The Narrogin Road Safety Forum described in Box 3 is an example of the type of local activity that the Council has encouraged and supported.

3. Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels

ORS and Main Roads WA partnership. ORS has developed a strong partnership with Main Roads WA in articulating the strategic priority of ‘safer roads and more forgiving roadsides’ and working towards their improvement and in researching future preventative measures such as the application of intelligent transport systems (ITS).
Box 3: Narrogin Road Safety Forum (2006)

The region’s relatively poor safety record was a catalyst for a road safety forum organized in Narrogin in Western Australia’s wheat belt (population of town + shire is about 5,300). Arranged by a local member of parliament with support from the Office of Road Safety and the Road Safety Council, and compared by a former celebrity sportsperson, it included a Youth Forum (65 students from two schools) and a Stakeholder Forum (53 adult members of the community). Participation and discussion in interactive surveys provided the impetus to agree on actions at a community level designed to address some of the key road safety issues in that region.

ORS and WA Police partnership. The strong partnership between the ORS and the Police Service in combined publicity and enforcement is a cornerstone of the state’s road safety strategy and one of the key recommendations following the review in 1996.

ORS, RSC and WorkSafe. While not a member of the RSC, the state government agency WorkSafe has a considerable interest in road safety from an occupational health and safety perspective. WorkSafe has been responsible for developing legislation and an associated code of practice to manage fatigue in commercial vehicle drivers. WorkSafe inspectors now also promote fatigue management information when visiting worksites across the state. The RSC and the ORS have supported this initiative through a funding grant from the Road Trauma Trust Fund (RTTF).

Pre- and novice driver education partnership. Education authorities including the Catholic Education Office, the Independent Schools Association and the Department of Education and Training are implementing the school-based Road Aware program that focuses on encouraging at least 120 hours of supervised driving by novice drivers and on developing positive road user attitudes among young people. Road Aware was developed with research and evaluation support provided by the RSC and the ORS. It is also one of the major educational projects funded from monies provided to the RTTF by the Insurance Commission of WA.

Non-governmental engagement
The Royal Automobile Club of WA (RAC) is involved in promoting several aspects of road safety including the new car safety ratings of ANCAP and the Used Car Safety Ratings data produced by Monash University. The RAC is a member of the Road Safety Council and advocates on key road safety issues such as increased funding for safer roads initiatives and other key road safety polices and strategies.

A range of non-governmental organizations also contribute to road safety advocacy and promotion. From the health sector, the Injury Control Council of Western Australia is a non-profit community-based organization involved in a number of injury prevention and control activities in Western Australia and has published a review of road trauma.

Business sector engagement
The ORS and the RSC have initiated a new partnerships program with the business sector. One aim of the project is to encourage companies to establish a road safety policy within their organization. A manual produced by ORS to assist corporate businesses in developing such a policy covers seven key areas that they should address. These include a safer vehicle fleet purchasing policy and the establishment of a workplace road safety program. A wide range of companies are participating in this initiative. They range from major national and international petrol and car hire companies to state-run rubbish collection agencies with large fleets. ORS provides advice and support to these organizations as well as allocating funding for the development and provision of materials in the expectation that business will contribute time, resources and training to ensure the policies are implemented.

The corporate sector, both government and non-government, is a key target group in terms of influencing fleet purchasing policies. The ORS contributed to a review of the state government’s vehicle fleet buying policy which resulted in recommendations to promote the purchase of vehicles with high safety ratings and safety features. A new government fleet purchasing policy which reflects these proposals will eventually result in safer vehicles being available on the used car market.

Partnerships have also been developed with commercial companies and media networks contracted by ORS for media campaigns but who then provide free, or bonus activity or advertising space for RSC road safety messages to the public. These measures are showing at least a five-fold return on the monetary value of the funding provided.

4. Parliamentary relations at central, regional and local levels
The role of parliamentary scrutiny and promotion of the establishment of a lead agency and appropriate coordinating arrangements in the 1990s has been mentioned previ-
viously. The Western Australian parliament continues to take an interest in road safety and in general, a bi-partisan approach applies when new legislation is introduced. In July 2007 an independently chaired bipartisan Parliamentary Reference Group was established to allow all members of parliament to work together to reduce death and serious injury on Western Australian roads.

The ORS supports the Premier, Minister for Community Safety and the parliament on matters of road safety. For example, the Executive Director of the ORS, often with a Finance Officer will participate in the annual budget estimates hearings in the Legislative Assembly with the Minister for Community Safety and in the Legislative Council (Upper House) with a designated government minister to answer questions from the parliament on financial, policy and operational matters relevant to road safety. During the passage of legislation, officers from the ORS and key agencies will contribute information to the parliament.

The Executive Director also represents the ORS and road safety agencies in various parliamentary enquiries into road safety in WA, other States and at the national government level, giving evidence on road safety best practice, performance and problems.

ORS Role: Coordination
• The ORS manages and supports the coordination activities of the Road Safety Council throughout the state, road safety task forces and provides administrative support to the Ministerial Council for Road Safety.
• The ORS creates road safety partnerships with key stakeholders in pursuit of strategy objectives.
• The ORS ensures that parliament, the business and non-governmental sectors are engaged in road safety strategy development and coordination.
• The ORS supports the development of local partnerships and community programs and partnerships at local level.

Legislation
Western Australia has developed a comprehensive framework of road safety legislation covering intervention and organizational issues summarized in Box 4.

1. Reviewing the scope of the legislative framework periodically
The ORS, in consultation with its partners, reviews legislative needs from time to time. Most new road-safety related legislation is initiated by the ORS and RSC on the basis of research into the causes of road crash injuries.

2. Developing legislation needed for the road safety strategy
When new legislation is proposed, the Police Service is extensively consulted and a working party, advisory group or task force is generally established under the auspices of the RSC for the life of the particular project. Such working groups, advisory groups or task forces also include

Box 4: Key legislative provisions for road safety in WA

The *Road Safety Council Act 2002* establishes the Road Safety Council as an independent co-ordinating body responsible for advising the government on road safety matters. This legislation therefore provides the administrative framework within which the lead agency and other organizational arrangements described in this case study operate in WA. The legislative basis for the establishment of the Road Trauma Trust Fund is also now contained in this Act.

The *Road Traffic Act 1974* (RTA) and its accompanying Regulations provide the framework for enforcement designed to prevent road crashes by changing and improving road user behavior. This Act is administered by the Department for Planning and Infrastructure which is responsible for vehicle and driver licensing.

Of particular relevance are the provisions of the RTA and Regulations that deal with:

- the requirements that a person must meet in order to be issued with a driver’s license;
- the conditions that a person must observe while driving; for example not driving
  - after having consumed alcohol over the limit of 0.05;
  - using a hand held mobile telephone while driving;
  - wearing helmets or correctly fitting seat belts; and
  - above the posted speed limit.

In 2001 WA introduced a 50 kilometer speed limit in most built-up areas. This was initially a very contentious proposal but the Road Safety Council and the ORS worked closely through the established mechanisms to inform and educate the community to the extent that it became feasible to gain parliamentary support for this legislation. The success of the measure can be gauged by the fact that independent research has estimated a saving of 64 lives in first 2 years and a reduction in crashes overall of 20 percent.

WA works at federal level on vehicle safety standards.
road user representatives as well as members groups who are particularly affected. The documentation has to indicate the extent to which stakeholders support the proposed legislation.

The extent to which legislation can be effectively used to manage behavior will often be determined by the level of support for that measure within the community. For this reason WA has monitored road safety attitudes, beliefs and behaviors across the community. For the past six years it has conducted weekly surveys on key behavioral and enforcement issues such as speeding, fatigue, non wearing of restraints and drink driving.

3. Consolidating legislation
ORS contributes to consolidation of rules at national level.

4. Finding legislative slots in government and parliamentary programs
The ORS works with its governmental partners in the RCS to ensure that opportunities are found to introduce any necessary legislation for the delivery of the road safety strategy.

ORS Role: Legislation
• The ORS reviews legislative needs for the strategy in consultation with its partners in the coordination body.
• The ORS plays a role in developing and consulting the road safety partnership and public on proposals for major primary road safety legislation.
• The ORS uses its coordination hierarchy to find legislative slots for road safety and for consultation on proposals for legislative change.
• The ORS establishes in-house capacity to provide policy advice.

Funding and resource allocation

1. Ensuring sustainable funding sources
There are several sources of road safety funding in WA. These comprise a Road Trauma Trust Fund, a sponsorship contribution from the government’s personal injury insurer (just over 1% of premiums from 3rd party motor vehicle premiums), and central and local government funding to transport, health and justice sectors.

Road Trauma Trust Fund (RTTF). The Fund is managed by the Office of Road Safety and under the Road Safety Act (2002) receives one third of fine income from speed and red light cameras annually and an annual contribution from the Insurance Council of Western Australia (ICWA). Approximately $12 million per annum is allocated, but with increases in penalties for speeding that took effect in 2007, this amount is expected to increase significantly. The WA government has guaranteed that monies paid into the RTTF will be not less than $15 million per annum at least up to 2009. This arrangement ensures that the RSC can allocate priorities and budget in advance for expenditure in the year ahead. Base funding of about $1.3m (which is a direct allocation from Treasury mainly for ORS staff resources), together with a grant of approximately $4 million per annum from ICWA, gives the RSC an assured annual budget of around $20 million per annum. Each year the Council recommends resource allocations to the Minister. As lead agency, the Office of Road Safety retains direct control of all funding required for the major media and other community education initiatives and campaigns (approximately $8.9 million) and for policy and research and coordination activities (approximately $5.5 million). The remaining available funds (approximately $7 million per annum) are allocated to priorities identified within the road safety strategy. The Fund provides a transparent means of funding road safety and an opportunity to fund outputs which are directly related to the road safety strategy as outlined below for 2004/5 in Table 1.

Treasury funding in key stakeholder budgets. Government has also committed additional funds to WA Main Roads for safer roads and to WA Police for enforcement activities. It has been calculated that for the 2005/2006, this additional expenditure totalled $76 million. Over the same period the Commonwealth government provided funding for safety-related road improvements valued at $5 million while a similar amount was contributed by local government. Although the ORS/RSC do not control the allocation of this additional funding, they play a significant part in influencing how the monies are spent. Governmental road safety expenditure for 2004–05 is summarized in Table 1.

The ORS has a Treasury funded central budget of $1.1m which covers staffing costs. In 2005/06 in the RTTF, ORS was responsible for managing a total of about $12m including: about $300,000 for core operations (travel, office costs, etc) about $7m for mass media communication work (e.g., speeding, drink driving, seatbelt and fatigue campaigns etc) about $1m for research into road safety issues about $4m for specific road safety projects including the monitoring of progress.
2. Establishing procedures to guide allocation of resources across safety programs

Cost-benefit and cost-effectiveness analyses of different interventions are used in external reviews of road safety performance and in road safety engineering work.

**ORS Role: Funding and Resource Allocation**
- The ORS manages the funding of road safety programs and recommends disbursement of the Road Trauma Trust Fund.
- The ORS facilitates evaluation of project cost-effectiveness and project prioritization.

**Promotion**

1. **Promoting the far-reaching road safety vision or goal**
   *Arriving Safely* and the *Safe System* approach have provided the framework for promoting road safety in WA.

2. **Championing and promotion at a high level**
   High-level promotion is carried out by ministers, senior representatives of the key governmental agencies and the Chair of the Road Safety Council. All major reports on road safety in WA are issued by the Road Safety Council and include a foreword from the independent chair. Ministerial endorsement is included on major strategy documents.

3. **Multi-sectoral promotion of effective intervention and shared responsibility**
   To emphasise that road safety management is being addressed through a coordinated approach and that all the responsible agencies in WA are providing consistent and cohesive representation and information, the logos of agencies represented on the Council are reproduced on all publications produced by the RSC. While individual agencies continue to be responsible for developing and preparing pamphlets and reports relevant to their operational responsibilities, the ORS chairs a group of key agencies which, as one of its communications topics, covers the review of new documents to ensure that messages given to the general public are consistent and reflect the latest available research.

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**Table 1: Summary of road safety expenditure—2004–05 (RTTF and Agency)**

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<tr>
<td><strong>Safer Roads and Roadides</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving the Safety of Roads</td>
<td>545</td>
<td>64,790</td>
<td>65,335</td>
</tr>
<tr>
<td>MRWA blackspot program</td>
<td>8,102</td>
<td>8,102</td>
<td></td>
</tr>
<tr>
<td>Federal blackspot programs</td>
<td>4,290</td>
<td>4,290</td>
<td></td>
</tr>
<tr>
<td>MRWA road enhancement program</td>
<td>44,138</td>
<td>44,138</td>
<td></td>
</tr>
<tr>
<td>DPI cycling infrastructure projects</td>
<td>6,500</td>
<td>6,500</td>
<td></td>
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<tr>
<td>DPI Country railway grant program</td>
<td>780</td>
<td>780</td>
<td></td>
</tr>
<tr>
<td>DET traffic management for schools</td>
<td>980</td>
<td>980</td>
<td></td>
</tr>
<tr>
<td><strong>Safer Vehicles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protecting vehicle occupants</td>
<td>220</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td><strong>Safer Speeds</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reducing travel speeds</td>
<td>1,512</td>
<td>1512</td>
<td></td>
</tr>
<tr>
<td><strong>Supporting a Safe System Approach</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safer Modes of Travel</td>
<td>185</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Planning a Safe System Approach</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensuring effective implementation</td>
<td>2604</td>
<td>+</td>
<td>2604</td>
</tr>
<tr>
<td>Other supporting initiatives</td>
<td>4263</td>
<td>4263</td>
<td></td>
</tr>
<tr>
<td>Researching and measuring progress</td>
<td>720</td>
<td>+</td>
<td>720</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>14,091</td>
<td>168,975</td>
<td>183,066</td>
</tr>
</tbody>
</table>

* Not possible to identify separately
+ Figure not available at time of table creation
4. Leading by example with in-house road safety policies

The ORS and the Road Safety Council have developed a whole-of-government Fleet Policy that will include consideration of vehicle safety features as part of purchasing criteria.

The development of a Safe Driving Policy framework is aimed to assist government agencies develop workplace policies that ensure safe driving practices are implemented to maintain the health, safety and welfare of employees.

5. Developing and supporting safety rating programs and the publication of their results

Western Australia is a member of the Australasian New Car Assessment Programme. ORS has carried out major campaigns to promote safer vehicles to the community.

The ORS, in partnership with the Royal Automobile Club, has developed a safer vehicles communications strategy that will increase public awareness and promote the benefits of driving safer vehicles. The campaign promotes star safety rating for cars and encourages the uptake by new and used car buyers of special safety features such as front and side curtain air bags, electronic stability control technology, active head restraints and seat belt reminder systems.

6. Carrying out national advertising

At least four major television and radio campaigns per year targeting unsafe behaviors are developed and planned by the ORS on behalf of the RSC and participating agencies. There is close consultation with the Police Service in order to ensure that enforcement activities complement the media campaigns.

Special campaigns are also funded through the RTTF and are similarly planned and managed by the ORS. These may reinforce a message at an appropriate time (e.g., double demerit points applying over a holiday period), or relate to the introduction of new legislation (e.g., increased penalties for speeding). While most of these campaigns are state-wide, particular attention is paid to specific local areas where the new laws are likely to have most impact. Mass media (television and radio) campaigns are mainly aimed at increasing public awareness of the impact of road crashes and also at influencing social attitudes to issues such as speeding, non-use of restraints, fatigue and drink-driving. The campaign development process is a cycle informed by the latest research, policy direction and evaluated outcomes from previous campaigns.

Sporting sponsorships have also been used to communicate road safety messages to young people, especially young males. For this reason the RSC, with funding provided by the Insurance Commission of WA, sponsors the WA Country Football League, which in turn promotes the use of seat belts to young males in rural Western Australia.

7. Encouraging promotion at the local level

Local promotion of the road safety strategy is carried out by the RoadWise program through the road safety officers. RSC regional visits are also used to promote the Arriving Safely road safety strategy with a view to ensuring that the majority of local road safety efforts are targeted towards priority issues. Of the 680 road safety local events recorded by the ORS in 2005–06, 73 per cent were related to one or more of the four major causes of road traffic injuries: speed, drink-driving, failure to use seat belts restraints and fatigue.

ORS Role: Promotion

- The ORS promotes and facilitates a shared approach to road safety across all government agencies, local government and other stakeholders.
- The ORS widely promotes the State Road Safety Strategy and the Annual Priorities Program.
- The ORS manages public relations activities, media, campaigns and mass media initiatives, community engagement, agenda setting initiatives, partnership programs and other promotional campaigns at state level.
- The ORS promotes local efforts in support of the state road safety strategy.

Monitoring and evaluation

1. Establishing data systems to set and monitor final and intermediate outcome and output targets

Performance in delivering the road safety strategy is measured through outcome measures (usually crash numbers or rates), intermediate measures (safety-related behaviors and attitudes which are expected to influence the likelihood of being involved in a crash) and process measures (the type and amount of resources being expended to tackle road safety issues). These Performance Indicators (130 in total) are compared to a baseline period (January 1998 to December 2000) and to an annual value to track progress at regular intervals over the term of the Strategy.
Various agencies are responsible for the maintenance of databases to support monitoring.

**Final outcomes**

The two major data collection systems used to analyse crash data and thus report progress against the targets set out in the WA road safety strategy are:

- Police Reported Crash Data which is maintained by Main Roads Western Australia in the Integrated Road Information System (IRIS); and
- Hospital admissions (Department of Health).

A data matching process is conducted to link police reported injuries with hospital records to ensure a more complete and robust picture is obtained.

Data is analysed by a Perth-based independent private sector organization, Data Analysis Australia. Data definitions are in accordance with Australian Bureau of Statistics guidelines for reporting and classifying road crashes. However, there have been some interpretation difficulties in the past resulting in the RSC establishing an inter-agency *Measuring Progress Advisory Group* to determine how the available data, information and knowledge can best be collected and shared. This group also monitors the progress against the Strategy objectives and makes recommendations to the Council on effective ways of measuring progress against *Arriving Safely* targets and on policies and processes to improve the sharing and application of road safety information and knowledge.

**Intermediate outcomes**

*Speed monitoring.* Travel speed measurements on higher speed roads (excluding 50 km/h roads) have been taken at approximately 210 sites across the state in order to measure compliance and trends over time. Data collected by Main Roads WA at a selection of metropolitan and rural sites. An independent study measured before and after average speeds on 50 km/h roads when the limit was introduced in legislation in 2001.

*Excess alcohol.* For drink-driving and drivers charged for drink-driving offenses. Police collect data on the number of drivers tested.

*Seat belt use.* Final outcomes are monitored, otherwise normal use is monitored from self-reporting surveys.

*Vehicle fleet safety.* Crash performance data is provided by the Australasian New Car Assessment Programme.

**Safer roads.** Main Roads WA has developed Safety Performance Charts and Crash Incident Charts to assist the systematic safety analysis of the state road network. The Safe Roads Program targets safety improvements on rural and urban state roads.

**Outputs**

Monthly Traffic Management and Road Safety Trends reports produced by the Western Australia Police (WAPOL) form the basis of monitoring enforcement outputs (see Box 5).

2. **Transparent review of the national road safety strategy in terms of results, interventions and institutional management functions**

Road safety results are initially published in the annual report of the Department of the Premier and Cabinet. The ORS also commissions the production of a *Road Crash Statistics Report* for each year. This is distributed by the RSC with the aim of providing the latest available annual statistics for Western Australia using police reported data (from IRIS) but also with the inclusion, for comparative purposes, of some tables using hospital admission data. Police road safety data is also published on the WA Police website.

In addition to monitoring progress against outcome targets, the ORS also monitors and evaluates the effectiveness of all major programs such as *Road Aware*, media campaigns and the impact of new legislation such as the introduction of the 50 km/h speed limit in built-up areas.

**Box 5: Annual police outputs monitored in the State Traffic Enforcement Program**

<table>
<thead>
<tr>
<th>Traffic patrol hours</th>
<th>Number of vehicles stopped</th>
<th>Total infringements issued</th>
<th>Total arrests</th>
<th>Total summons</th>
<th>Vehicles monitored for speeding by speed camera</th>
<th>Non-camera speed contacts—briefs, infringements and cautions</th>
<th>Drivers tested for drink-driving</th>
<th>Drivers charged for drink-driving offenses</th>
<th>Seatbelt Contacts—briefs, infringements and cautions</th>
<th>Non RBT tests</th>
<th>Other traffic contacts—briefs, infringements and cautions</th>
<th>Vehicle work orders</th>
</tr>
</thead>
</table>

279
An annual review of road safety performance is compiled by the ORS, approved by the Road Safety Council and presented by the ORS Minister to government.

3. Making any necessary adjustments to interventions and institutional outputs needed to achieve the desired results

Progress is reviewed on the basis of information collated by ORS in the Road Safety Council (see Results Focus).

ORS Role: Monitoring and Evaluation

- The ORS has lead responsibility for the monitoring of the road safety strategy and is accountable for this in an annual performance agreement.
- The ORS ensures that data systems are established to identify and monitor final and intermediate outcomes and outputs. It coordinates the maintenance of an integrated data and information network to facilitate road safety research, development, management and reporting.
- The ORS publicises monitored outcomes and feeds safety data into the Road Safety Council for review and discussion.
- The ORS is a member of and supports the Australasian New Car Assessment Programme which monitors vehicle fleet safety research.

Research and knowledge transfer

1. Developing capacity for multi-disciplinary research and knowledge transfer

The ORS coordinates and manages road safety policy development and research on behalf of the Road Safety Council. Research and program evaluation experts are responsible for developing terms of reference for each project, for letting and monitoring contracts as well as for assessing the quality and adequacy of the data analysis and reports provided. Information on the range of projects supported is given in Box 6.

Building local capacity: Much of the initial research and data analysis that has underpinned WA’s road safety strategies was undertaken by MUARC in Victoria and the Accident Prevention Research Unit (Roadwatch) at the University of Western Australia’s Department of Public Health (see Box 7). Research and evaluation contracts are also awarded to locally-based tertiary education organizations, such as Edith Cowan University and the University of Western Australia’s School of Population Health. The aim has been to build up local expertise and to allow for knowledge transfer to all organizations involved in managing road safety issues.

To further facilitate the achievement of this locally-based research and expertise, the RSC is supporting the establishment of a new independent Road Safety Research Centre. The intent is to support the RSC with high quality research which can provide a basis for planning, developing, monitoring and evaluating proposed and existing road safety initiatives. This arrangement should help to build WA’s capacity to provide independent high quality information to the RSC and will allow this state to collaborate more effectively with other Australian and international road safety organizations. Initially the scope of the work will be to develop a database front-end that will provide all road safety stakeholders with access to up-to-date road safety statistics in a web-based environment, to conduct cost-benefit analyses of various road safety initiatives.
and to further investigate means of building road safety expertise within Western Australia.

2. Creating a national road safety research strategy and annual program

All organizations represented on the Road Safety Council are involved in determining the priorities for research. The Road Safety Council Research Advisory Group (RAG) provides input from key road safety stakeholders to ensure the needs of all agencies are represented.

Emphasis is placed on making the information obtained available to other researchers, community leaders and organizations involved in road safety activities.

3. Securing sources of sustainable funding for road safety research

The Road Trauma Trust Fund supports road safety research and developing research capacity. A budget of $500,000 for 2006/2007 was allocated to the new Road Safety Research Centre.

4. Training and professional exchange

The ORS also monitors world good practice and trends in road safety and keeps the Road Safety Council informed on national and international developments.

The ORS works closely with other road safety stakeholders in other Australian States and Territories and New Zealand jurisdictions and the Organization for Economic Cooperation and Development (OECD) nations on road safety initiatives. There is extensive networking and knowledge sharing between road safety stakeholders throughout Australia and New Zealand.

Western Australia also has its Chapter of the Australasian College of Road Safety the professional association for road safety practitioners and researchers.

5. Establishing good practice guidelines

The ORS contributes to the production of technical guidance for highway authorities on a range of road safety issues. For example, the ORS supported the scientific review of enforcement good practice and the preparation of a good practice enforcement manual. This is now used by the police as the basis for their applications for funding of traffic enforcement operations above core business levels. A review of education good practice was used to develop the $2m per annum school roads safety education program.

6. Setting up demonstration projects

The ORS sets up and reports on demonstration projects in support of the road safety strategy. For example, in order to stimulate community interest and demand for advisory Intelligent Speed Adaptation (ISA) devices, the Western Australian Road Safety Council has undertaken a major project in support of the State Road Safety Strategy funded by the Federal Office of Road Safety (ORS) and Main Roads Western Australia. The WA ISA project involves the development and demonstration of a low cost compact ISA unit that can be retrofitted to most modern vehicles and is marketable to the public. To stimulate community interest in ISA the trial is focusing on key opinion leaders from political, road safety, health, industry and media circles. The objective of the WA demonstration trial is threefold:

1. To create demand within the general community for ISA as a tool that will support drivers in choosing speeds that are at or below the prevailing speed limit;
2. To demonstrate that reliable ISA is technically possible on a large geographical scale;
3. To develop the systems within government (notably road agencies) that are necessary for the implementation of ISA on a statewide (or even national) basis.

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**Box 7: Road safety research in the University of Western Australia**

The Road Accident Prevention Research Unit (Roadwatch) at the University of Western Australia’s Department of Public Health (now the Injury Research Centre within the School of Population Health) carried out a range of key projects funded by the Road Trauma Trust Fund. Projects during 1998–99 included:

- a comparison of police- and hospital-reported injuries and crashes in Western Australia
- the cost of crashes and injuries in Western Australia
- review of the random breath testing program
- speed-related crashes in Western Australia
- developing and monitoring road safety performance indicators
- alcohol-related crashes in Western Australia
- Aboriginal involvement in road crashes in Western Australia
- road safety performance modelling
- neurotrauma-linked database
- road safety risk factors study
- road safety practices study
**ORS Role: Research and Development and Knowledge Transfer**

- The ORS coordinates the funding of road safety research, development and demonstration projects in support of the State road safety strategy and helps to develop state capacity for external research.
- The ORS encourages and contributes to the development and dissemination of good practice guidelines on road safety. It plays an active role in technical guidance for highway authorities on a range of road safety issues.

**Summary: ORS delivery of institutional management functions**

*Results Focus.* The Office of Road Safety (ORS) is the lead agency for road safety in Western Australia and is responsible within government for leading, developing, coordinating, promoting and monitoring the state road safety strategy, program and targets. The ORS ensures that background papers on road safety performance are presented and discussed in the coordination body to inform new activity. The ORS has studied and proposed a far-reaching road safety vision for the elimination of death and serious injury for the longer term which has been adopted by government and parliament. It commissioned the modeling of future road safety improvements by experts and proposed a new strategy and targets to the road safety partnership. The ORS uses Memoranda of Understanding to underline agreement reached on how members work together in matters related to road safety.

*Coordination.* The ORS manages and supports the coordination activities of the Road Safety Council throughout the state, and related road safety task forces and provides administrative support to the Ministerial Council for Road Safety. It creates road safety partnerships with key stakeholders in pursuit of strategy objectives and ensures that parliament, the business and non-governmental sectors are engaged in road safety strategy development and coordination. The ORS also supports the development of partnerships and community programs at the local level.

*Legislation.* The ORS reviews legislative needs for the strategy in consultation with its partners in the coordination body. It plays a key role in developing and consulting the road safety partnership and public on proposals for major primary road safety legislation and uses its coordination hierarchy to find legislative slots for road safety and for consultation on proposals for legislative change. The ORS establishes in-house capacity to provide policy advice.

*Funding and resource allocation.* The ORS manages the funding of road safety programs and recommends disbursement of the Road Trauma Trust Fund which transparently allocates resources. It also facilitates evaluation of project cost-effectiveness and project prioritization.

*Promotion.* The ORS promotes and facilitates a shared approach to road safety across all government agencies, local government and other stakeholders. It widely promotes the State Road Safety Strategy and the Annual Priorities Program. The ORS manages public relations activities, media, campaigns and mass media initiatives, community engagement, agenda-setting initiatives, partnership programs and other promotional campaigns at the state level. It also promotes local efforts in support of the state road safety strategy.

*Monitoring and evaluation.* The ORS has lead responsibility for the monitoring of the road safety strategy and is accountable for this in an annual performance agreement. It ensures that data systems are established to identify and monitor final and intermediate outcomes and outputs and coordinates the maintenance of an integrated data and information network to facilitate road safety research, development, management and reporting. The ORS publicizes monitored outcomes and provides safety data to the Road Safety Council for review and discussion. It is also a member of the Australasian New Car Assessment Programme which monitors vehicle fleet safety research.

*Research and development and knowledge transfer.* The ORS coordinates the funding of road safety research, development and demonstration projects in support of its strategy *Arriving Alive* and helps to develop state capacity for external research. It encourages and contributes to the development and dissemination of good practice guidelines on road safety. The ORS also plays an active role in technical guidance for highway authorities on a range of road safety issues as well as jointly producing guidance materials (e.g., with professional associations such as AustRoads and ARRS, and with research organizations).
Lead agency structures
The aggregate and organizational structures of the lead agency for road safety in Western Australia are set out in Figures 3–4.

Coordination structures and a description of related processes are set out in the section on Coordination and in Figure 2.

Since 2001, the Office of Road Safety has been located within the Department of the Premier and Cabinet which oversees the management of government business within the State. In addition to reporting to the Director General of that Department, the Executive Director of the ORS also has direct access and reports to a minister with specific responsibility for Community Safety, which includes road safety.

These arrangements have elevated the status of road safety within government and provide for an independent and whole of government approach.
**Figure 4: Organizational and reporting structure of the Office of Road Safety, Western Australia (2006)**

**Executive Director**
Reports as a member of Corporate Executive to the Director General of the Premier’s Department on administrative matters (e.g., staffing, accommodation, purchasing policies etc). On all road safety policy and strategy matters the Executive Director reports directly to the Minister for Community Safety.

**Business Coordination Branch Manager**
- Principal Financial Officer
- Finance and Administration Officer
- Business Coordinator
- Customer Service Coordinator

**Policy and Strategy Branch Director**
- Principal Policy Officers (2)
- Senior Research Officer
- Knowledge Management Policy Officer
- Senior Project Officer
- Project Officer

**Community Education and Communications Branch Director**
- Event and Project Consultant
- Consultant Relationship Management
- Media Consultant
- Project Manager Advertising
- Project Manager Strategy

**Executive Assistant**

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Western Australian Legislative Assembly Select Committee on Road Safety: *Fifth Report—Administration and Coordination of Road Safety in Western Australia*, March 1995.

2. Countries in transition

Sections 2.1–2.2 present case studies of developing road safety management practice in Poland and Malaysia, both of which are making efforts to reverse road casualty trends against the background of increased motorization and the acknowledged need to strengthen road safety management capacity. Country delivery of the institutional management functions is summarized in lesser detail than in the previous six case studies, given that the two countries are in the process of establishing the foundation of their road safety management systems and delivery activities.

The example of Malaysia highlights the recent development of a new and appropriately sized road safety department which acts as its lead agency, working in a national coordination hierarchy and assisted by strong technical support to develop a country focus on results. The example of Poland highlights the challenges faced by the National Road Safety Council in the absence of appropriately resourced lead agency capacity and a source of sustainable annual funding—needs that have been identified in the national road safety strategy.

2.1 Road safety organization in Malaysia

National context

<table>
<thead>
<tr>
<th>Key facts: 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area: 330,252 km²</td>
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<tr>
<td>Population: 26.6 million</td>
</tr>
<tr>
<td>Kilometers of public road: 72,781</td>
</tr>
<tr>
<td>Number of licensed motor vehicles: 15.8 million</td>
</tr>
<tr>
<td>Road deaths per 100,000 of population: 23.6</td>
</tr>
<tr>
<td>Total road deaths: 6,287</td>
</tr>
</tbody>
</table>

Source: Road Safety Department, Malaysia

Malaysia is situated in the heart of South East Asia and is divided into West Malaysia and East Malaysia. West Malaysia is a Peninsular, which comprises 11 states. East Malaysia comprises the two states of Sabah and Sarawak, which are situated on the Island of Borneo. The capital and the largest city, Kuala Lumpur, is on the Peninsula.

Over the last decade Malaysia has experienced rapid socio-economic growth. The population of the country increased from 21.2 million in 1996 to 26.6 million on 2006. Of the total motor vehicle fleet, motorcycles and private cars contribute 48% and 42% respectively. The number of registered vehicles increased from 7.7 million in 1996 to 15.8 million in 2006 with an average rate of growth of over 9% annually. Gross Domestic Product is increasing by around 4.5% annually.

Between 1996 and 2006 deaths increased by 9% while the death rate per 10,000 registered vehicles almost halved (see Figure 1). During the 1990s per capita death rates rose and deaths in road traffic crashes increased from 4,048 deaths in 1990 to a peak of 6,304 in 1996. The upward trend in deaths dropped in 1997 after consistently positive growth since 1986. The increases were largely as a result of increased motorization, due to an expanding economy and rising population. The number of deaths per 10,000 vehicles decreased from 8.2 in 1996 to 4.2 in 2003.

The total cost of road traffic crashes in 2003 was estimated at RM9.3 billion (US$2.4 billion) which comprised 2.4% of Malaysia’s GDP. About 42% of all hospital admissions result from road crashes. Motorcyclists comprise 58% of total deaths with car occupants and pedestrian contributing 20% and 10% respectively.

Road safety awareness began with the establishment of the Federal Road Safety Council in 1955 which was set up as an advisory non-governmental organization to the Minister of Transport. This became the Malaysian Road Safety Council in 1963. The turning point, however, for road safety was in 1990 when a major crash causing 15 deaths focused attention on the issue. A Cabinet Committee on Road Safety was formed to strengthen road safety initiatives. The post-1996 decreases were accompanied by further strengthening of road safety organization, high-level leadership from the Prime Minister and a successful program of motorcycle safety measures. Road safety research and scientifically driven initiatives are now recognized as critical factors in road casualty reduction.

The government’s mission and vision is that by 2010, Malaysia will have an efficient, safe and effective transportation system and services towards the enhancement of the country’s natural competitiveness.
Country delivery of the institutional management functions and lead agency role

Results focus

Lead agency
There is the leadership and political will to improve road safety at the highest level in Malaysia. A cabinet committee which is chaired by the Prime Minister brings together Ministers of Transport, Home Affairs, Education and Works, with the Ministry of Transport providing the secretariat. In 2004, road safety was nominated as one of the national priority issues.

The Ministry of Transport (MoT) is the lead agency for road safety in Malaysia. It oversees the development and regulation of air, land, and sea transport. It sets strategic and policy directions and, through its statutory agencies, carry out operations and regulatory functions relating to transport. In November 2004, a new Road Safety Department (RSD) was established within the Land Transport Division of the Ministry of Transport.

Prior to the formation of the RSD, safety activity was carried out by individual Departments (and separate budgets) which came together in a multi-sectoral non-statutory advisory body, the Malaysian Road Safety Council. The Council is now integrated into the RSD.

Appraising current road safety performance through high-level strategic review
Road safety in Malaysia has been in the process of development in recent years with new lead agency and research arrangements being established. High-level review of final outcomes takes place prior to the development of road safety targets and strategies, but the extent to which this is formalised has not been ascertained.

Adopting a far-reaching road safety vision or goal for the longer term
There is no formal long-term vision or goal for road safety in Malaysia.

Analyzing what could be achieved in the medium term
The Road Safety Research Centre at University Putra Malaysia (UPM) has played a key role in performing analytical work to inform target setting, identify evidence-based program activities and monitor progress against targets. The last two targets set in Malaysia were based on statistical models developed by Road Safety Research Centre. The Head of the Centre was represented on the Road Safety Council’s Executive Board and acted as technical adviser to the Malaysian government on road safety.
The Malaysian Institute for Road Safety Research (MIROS) was established as a governmental research organization in January 2007 and contributes strongly to developing the country results focus.

**Setting targets by mutual consent across the road safety partnership**

**Final outcome targets:**
Malaysia has been setting quantitative targets since 1997, as outlined in Box 1.

In October 2005 under the 9th Malaysia Plan and with aspirations to match the safety levels of the best in the world, the Malaysian government announced the development of a new national road safety program with new interim targets:

- reducing the number of road deaths per 10,000 registered vehicles by 60% from 4.2 in 2005 to 2.0 in 2010;
- 10 deaths per 100,000 population compared to the current 23 deaths per 100,000 population;
- 10 deaths per 1.0 billion vehicle kilometer travelled compared to the current 18 deaths per 1.0 billion vehicle kilometer travelled.

In April 2006 the Prime Minister launched the *Road Safety Plan of Malaysia (2006–2010)* which outlines a detailed multi-sectoral road safety strategy and action plan (see Box 2). The proposed measures are ambitious and cover a range of areas including inter-agency coordination, traffic legislation, law enforcement (raising the actual level of detection for traffic offenses from 20% to 90%), safety planning and design, road safety education (a three-phase road safety education program in schools), accident data collection, improvement of hazardous locations, emergency assistance, public campaigns, driver training, and research, targeting motorcyclists with speed management measures.

**MoT RSD Role: Results Focus**

- The Ministry of Transport, through its Road Safety Department (RSD) is responsible within government for leading the country results focus.
- The MoT RSD develops, coordinates, promotes and monitors the country road safety strategy, program and targets, currently within the framework of the *Road Safety Plan of Malaysia (2006–2010)*.
- Interim quantitative targets have been set for road safety strategies since the 1990s.
- In-house capacity is established as well as external support for universities and a newly established governmental road safety research organization.

**Coordination**

**Horizontal coordination across central government**
There is strong acknowledgement within central government that road safety is a shared responsibility. Multi-sectoral coordination is carried out principally by the cabinet committee (see Box 3) and, in respect of promotional activity, by the Road Safety Council (RSC) which was established in 1954 (see Figure 2).
The RSC is a registered society with a membership of 47, comprising 30 government agencies and 17 non-governmental agencies. The patron of the council is the Prime Minister and its chair is the Minister of Transport. The undersecretary of the Land Transport Division is the secretary general of the council, and the treasurer comes from one of its 47 members.

Based in the Land Transport Division and now integrated into the new Road Safety Department, the council has a secretariat, with four full-time staff members, and an executive committee comprising 15 members (12 from the membership, appointed by the transport minister, and three from the Ministry of Transport). The membership comprises mainly representation from government departments.

The RSC meets about four times a year and annually receives a report which reviews the road safety situation in each state. Its funds come mainly from a grant from the Ministry of Transport. Its main activities are promotional but it also allocates some funds for road safety research and allocates a portion of the grant to all member states to carry out road safety activities, such as workshops, seminars, talks, campaigns, competitions, quizzes, and exhibitions.

The RSC has succeeded in substantially increasing awareness of the importance of road safety. Over the last decade, individual RSC members have initiated road safety education, engineering, and enforcement and the existence of the more recently re-established cabinet committee has led to strong commitment and follow-through, although funding has always been a constraint. In addition to the newly formed Road Safety Department, the key government departments on the RSC’s Executive Council with responsibilities for road safety include:

- **Ministry of Education.** This Ministry is a Cabinet Committee member and is represented in the Road Safety Council as well as at the Executive Council. Road safety education has not been taught formally in schools but the new

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**Box 2: The 9 strategies of the Malaysian Road Safety Plan 2006–2010**

1. Enhance and sustain effective educational and psychological measures;
2. Reduce human error by incorporating and utilizing state-of-the-art technologies;
3. Enhance and complement current engineering approaches;
4. Enhance and achieve a more comprehensive and effective implementation of road safety initiatives and programs through community participation in all programs involving employers, community leaders, politicians, religious leaders, educationists, professional bodies, voluntary organizations and youth groups;
5. Encourage modal shifts and use of public transport to reduce exposure particularly to the high risk groups especially motorcyclists;
6. Focus on critical gaps in road safety (other than those already mentioned) with the aim of achieving the optimum cost-benefit in resource deployment;
7. Focus on high risk road users most frequently involved in accidents i.e., motorcyclists/pillion riders, car drivers and passengers and pedestrians;
8. Review and enhance road safety legislation;
9. Promote policy of shared funding of road safety programs between the public and the private sectors for effective implementation of road safety programs.


**Box 3: Cabinet Committee on Road Safety**

- Prime Minister (Chairman)
- Deputy Prime Minister
- Minister of Transport
- Minister of Housing and Local Council
- Minister of Works
- Minister of Information
- Minister of Education
- Minister of Finance II
- Federal Territory Minister
- Minister of Entrepreneur Development and Cooperation
- Minister of Health
- Minister of Youth and Sports
- Deputy Minister of Internal Security
- Minister of Energy, Water and Communication
- Minister of Women, Family and Community Development
- Minister of Domestic Trade & Consumer Affairs
road safety plan foresees an intensive new program engaging children at three stages during their school education. The Curriculum Unit in the Ministry is responsible for road safety education in schools and works together with respective state education departments and state road safety councils. Its main activities to date have been in organizing talks and exhibitions for schoolchildren (with help from the police and the road transport department).

Ministry of Health. This Ministry is a Cabinet Committee member responsible for healthcare in Malaysia and is represented in the Road Safety Council as well as its Executive Council. It is responsible for a key source of accident and injury data but the data systems are different in public and private sector hospitals. A central trauma register does not yet exist. Two units at the Ministry deal with road safety. They are the Violation and Injury Prevention Unit which helps to produce leaflets on road safety and the Non-communicable Diseases section of the Division of Disease Control which is involved in surveillance, promotion (e.g., bicycle helmet programs), training, and research in injury prevention.

Ministry of Home Affairs. This Ministry is a Cabinet Committee member responsible and is represented in the Road Safety Council as well as its Executive Council. PDRM is an agency under the Ministry of Home Affairs and has a traffic police unit that is responsible for road traffic and for enforcing traffic laws throughout the country. PDRM is the primary data source for all road accidents. It also performs investigations on a smaller scale on all road crashes. PDRM is represented on the Road Safety Council, including the Executive Committee. In PDRM, there are six departments. Traffic Police is one of the nine divisions under the Department of Internal Security and Public Order. The Traffic Police branch is divided into six units: Administration/Positions, Logistic Traffic Cop, Technical/Research and Development/Statistics/Computerized Accident Reporting System, Investigation, and Enforcement. The Logistic Unit ensures logistical support for any operational and accident investigation activity or task. The Traffic Cop Unit is responsible for issuing summonses for traffic offenses. The Patrol Unit has 480 heavy motorcycles and 240 four-wheel drive vehicles for its Selective Enforcement Unit. For patrolling, there are 1,225 heavy motorcycles and 1,225 light motorcycles. The Technical, Research and Development, Statistics, and Computerized Accident Reporting System Unit is in charge of collecting and processing accident data. The Investigation Unit is responsible for managing the complaints received and investigating road traffic accidents involving death and serious injury. Investigators are assisted by officers who are the first on the scene of a crash.
who do the initial assessment of the crash. The Enforcement Unit focuses on enforcing laws and traffic rules to increase compliance by road users. It maintains a highly visible presence through patrolling and enforcement. This unit also has to ensure a smooth flow of traffic. In addition, it has to ensure all criminal information is channelled to the traffic police on duty.

Ministry of Works. This Ministry is a Cabinet Committee member. The Road Planning Division represents this Ministry on the Executive Council of the Road Safety Council and is responsible for the construction and maintenance of roads and associated facilities, such as motorcycle lanes, pedestrian crossings, and others, through its three main agencies: Highway Planning Unit, Malaysia Highway Authority, and Public Works Department (PWD). The Highway Planning Unit assists in identifying the black spot sites nationally. This information is then used by PWD to carry out black spot treatment.

Ministry of Information. The Ministry of Information is a member of the Road Safety Council and its Executive Council. The ministry’s main role is to assist in generating publicity through media campaigns. It has two television stations and a few radio stations that are used to disseminate information on road safety. The ministry also assists the Road Safety Council during various holiday periods by increasing the frequency of publicity campaigns through various media. In addition, the ministry coordinates (in airing exposure) with the media advertisement company commissioned by MOT to develop media advertisements on road safety.

Ministry of Housing and Local Government. This Ministry is an RSC member and is represented on the Executive Council. Within the Ministry the Department of Fire and Rescue responds to all emergencies, including road accidents. In addition all municipal councils come under the jurisdiction of the Ministry who play an important part in planning and designing safe roads and environments within municipal areas.

Vertical coordination from central to regional and local levels of government
Road safety in Malaysia has to date been a centralized activity and the key partnerships needed for effective road safety activity between central and local government and between police and highway authorities have not yet been established.

The new road safety program stipulates that state road safety plans will need to be drawn up with state targets which will be assessed and evaluated by the road safety department and reported to Cabinet.

Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels

Governmental partnerships
The multi-sectoral arrangements which are in place create a firm basis for effective multi-sectoral activity between central government agencies. Beyond campaign activity, however, partnership development between agencies seems to have been limited by available funding and until recently the absence of a lead road safety department.

The road safety department works with the private sector to promote road safety awareness and runs a scheme allowing companies to call on the department to send trainers into the work place to talk about good safety practice. Many companies now include road safety in training health and safety officers.

Key partnerships between the lead agency and the education and police departments have been established. The education ministry is about to embark on a new three-phase road safety program in schools.

Excellent links have been forged between the government and the research sector which have been referred to earlier. The Highway Planning Unit (HPU) has assisted the Public Works Department by identifying hazardous road locations through the crash data collection process initiated in the early 1990s.

Non-governmental organization engagement
The main non-governmental organization focusing solely on road safety is the Road Safety Research Centre at the University Putra Malaysia. Several organizations engage in various road safety activities:

The Automobile Association of Malaysia (AAM) promotes road safety in its bimonthly magazine and by selling, renting and offering technical advice on the fitting of infant carriages and child restraint seats. AAM also carries out independent vehicle inspections at its headquarters.

Rescue and Aid Malaysia carries out first responder lessons for the general public, particularly schoolchildren. It also provides ambulance services in some areas.
**Business sector engagement**

The road safety department works with companies to promote road safety awareness and many companies now include road safety in training health and safety officers.

There are various trade associations representing industries such as car manufacturing (Malaysian Motor Traders Automotive Association) and insurance (General Insurance Association of Malaysia (PIAM)) which also have a strong interest in road safety outcomes and support a variety of activities.

In 2007 Scania Malaysia announced that it would commence a program to promote better road safety and fuel economy for heavy vehicles.

**Parliamentary relations at central, regional and local levels**

There is no committee structure in the Malaysian parliament in which individual topics such as transport or road safety are discussed.

**MoT RSD Role: Coordination**

- The MoT has established a dedicated, funded coordination secretariat within the Road Safety Department (RSD) which manages and supports the coordination activities of the Road Safety Council and provides support to the ministerial road safety cabinet committee.
- The multi-sectoral horizontal arrangements which are in place create a firm basis for effective multi-sectoral activity between central government agencies. Beyond campaign activity, however, partnership development between agencies has been limited in the past by available funding and the absence until recently of a lead road safety department.
- The road safety strategy envisages the adoption of targets at state level requiring state coordination arrangements.
- The MoT RSD engages with the non-governmental, business and research and professional sectors in developing road safety strategy activity.

**Legislation**

**Reviewing the scope of the legislative framework periodically**

A wide body of legislation regulating transport was established in 1987. The Road Transport Act 1987 (ACT 333) and Commercial Vehicles Licensing Board ACT 1987 (ACT 334) are comprehensive laws regulating transport, including vehicle registration, vehicle licensing, drivers’ licensing for conductors of public service vehicles, employee vehicles and goods vehicle, inspections of vehicles, and road engineering. In the Road Transport Rules, 44 rules cover goods vehicles, motorcycles, motor vehicles, road traffic, and traffic signs. In February 2006, Malaysia contracted into the UNECE type approval system for motor vehicle legislation and standards.

**Developing legislation needed for the road safety strategy**

Reviewing and enhancing road safety legislation is one of the main objectives of Road Safety Plan of Malaysia 2006–2010 and programs include:

- reviewing all subsidiary legislation under the Road Transport Act 1987 pertaining to safety (e.g., The Highway Code, Construction and Use Rules 1959, Safety Helmet Rules, Seatbelt legislation, etc. including fines/punishment for various violations);
- introducing relevant new legislation on road safety setting out the role, objectives and functions of the lead agency, periodic review of the Act and subsidiary legislation in line with policy and programs;
- setting out the roles and responsibilities of the key stakeholders engaged in education, engineering and enforcement;
- studying standards and regulations related to road safety (including construction, signage, road furniture, etc); standards and regulations related to vehicle safety; and standards and regulations related to safety equipment (including motorcycle and bicycle helmets, luminous stickers, safety vests for riders, etc).

**MoT RSD Role: Legislation**

- Reviewing and enhancing road safety legislation is one of the main objectives of the Road Safety Plan of Malaysia 2006–2010.
- The MoT RSD provides capacity for road and road user rules and standards, vehicle standard development and national road standards in the context of the road safety strategy and inspection and road user compliance operations are carried out by the police.

**Funding and resource allocation**

**Ensuring sustainable funding sources**

Road safety funding is primarily the responsibility of central government, supported as necessary by regional provincial governments, although road safety funding is not allocated specifically in budgets.
The operational budget approved for 2006 was RM2.8 million for operations and RM23.8 million for campaigns. The establishment of the Road Safety Department with its Administration and Finance Division is expected to improve road safety funding levels over time.

Funding for multi-sectoral activity is limited. To date the three main sources of road safety funding received by RSC comprise a grant from national and state level to conduct road safety education programs; a stand alone grant for approximately RM 45 million for a media campaign and sponsorship received from private sectors and NGOs. Private companies (e.g., from the oil, car manufacturing and insurance industries) sponsor road safety campaigns and activities.

The need to put in place an effective system of government budgeting and funding (both for joint multi-sectoral activity and for individual government departments with responsibilities for road safety) which provides adequate and sustainable funding for road safety activities is generally acknowledged. The Road Safety Plan of Malaysia (2006–2010) sets out key implementation points affecting funding.

- additional government annual grants should be allocated accordingly to support the intensified road safety initiatives since the setting up of the Road Safety Department in November 2004;
- a new levy to be imposed on sale of all new vehicles and channelled towards the Road Safety Trust Fund;
- similar levies are also proposed on motor insurance premiums;
- petroleum companies to contribute a percentage of their revenues to promote road safety; and
- priority funding for incorporation of safety as an integral part of road design as well as crash blackspot treatment remedial programs.

MoT RSD Role: Funding and Resource Allocation

- The MoT RSD provides capacity for the management and funding of road safety programs.
- The Road Safety Plan provides for the establishment of sources of annual, sustainable funding for road safety (e.g., increased governmental allocations and levies on insurance) and MoT RSD provides capacity for this work in its Administrative and Finance Division.

Promotion

Multi-sectoral promotion of effective intervention and shared responsibility

Road safety promotion has been the primary function of the Road Safety Council with support from the research sector, professional organizations and the private sector. The RSC has been successful in increasing awareness of road safety nationally. High-level multimedia campaigns have been carried out on road safety targeted at motorcycle, pedestrian, and car occupants in support of legislative change and enforcement activity (e.g., the Motorcycle Safety Campaign (I), 1997–2000, and Motorcycle Safety Campaign (II) and Pedestrian Safety Campaign, 2001–2002). The Ministry of Information owns two television stations which have assisted this activity.

The Asian Development Bank within the Association of South East Asian Nations (ASEAN) network has also helped to highlight the importance of national road safety programming, road safety capacity development and targets. The preparation of a draft national road safety strategy aimed to stimulate discussion and act as a catalyst in advancing road safety. The draft plan became a component of an ASEAN Regional Road Safety Plan aimed at reducing the huge economic and social losses being sustained by the Region.

A key strategy of the Road Safety Plan of Malaysia (2006–2010) is to enhance and achieve a more comprehensive and effective implementation of road safety initiatives and programs through community participation involving employers, community leaders, politicians, religious leaders, educationists, professional bodies, voluntary organizations and youth groups. Road safety initiatives and programs are to be implemented to promote community, professional and worker participation (see Box 4).

MoT RSD Role: Promotion

- The MoT RSD, in collaboration with the Road Safety Council, promotes and facilitates a shared approach to road safety across all government agencies, local government and other stakeholders.
- The MoT RSD in collaboration with the Road Safety Council manages public relations activities, media, campaigns and mass media initiatives, community engagement, agenda setting initiatives, partnership programs and other promotional campaigns at national level.
Monitoring and evaluation

Establishing data systems to set and monitor final outcome, intermediate outcome and output targets

**Final outcomes.** The traffic police are responsible for the collection and processing of data in Malaysia and, since 1992, have used a centralized computerized accident reporting system (CARS) and microcomputer accident analysis package system. Both systems operate at the district level but are stand-alone data systems. There is no direct link between these systems from the district level, where data are entered, to the federal traffic branch, where data are analysed. Traffic police also collect data on fatal and serious crashes manually. There is no state-wide accident data base system with states accessing data manually. There is a high rate of discrepancy between traffic police data and health data (which is not kept in one standard format). Central/regional government and police/highway authority partnerships are not yet well-developed in this area.

The road safety plan foresees the development of inter-agency crash data standardization programs (collection, storage, analysis, publication and dissemination of data). The aim is to establish an effective communication platform with all related parties for integrated data exchange on drivers and accidents amongst key agencies.

Standard indicators of deaths, serious injuries, minor injuries and damage only accidents are used together with death rates per 10,000 vehicles, per 100,000 population. Quantitative targets for casualty reduction are expressed in death rates per 10,000 vehicles and numbers of deaths.

**Intermediate outcomes.** There is no systematic survey work to collect national intermediate outcome data on behaviors causally related to crashes such as vehicle speeds, drinking and driving and restraint use. The development of a vehicle safety database (to rank the make and type of vehicle in terms of safety) is foreseen in the Road Safety Plan 2006–2010.

**Transparent review of the national road safety strategy in terms of results, interventions and institutional management functions**

A formal road safety management capacity review has not yet been undertaken in Malaysia.

**MoT RSD Role: Monitoring and Evaluation**

- With strong technical support from the Malaysian Institute for Road Safety Research, UPM and other institutions, the MoT RSD takes the lead in monitoring road safety strategy performance.
- The Road Safety Plan foresees the development of inter-agency crash data standardization programs (collection, storage, analysis, publication and dissemination of data). The aim is to establish an effective communication platform with all related parties for integrated data exchange on drivers and accidents amongst key agencies.
- The development of a vehicle safety database (to rank the safety performance of vehicles) is also foreseen in the Road Safety Plan 2006–2010.

**Research and development and knowledge transfer**

**Developing capacity for multi-disciplinary research and knowledge transfer**

Most road safety research to date has been carried out in university and colleges in Malaysia. The University Putra Malaysia (UPM)’s Road Safety Research Centre has played a lead role in identifying and promoting research-based improvements nationally (see Box 5). In January 2007, a new national governmental road safety research institute was founded within the Ministry of the Transport—the
Box 5: The Road Safety Research Centre, University Putra Malaysia (2007)

The Road Safety Research Centre (RSRC) was established in year 1995 in the Faculty of Engineering and is dedicated to road and traffic safety engineering research. It plays a major role in providing technical support to national road safety policy.

**Mission and Vision:** The RSRC aims to be an internationally recognised centre of excellence dedicated to the advancement of road safety, traffic and pavement engineering research for the benefit of humankind. The missions of the centre are to:

1. Continuously conduct fundamental and applied research related to road accident, vehicle safety, traffic and pavement engineering in Malaysia, the region and the world, in general.
2. Tackle problems as research questions and translate the research findings as policies, programs and interventions.
3. Disseminate and share findings with communities internationally.

**Activities:** Among the major field of research are road safety modelling and management, motorcycle conspicuity, motorcycle behavior modifications, motorcycle helmets, vehicle safety, motorcycle injury control, accident costing, motorcycle facilities and standards, exposure control, pedestrian safety, high skid resistance pavement.

Road Safety Research Centre, University Putra Malaysia, 2006

The Road Safety Research Centre at University Putra Malaysia (UPM) plays a key role in performing analytical work to inform target setting, identifying evidence-based program activity and in monitoring the progress of targets. Before moving into another field of activity, the Head of the Centre represented UPM on the Road Safety Council’s Executive Board and was technical adviser to the Malaysian government on road safety.

**Funding:** The source of funding comes mainly from contract research (RM1 million annually and the Ministry of Science and Technology Malaysia (RM500K/year). In addition, the Unit receives other short term contracts (3–6 months) from transport related companies such as PLUS, PUSPAKOM, Shell Malaysia etc.

**Staffing:** The Centre fulfils its research and consultancy functions through the collaboration of key researchers from the Unit of Highway and Traffic Engineering at the Civil Engineering Department and other researchers from disciplines such as mechanical engineering, economics, social science, communication, epidemiology, medicine and agencies concerned with road safety. The Centre has 12 full time academic staff, 6 PhD full time students, 7 MS full time research students, 2 post doctors (vacant posts) 30 MS students by taught course (short project/dissertation), 1 technician and a secretary.

Establishing good practice guidelines
Professional organizations such as an the Institution of Engineering and the Road Engineering Association of Malaysia engage in knowledge transfer by producing guidelines and recommendations and running training courses, seminars and workshops.
MoT RSD Role: Research and Development and Knowledge Transfer

- The current road safety strategy promotes a strengthening of road safety research by increasing in-house capacity and external support of joint programs with UPM.
- The MoT RSD provides capacity for road safety research management in its Planning, Research and Development division. The Malaysian Institute for Road Safety Research has been created as a governmental road safety research body.
- The MoT RSD encourages and contributes to the development and dissemination of good practice guidelines on road safety.

Summary: MoT RSD delivery of institutional management functions

Results focus. The Ministry of Transport (MoT), through its Road Safety Department (RSD) is the lead agency for road safety in Malaysia. It is responsible within government for leading, developing, coordinating, promoting and monitoring with strong technical support the country road safety strategy, program and targets, currently within the framework of the Road Safety Plan of Malaysia (2006–2010).

Coordination. The MoT has established a dedicated, funded coordination secretariat within the Road Safety Department (RSD) which manages and supports the coordination activities of the Road Safety Council and provides support to the ministerial road safety cabinet committee. The multi-sectoral horizontal arrangements which are in place create a firm basis for effective multi-sectoral activity between central government agencies. Beyond campaign activity, however, partnership development between agencies have been limited in the past by available funding and the absence until recently of a lead road safety department. The road safety strategy envisages the adoption of targets at state level requiring state coordination arrangements. The MoT RSD engages with the non-governmental, business and research and professional sectors in developing road safety strategy activity.

Legislation. Reviewing and enhancing road safety legislation is one of the main objectives of Road Safety Plan of Malaysia 2006–2010. The MoT RSD provides capacity for road and user rules and standards, vehicle standard development, national road standards against the needs of the road safety strategy. Inspection and road user compliance is carried out the police.

Funding and resource allocation. The MoT RSD provides capacity for the management and funding of road safety Programs. The Road Safety Plan provides for the establishment of sources of annual, sustainable funding for road safety (e.g., increased governmental allocations and levies on insurance) and MoT RSD provides capacity for this work in its Administrative and Finance Division.

Promotion. The MoT RSD in collaboration with the Road Safety Council promotes and facilitates a shared approach to road safety across all government agencies, local government and other stakeholders. It manages public relations activities, media, campaigns and mass media initiatives, community engagement, agenda setting initiatives, partnership programs and other promotional campaigns at national level.

Monitoring and evaluation. With strong technical support, the MoT RSD take responsibility for the monitoring of the road safety strategy. The Road Safety Plan 2006–2010 promotes the development of inter-agency crash data standardization programs (collection, storage, analysis, publication and dissemination of data). The aim is to establish an effective communication platform with all related parties for integrated data exchange on drivers and accidents amongst key agencies. The development of a vehicle safety database (to rank the safety performance of vehicles) is also planned.

Research and development and knowledge transfer. The current road safety strategy promotes a strengthening of road safety research by increasing in-house capacity and external support of joint programs with UPM. The MoT RSD provides capacity for road safety research management in its Planning, Research and Development division. The Malaysian Institute for Road Safety Research has been created as a governmental road safety research body. The MoT RSD encourages and contributes to the development and dissemination of good practice guidelines on road safety.

Lead agency structures

The aggregate and organizational structures of the lead agency for road safety in Malaysia are set out in Figures 3 and 4. There has been substantial institutional strengthening in recent years with the introduction of a new lead agency for road safety and a governmental road safety research institution. The capacity being built in both organizations is a very positive development.
**Figure 3:** Aggregate structure of Road Safety Department in the Ministry of Transport in Malaysia (2006)

**Road Safety Department, Ministry of Transport**

Lead Department responsible for road safety results, interventions and implementation

The Malaysian Road Safety Council sits within the Department

Road Traffic Department—a MoT agency—is responsible for registering vehicles, testing and licensing drivers, vehicle certification, commercial vehicles and monitoring privatised vehicle inspection activities.

**Coordination bodies**

Cabinet Committee of Road Safety
Malaysian Road Safety Council
Association of South East Asian Nations (ASEAN)—international

**Figure 4:** Organizational structure of MoT RSD (2006)
Coordination structures and a description of related processes are set out in the section on Coordination and in Figure 2.

**The Road Safety Department**

This new department takes the day-to-day lead in road safety matters and its role is to plan, coordinate, implement and evaluate the road safety efforts and activities of government agencies and non-governmental organizations in Malaysia. The Road Safety Department comprises three divisions with a staffing level of 31 people (see Figure 4):

- Planning, Research and Development
- Program and Project Implementation
- Administration and Finance

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2.2 Road safety organization in Poland

National context

Key facts: 2006

<table>
<thead>
<tr>
<th>Area</th>
<th>322,577km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>38.1 million</td>
</tr>
<tr>
<td>Kilometers of public road</td>
<td>382,615</td>
</tr>
<tr>
<td>Number of licensed motor vehicles</td>
<td>18.03 million</td>
</tr>
<tr>
<td>Road deaths per 100,000 of population</td>
<td>13.8</td>
</tr>
<tr>
<td>Number of road deaths</td>
<td>5,243</td>
</tr>
</tbody>
</table>

Source: IRTAD, 2008

Poland is situated in the centre of Europe, in the eastern European Union country territories, and at the crossroads of the main transport routes leading from the west to the east and from the north, across the Baltic Sea, to the south of the continent.

Since 1990 Poland has experienced a rapid rate of motorization rising from 9 million vehicles to 18 million vehicles in 2006. The number of passengers almost doubled, accompanied by an increase in annual vehicle/kilometers and a rapid expansion of road freight and passenger transport. In 1990 some 39% of the population travelled by car. By 2000 this rate increased to 69% and rises annually. Against this background, the number of deaths decreased by 34% between 1991 and 2006. However, in 2007 there was a 6% increase in deaths setting the country back to its 2001 level. Poland has one of the worst road safety records in the EU with per capita death rate of more than twice the levels achieved in Sweden, the Netherlands and Great Britain in the 1970s. The social and economic costs of road crashes in Poland account for more than 2% of GDP.

According to the National Road Safety Council of the Poland, other factors characterizing the situation on Polish roads have included: low compliance with basic safety regulations, lack of effective enforcement, poor infrastructure, mixed traffic, linear villages, under-performing emergency medical and rescue services, a general lack of awareness about the importance of road safety, the lack of regular, long-term cooperation between the administration, civil society and NGOs and insufficient political and social support to road safety initiatives.

However, Poland’s current road safety program aspires to substantial improvements in performance and funding. An organizational framework for road safety in Poland is gradually emerging. There have been developments in professionally led road safety planning and road safety partnerships; and there is increasing public awareness of road safety problems and the importance of road safety measures, especially those dealing with excessive speed and alcohol impairment. The current program GAMBIT 2005 is carried out within overarching policies such as National Development Plan for 2007–2013, National Transport Policy 2005–2025 (included medium to long term goals to reduce deaths as one of 10 priorities) and the Transportation Development Policy 2007–2013 (see Box 1).

Box 1: Key developments in road safety organization in Poland

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>World Bank Roads Project with component for road safety (US$ 5 million)</td>
</tr>
<tr>
<td>1993/4</td>
<td>Establishment of the National Road Safety Council and Secretariat in the Ministry of Transport and Maritime Economy (now Ministry of Transport)</td>
</tr>
<tr>
<td>1994</td>
<td>Commissioning of the strategy Integrated Improvement of Road Safety in Poland—GAMBIT to a coalition led by the Technical University of Gdansk</td>
</tr>
<tr>
<td>1996</td>
<td>Completion of the GAMBIT strategy and adoption by NRSC</td>
</tr>
<tr>
<td>1996</td>
<td>Integration of GAMBIT into National Health Program 1996–2005</td>
</tr>
<tr>
<td>1997</td>
<td>Establishment of first Regional Road Safety Councils</td>
</tr>
<tr>
<td>1997</td>
<td>Roads II Project with increased funding available for road safety (USD 25 million)</td>
</tr>
<tr>
<td>1997</td>
<td>Introduction of the GAMBIT plan in selected regions</td>
</tr>
<tr>
<td>2002</td>
<td>Amended Road Traffic Act gives NRSC executive authority and establishes 16 Regional Road Safety Councils</td>
</tr>
<tr>
<td>2004</td>
<td>In April 2004 by signing the European Road Safety Charter Poland endorsed the Community road safety goals.</td>
</tr>
<tr>
<td>2007</td>
<td>Ministry of Science commissioned project of ‘Integrated System of Transport Safety’</td>
</tr>
</tbody>
</table>
Results focus

Lead agency
Legal responsibility for road safety mainly rests with the Ministry of Infrastructure (national transport policy, supervision of the Director General of National Roads and Motorways and the Chief Inspector of Road Transport). The Ministry of the Interior (public administration and the authority for the Chief of Police) also has key responsibilities.

The Minister of Infrastructure chairs the National Road Safety Council (NRSC), an inter-ministerial coordinating body, which since 1993 has assisted the Council of Ministers on road safety issues. The deputies are under-secretaries of state at the Ministry of Transport and the Ministry of the Interior. In practice, leadership of road safety in Poland rests with the NRSC (see Coordination section for further information).

The small number of road safety staff in the Ministry of Infrastructure and the NRSC significantly limits the ability of these organizations to carry out the wide range of functions needed from a lead agency and coordinating body. The urgent need to develop capacity in road safety in governmental institutions was a stated aim in GAMBIT 2005.

Appraising current road safety performance through high-level strategic review
Review of road safety performance in Poland has been carried out under the auspices of the NRSC with the assistance of international and national research expertise.

The plans for the strengthening of road safety management envisaged in the GAMBIT 5 road safety strategy were informed by NRSC conclusions concerning strengths and weaknesses of current arrangements, although a full road safety management capacity review has not been conducted.

Adopting a far-reaching road safety vision or goal for the longer term
In 2005 the National Transport Policy (NTP) (2006–2025) formally adopted the Polish Vision Zero. While elimination of death and long term injury is not set out as the ultimate goal, as in the Swedish Vision Zero, the strategic objectives of Polish Vision Zero are set out in the NTP as follows:

- Everyone should feel responsible for road accidents and eliminating their effects.
- The road system and vehicles should be designed, constructed and used in such a way as to minimize and compensate human errors.
- All transport management system procedures should take into consideration the safety of transport users.

The medium term quantitative target is no more than 2,800 road traffic deaths by 2013 with a long term goal of no more than 1,000 road traffic deaths by 2025.

Analyzing what could be achieved in the medium term
The Technical University of Gdansk has been involved in the analytical work associated with the target-setting in successive GAMBIT strategies and most recently for GAMBIT 2005.

In 1994 the GAMBIT road safety plan comprised early road safety work in Poland and was adopted by in 1996 by the NRSC, into the national health plan in 1996 and into selected regional activity in 1997.

Setting targets by mutual consent across the road safety partnership

Final outcomes
The first National Road Safety Program with targets, GAMBIT 2000, was adopted in 2001. A target was set to reduce the number of road deaths to 4,000 by 2010—a reduction of 36% compared to the 2000 figures. Following EU accession in 2004, Poland endorsed the EU target to reduce deaths by 50% by 2010.

In 2005 the National Road Safety Program for the years 2005–2007–2013 (GAMBIT 2005) was adopted setting out the government’s priorities for the next 10 years and a new safety target—to reduce deaths by 50% to 2,800 was agreed. In June 2005, the National Transport Policy 2006–2025 adopted an interim quantitative target to achieve no more than 2,800 road traffic deaths by 2013 and a long term goal of no more than 1,000 road traffic deaths by 2025.

GAMBIT 2005 aims to reach its target by means of operational programs of three years duration, annual progress reports, and sectoral and local road safety programs. There are 5 objectives:

1. Creating the basis for performing effective and long-term road safety actions;
(2) Improving safe behavior of road users (through action on speed, alcohol, seat belts);
(3) Pedestrian, children and cyclist protection (by various means);
(4) Developing and maintaining safe road infrastructure (through inspection, audit and systematic crash analysis and re-shaping the road network to improve road safety);
(5) Reducing the severity and consequences of road accidents (through improved of vehicle and roadside crash protection and post impact care).

The first objective aims for further strengthening of road safety organization and management and focuses on 3 areas:

a) Road safety organizational structures. Developing legislation, improving the institutional structures of central government, and improving organizational structures of regional and local institutions;

b) Road safety management. Organizing cooperation and coordination, organizing professional road safety personnel training system, improving road safety programming, creating a road safety information system, introducing a road safety monitoring system, forming a research body for road safety, mandatory audit procedures for road safety, and introducing a stable road safety financing system;

c) Sector actions. Including improving road safety education in schools, improving the driver training and testing system, updating and increasing the effectiveness of road traffic law enforcement and jurisdiction, improvements related to the technical inspection of vehicles, and development of a road rescue system.

MoT/NRSC Role: Results Focus

- The Ministry of Infrastructure (MoI) has legal responsibility on behalf of government for road safety and the National Road Safety Council (NRSC) is, in practice, the lead agency. The NRSC sits within the MoI and currently has insufficient road safety management support to lead the country to achievement of ambitious targets and goals of the National Transport Policy 2005–2025 and GAMBIT 2005, the national road safety strategy.
- Poland has signed up to ambitious EU targets to reduce deaths by 50% by 2010.
- In June 2005, the National Transport Policy 2006–2025 adopted strategic objectives of the Polish Vision Zero strategy.
- The GAMBIT 2005 strategy envisaged significant strengthening in road safety management.

Coordination

Horizontal coordination across central government

The NRSC was established in 1993 following the Resolution of the Council of Ministers and funded by the Ministry of Infrastructure and the World Bank.

The NRSC was initially chaired by Deputy Prime Minister, Prime Minister and then successively by Ministers of Transport (currently the Minister of Infrastructure), although the minister does not have executive authority over other ministries. The members include senior representatives from the main sectors concerned with road safety. As a multi-disciplinary inter-governmental coordination body, the members of NRSC are nominated by the Prime Minister.

The NSRC has executive powers and its main activities, as defined in 1994, included:

- creating an administrative framework at national and local level
- encouraging and coordinating road safety activities across sectors
- increasing road safety awareness via national road safety campaigns
- allocating funding from the Road Safety Component of World Bank loans

The basis for recent coordinated road safety efforts of the NRSC was laid down upon the completion of GAMBIT 2000 and was approved by government in 2001. In 2002, the NRSC was provided with an enhanced legal mandate and vested with greater authority (see Box 2).

Box 2: NRSC tasks set out in legislation in 2002

- Making recommendations for state policy on road safety.
- Evaluating road safety programs.
- Integrating research, legal acts, international agreements and staff training programs.
- Initiating and providing opinion on legal acts and international contracts dealing with road safety.
- Initiating the education of public administration staff on road safety (capacity building).
- Working closely with social institutions and NGOs.
- Implementing road safety education, publicity and promotion campaigns.
- Monitoring and evaluating road safety activities.
The executive agency of the NRSC—the Secretariat—was established in 1994 with a staff of two, the Director and Secretary, and is located in the Ministry of Infrastructure. Currently there are only 6 permanent staff in the NRSC’s road safety department. It provides an important consistent link among the sectors. Its main activities include:

- administrative and technical support to the NRSC
- representing the NRSC at public events, when the Chairman cannot be present
- overseeing the allocation of the Road Safety Component of the WB loans
- networking among the ministries represented in the NRSC
- networking with NGOs and private sector companies involved in road safety

Clear identification of the roles of multi-sectoral organizations and individual sectors, their responsibilities and the financial mechanisms for achieving program goals has yet to be established. The organizational structure of the NRSC is set out in Figure 1.

**Vertical coordination from central to regional and local levels of government**

In parallel with the development of the central coordination body, a nationwide decentralized road safety structure was brought into existence in the late 1990s and regional road safety councils were set up in all 16 regions. They are presided over by regional governors and comprise representatives of lower administrative degrees, as well as Police, Fire Brigade, Education and Roads at regional level. Regional road safety councils have been assigned an inventory of tasks similar to, though of lesser scope, than those of NRSC (see Box 3). The Highway Code specifies that the regional authorities are responsible for ensuring the establishment and operation of the RRSCs.

In some regions transport projects co-financed by the World Bank and regional government specified a road safety component. With regional government forging close links with the university sector on regional road safety planning, the GAMBIT road safety plan was introduced in several regions in 1997. However, with far-reaching administrative reform announced in 1998 which included a reduction in the number of regions from 49 to 16 in 1999, road safety coverage by all these regions began only after 2000.

**Specific delivery partnerships between government, non-government, community and business at the central, regional and local levels**

While there are few formal partnerships as yet in Poland, there is strong awareness amongst road safety professionals about the benefit of multi-sectoral delivery of road safety, whether inter-governmental or between government and the NGO sector. This is most developed in the partnership activities between:

- different sectors co-operating on specific issues, (e.g., education, rescue), underpinned by legislative requirements which have supported implementation of multi-sector initiatives
- regional government and the university sector in GAMBIT planning to deliver the road safety component of World Bank project loans.

**Non-governmental sector engagement**

Through its secretariat, the NRSC and regional councils have regular contact and involvement with the NGO sector. There are numerous non-governmental organizations from sectors such as transport, academia, health and education who are involved in the informal organization of road safety, especially on the local level. These comprise the Polish Motor Association and the Polish Red Cross, the GAMBIT Foundation, research institutes such as technical universities, notably in Gdansk, Krakow and Warsaw, the Motor Transport Institute and the Road and Bridge Research Institute, the Chamber of Polish Insurers, individual insurance companies, publishers of transport magazines and some private companies, including partners of the Global Road Safety Partnership (GRSP) in Poland. The Polish Committee of the GRSP was established in 2000. The Polish GRSP Program is based on a tri-sectoral approach (public-private-NGO). The national secretariat of GRSP was hosted by the NRSC.

The non-governmental sector contributes to a variety of national road safety strategy actions. For example, one of the aims of the National Road Safety Program in Poland is to improve knowledge and awareness on road safety. Towards this end the Motor Transport Institute in partnership with NRSC, SWOV, and GRSP Poland are developing an on-line information system on the country’s road safety situation, actions taken, good practices and a knowledge base.
**Business sector engagement**

The business sector within the Global Road Safety Partnership (GRSP) has been particularly active in road safety in Poland since 2000 and includes Daimler Chrysler Polska, Renault Polska, Shell Poland, BP Poland, 3M Poland, Michelin, ABB, Vessel.

Over the past six years GRSP and partners in Poland have implemented over 30 initiatives targeting a wide variety of road safety issues in the country. In 2005 partners decided to consolidate efforts and work together more consistently on common initiatives.

In 2006 the GRSP in Poland launched a nationwide initiative on aiming to help companies and organizations operating in Poland to improve their road safety performance. The *Safe Fleet Guidelines* are a collaborative effort, bringing together the knowledge and experience of the Partners in Poland to provide a practical tool for improving work-related road safety.

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**Box 3: Role of the Regional Road Safety Councils in Poland**

The Regional Road Safety Councils are legally required to develop road safety plans supporting the multi-sector goals of the national plan as well as providing annual reports on their progress and road safety development. These plans are submitted to parliament and to the Polish President. The National Road Safety Council coordinates Regional Road Safety Councils in each region. Central funding is used to co-finance road safety schemes in various regions of the country. Their primary tasks include:

- developing regional road safety plans based upon the national strategy
- giving opinions on provincial legal acts regarding road safety
- confirming a plan of expenses of the Road Traffic Centres allocated for road safety
- initiating education of the public administration staff and road safety training
- co-operating with relevant social and non-governmental organizations
- initiating education and information activity
- analysis and evaluation activities
- local authorities and the private sector projects: these projects are generally small-scale and may not necessarily be in line with national plan or priorities or a coordinated part of the program.
Parliamentary relations at central, regional and local levels

There is no all-party parliamentary committee with road safety as its sole focus. The NGO sector held a workshop with the Transportation Committee of the Polish Parliament to discuss ways of motivating the Committee and the parliament to become more actively involved in road safety. The Global Road Safety Partnership was invited to help start a formal discussion in the parliament on the benefits of improved road safety.

**MoI/NRSC Role: Coordination**
- The MoI supports and funds the NRSC’s dedicated coordination secretariat and supports the coordination activities of the Road Safety Council and provides support to the Ministerial Road Safety Cabinet Committee.
- The horizontal and vertical coordination arrangements which are in place create a basis for multi-sectoral activity between central government agencies. However, partnership development between agencies is limited by available funding and the absence of a lead road safety department capacity.
- The NRSC engages with the non-governmental, business and research and professional sectors in developing road safety strategy activity.

Legislation

**Reviewing the scope of the legislative framework periodically**

The legislative framework is being aligned gradually to European Union requirements. Road safety legislation is being strengthened. With some exceptions, the main legislative provisions for road safety are in line with European norms.

In the last decade the penalty points system was introduced (1993) plus the requirement to carry children in special restraints, the use of daytime running lights from 1 October till the end of February, new penalties for drinking and driving offenses (2002), and high risk sites were marked with special signs. In May 2004 Poland introduced the 50 km/h speed limit in built-up areas, but the new limit applies only between 5am and 11pm and 60 km/h applies outside these hours. The new Highway Code also set out a number of essential provisions. Other relatively recent legislation included bringing into existence the Road Transport Inspectorate to enforce regulations on commercial road transport, legislation on driving hours in commercial road transport and legislation providing for an integrated medical rescue system. New regulations are now being prepared for driver training and testing and supervised driving and provisional driving licenses for novice drivers.

**Developing legislation needed for the road safety strategy**

The NRSC has the role of developing and coordinating road safety legislation. For example, in February 2005 the NRSC appointed a new Working Committee with representatives from several ministries and central bodies. The Committee was asked to prepare proposals for new legal regulations on road traffic enforcement. The focus of the Committee was the introduction of a legal basis to allow automatic traffic enforcement to increase the efficiency of penalty procedures. *GAMBIT 2005* envisaged further development of the legislative framework.

**MoI/NRSC Role: Legislation**

- The main legislative road safety requirements are in line with European norms.
- The NRSC has the role of developing and coordinating legislation on road safety.
- *GAMBIT 2005* envisaged further development of the legislative framework.

Funding and resource allocation

**Ensuring sustainable funding sources**

Road safety activity is financed mainly from the national and regional budgets, although multiple source funding is encouraged and supported by public and private sectors.

A stated aim of the National Road Safety Program (*GAMBIT 2005*) is to introduce a stable road safety financing system (see Box 4). The establishment of a road safety fund financed from non-governmental sources, which would support the co-operation among the sectors, was proposed in *GAMBIT 96*. Around 1.5 billion PLN is allocated to road safety on an annual basis.

**National government funding**. The Polish government provided specially allocated funding to the Transport Ministry (now Infrastructure) for initial establishment of the NRSC, including the creation of a Secretariat, which was entrusted with overseeing the allocation of the road safety component of World Bank loans. Resources were allocated in support of initiatives such as:
Box 4: Funding needs specified in national road safety strategy

*GAMBIT 2005* indicated that 25 billion PLN (6.6 billion Euros) would be required to realize the objectives of the road safety program 2005–2013, although in practice this sum has not yet been allocated to *GAMBIT 2005*. The financing of road safety is expected to be conducted by the following means:

- publicity and information campaigns, preparation and distribution of information materials;
- sponsorship of conferences, seminars and public ceremonies focusing on road safety;
- commissioning and financing of studies and research works;
- financial support to NGOs and foundations organizing road safety competitions;
- financing various regular road safety magazines for use in schools.

The first National Road Safety Plan foresaw funding at national levels to come primarily from the budgets of different Ministries and decisions taken by the NRSC on initiatives that can be funded out of these separate budgets. For example, infrastructure improvements, including black spot treatment, are financed from government revenue, most of which is from the budget of the Ministry of Transport and Construction. However, a specific allocation within budgets has not been formally mandated for road safety activities.

**Regional and local government funding.** Regional government receives funding from central government and international finance from organizations such as the World Bank (to which regional authorities have to contribute 40% of total project funding). Some funding of NRSC activity has taken place in several regions.

In the absence of a regular central government allocation for road safety, local authorities have been looking increasingly to partnerships with the private sector and NGOs at local level. These are usually initiated by local organizations which have identified a specific need or problem.

**Road user fees.** A system of regional road traffic centres (RRTC) has been set up which provides a source of funding for regional and local road safety activities. The funding comes from the following sources:

- Charges for driver licensing tests
- Charge for educational courses for professional drivers
- Charges for traffic schools for offenders

Legislation in 1997 authorized the provision of funds for road safety from the Regional Road Traffic Centres (RRTC) to finance initiatives such as information campaigns focusing on road traffic rules and regulations, improving driver behavior and attitude and other unspecified initiatives. Funding from the RRTC is supporting the development of regional road safety plans and programs in a number of regions.

**International financing.** External loans from two World Bank Roads Projects with specific road safety components have pump-primed multi-sectoral partnerships and financed large scale targeted road safety activities. In 2002, funding from the World Bank Roads II Project supported the development of the Regional Road Safety Councils in 3 pilot regions. Activities included in this pilot project are institutional development and capacity building, including the development of a training program in road safety for the NRSC to be used to train regional decision makers and technicians from various sectors. All initiatives were financed 60% from the WB loan and 40% from regional funds. Funding to improve road infrastructure according to international standards is also provided by other international donors such as the EU and EBRD, although these do not have specific road safety components.

**Insurance sector.** A small source of funding for road safety activities is provided by Polish insurance companies. Based upon insurance sector legislation from 1995, 1% of vehicle premiums can be used by individual companies to fund road safety activities. Few insurance companies have actually used this source to fund road safety.

**Private sector funding.** Typical types of initiatives sponsored by private sector companies include educational programs mainly addressed to school children, low cost schemes and police equipment.
MoT/ NRSC Role: Funding and Resource Allocation

- A stated aim of the National Road Safety Program (GAMBIT 2005) is to introduce stable road safety funding.
- Road safety in Poland is heavily reliant on international donor assistance. A stated aim of the NRSC is to allocate funding from the Road Safety Component of World Bank loans.

Promotion

Promoting the far-reaching road safety vision or goal
Road safety is promoted nationally through the Polish Vision Zero and the GAMBIT 2005 program.

Championing and promotion at a high level
Road safety activity in Poland has benefited from several road safety champions in Poland, the most notable being the Director of the Secretariat of the NRSC and the Head of Highway Engineering Department at the Gdansk University of Technology who also worked as Under Secretary of State at the Ministry of Infrastructure (2004–2005). In Poland, active champions were found to have an important positive impact on both the further development of road safety management according to international good practice and the encouragement of partnership interventions across sectors (including public and private). Champions have also been important in generating funding for local road safety interventions.

Multi-sectoral promotion of effective intervention and shared responsibility
To date several publicity actions and media campaigns have been coordinated and co-financed with the participation of NGOs in order to raise awareness among the general public and decision-makers. Numerous promotional events and publicity campaigns on road safety have been supported.

MoT/ RSC Role: Promotion

- Road safety is promoted nationally by MoT/RSC through Vision Zero and the GAMBIT 2005 program.

Monitoring and evaluation

1. Establishing data systems to set and monitor final and intermediate outcome and output targets
While Poland has collected data on road crashes since the 1970s, the development of transport, health and justice sector databases to assist road safety work is very recent. The preparation of vehicle and driver databases is underway, the national computerized crash injury database is being updated, and regional databases require harmonization. The collection of intermediate outcomes data has just begun. It is expected that in the near future that Poland’s participation in European CARE, SafetyNET and IRTAD programs will contribute to improvements. The Ministry of Infrastructure which has begun working on an integrated transport data base (Road and Bridge Research Institute) and the road safety observatory (Motor Transport Institute).

Final outcomes
The national computerized crash injury database was established in 1991 and the system of information collection and processing is supervised by the police. Work on a new system for data processing is currently underway. There is a requirement for the police reporting of crashes and a statistical report of road crashes and casualties nationally is produced annually by the police. Police data is available to all road safety stakeholders.

Poland uses standard performance indicators for final outcomes (number of killed, killed/100 accidents, killed/100,000 inhabitants, fatalities by age group etc), which are monitored on a quarterly basis using data collected by the police. Its definition of other injury severity is imprecise.

Intermediate outcomes
The systematic monitoring of vehicle speed, seat belt use and levels of drinking and driving envisaged in GAMBIT 2005 has begun. Poland joined the EuroRAP program in 2006. The Polish partners include the Polish motoring and motorcycling clubs, local authorities, the General Directorate for National Roads and Motorways, the Foundation for Civil Engineering Development, Gdansk University of Technology and Toyota Poland.

Transparent review of the national road safety strategy in terms of results, interventions and institutional management function
Since 2002 annual reports on road safety performance are prepared by the NRSC and presented to the Polish parliament and Prime Minister. Regional councils are also legally required to report on progress.
**Mol/NRSC Role: Monitoring and Evaluation**

- The NRSC has responsibility for monitoring road safety outcomes and work is underway to improve various registries and crash injury data systems.
- Some intermediate outcome data is also being collected. Poland participates in the European Road Assessment Programme.
- Annual reports on progress with road safety are presented to parliament.

**Research and development and knowledge transfer**

**Developing capacity for multi-disciplinary research and knowledge transfer**

The research sector is well-developed in Poland and has played a major role in promoting the need for good practice road safety management as well as raising the profile of road safety amongst policymakers. Such activity has received the full support of the NRSC and its importance is acknowledged in the National Road Safety Plan.

Multiple research activities have been commissioned and accomplished in order to provide the road safety decision-making process with sound knowledge base and actual data backup necessary in planning further steps. The Technical Universities of Gdansk (in which GAMBIT originated) and Krakow and the Motor Transport Institute play a key role. Other research institutes include the Warsaw University of Technology, and the Road and Bridge Research Institute.

**Establishing good practice guidelines**

There is an on-going joint project between the NRSC and the Motor Transport Institute to develop an on-line information system on the country’s road safety situation, actions taken and good practice.

There has also been regular interaction by road safety professionals with countries having a longer and more developed road safety tradition. Contact and exchanges with international experts has increased the awareness of international best practice in road safety among road safety professionals.

Short term support from international organizations (e.g., World Bank and European Union) has enabled some pump-priming for multi-sectoral knowledge transfer and institutional development. However, no formal or regular programs for capacity building among road safety professionals yet exist nationally, although this is foreseen in GAMBIT 2005.

**Mol/NRSC Role: Research and Development and Knowledge Transfer**

- The research sector has played a major role in Poland in encouraging evidence-based organization and practice.
- The NRSC has developed strong partnerships with the research sector for road safety strategy development.
- There is an on-going joint project between the NRSC and the Motor Transport Institute to develop a national road safety observatory.
- GAMBIT 2005 promotes strengthening of research and knowledge transfer activity.

**Summary: Mol/NRSC delivery of institutional management functions**

**Results focus.** The Ministry of Infrastructure (MoI) has legal responsibility on behalf of government for road safety and the National Road Safety Council (NRSC) is, in practice, the lead agency. The NRSC sits within the MoI and currently has insufficient road safety management support to lead the country to achieve the ambitious long-term goal and interim target of the National Transport Policy 2006–2025 and GAMBIT, the national road safety strategy. Poland has also signed up to ambitious EU targets to reduce deaths by 50% by 2010. The GAMBIT 2005 strategy, however, envisaged significant strengthening in road safety management and set out policy objectives.

**Coordination.** The MoI supports and funds the dedicated, coordination secretariat within the NRSC and manages and supports its coordination activities. The horizontal and vertical coordination arrangements which are in place create a basis for multi-sectoral activity between central government agencies. However, partnership development between agencies is limited by available funding and the absence of a lead road safety department capacity. The NRSC engages with non-governmental, business and research and professional sectors in developing road safety strategy activity.

**Legislation.** The main legislative road safety requirements are aligning to European norms. The NRSC has the role of developing and coordinating legislation on road safety.
**ANNEX 4: COUNTRY CASE STUDIES**

**GAMBIT 2005** envisages further development of the legislative framework.

**Funding and resource allocation.** The National Road Safety Program (**GAMBIT 2005**) aims to introduce stable road safety funding. Road safety in Poland is heavily reliant on international donor assistance. For example, a stated objective of the NRSC is to allocate funding from the Road Safety Component of World Bank loans.

**Promotion.** In 2005 the National Transport Policy formally adopted a long term vision of zero deaths on Polish roads. Road safety is promoted nationally by MoI/NRSC through Vision Zero and the **GAMBIT 2005** program.

**Monitoring and evaluation.** The NRSC has responsibility for monitoring road safety outcomes and work is underway to improve various registries and crash injury data systems. Some intermediate outcomes data is also being collected. Poland participates in the European Road Assessment Programme. Annual reports on progress with road safety are presented to parliament.

**Research and development and knowledge transfer.** The research sector has played a major role in Poland in encouraging evidenced-base organization and practice. The NRSC has developed strong partnerships with the research sector for road safety strategy development. There is an on-going joint project between the NRSC and the Motor Transport Institute to develop a national road safety observatory. **GAMBIT 2005** promotes strengthening of research and knowledge transfer activity.

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