

Cockfield, Samantha

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## Road safety - the experience of the Transport Accident Commission in Victoria, Australia

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# Road Safety - the Experience of the Transport Accident Commission in Victoria, Australia

24

**Discussion Paper 2011 • 24**

**Samantha COCKFIELD**

Transport Accident Commission,  
Australia

# **Road Safety – the Experience of the Transport Accident Commission in Victoria, Australia**

**Discussion Paper No. 2011-24**

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**Samantha COCKFIELD**

Transport Accident Commission (TAC)  
Geelong  
Australia

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## **1. INTRODUCTION**

The Transport Accident Commission of Victoria (TAC) was established, and is governed by, the Transport Accident Act 1986. The TAC administers a comprehensive no-fault compensation scheme for Victorians who are injured or die as a result of a transport accident. The Act also provides the TAC with a role in accident prevention and reducing the cost of transport accidents to the Victorian Community

As a partner with other Government road safety agencies under Victoria's road safety strategy, the TAC's primary role is to introduce initiatives to modify road user attitudes and behaviour. It is also involved in programs to improve vehicle safety and improve road infrastructure in Victoria.

This paper sets out to describe the TAC's role in road safety in Victoria and detail through example some of the programs it has developed to both reduce incidence and cost of trauma on Victoria's roads.

## **2. ROAD SAFETY IN VICTORIA (AUSTRALIA)**

Victoria is a small state in Australian terms. It has approximately 5 million people, who drive over 4 million vehicles, on approximately 200,000 kms of roads. It has a good road safety record with successive governments supporting strong measures to keep people safe on the roads.

During the late 1990's, Victoria was fortunate to have an architect of Sweden's 'Vision Zero' (Claes Tingvall) join the Monash University Accident Research Centre (MUARC) as its Director. 'Vision Zero' and 'Sustainable Safety' were new philosophies to most Australian Road Safety practitioners. Through these philosophies, Australians were introduced to the idea that if we were to substantially reduce the number and severity of injury crashes, we needed to look at the road network more holistically. More philosophically, he started with the idea that if we were to make a difference in road safety, we needed to be aspirational and work towards a goal where nobody needed to be seriously injured or killed as a result of making a mistake on the road.

Victoria had been a leader in road safety. It was the first state in the world to introduce compulsory seat belt wearing law in 1970, the first jurisdiction in the world to have random roadside breath testing via booze buses (1989) and later, the first jurisdiction to introduce random road side drug testing (2005). It has developed internationally acclaimed public education campaigns addressing drinking and driving (If you drink, then drive, you're a bloody idiot) and Speed (Speed Kills)<sup>1</sup>, has a well developed road safety infrastructure (Blackspot) program and well resourced police force. As a result it has a good long-term record in reducing road trauma<sup>2</sup>.

### **3. THE TRANSPORT ACCIDENT COMMISSION (TAC)**

#### **3.1 About the TAC**

The Transport Accident Commission (TAC) is the statutory insurer of third-party personal liability (Compulsory Third Party insurance) for transport accidents in the State of Victoria, Australia. It was established under the Transport Accident Act 1986 (TAA 1986).

Its primary purpose is to fund treatment and support services for people injured in transport accidents. The TAC's support covers medical and non-medical expenses incurred as a result of an accident, for example income support for people whose injuries prevent them from performing normal job duties, or return to work programs, and equipment or aids, such as wheelchairs or crutches that are recommended by a healthcare professional. Funding used by the TAC to perform these functions comes from compulsory payments made by Victorian motorists when they register their vehicles each year with

VicRoads. <http://www.tac.vic.gov.au/jsp/content/NavigationController.do?areaID=25>

The TAC also has a fairly unique role in helping to reduce accidents on Victorian roads. Along with VicRoads, Victoria Police and Department of Justice, it delivers the Victorian Government's road safety strategy – arrive alive 2008 - 2017. It is responsible for the majority of road safety advertising in the state and either runs or financially supports a range of road safety programs designed to reduce trauma on Victorian Roads.

#### **3.2 TAC and its role in road safety**

The TAC's involvement in road safety is enshrined in legislation. The TAA 1986 dictates that the TAC has a role in a range of areas that supports its investment in road safety. Parts of the Act that support the TAC road safety related activity include:

"Section 8. Objects of Act

- (a) to reduce the cost to the Victorian community of compensation for transport accidents;
- (d) to reduce the incidence of transport accidents;

Section 11. Objects of the Commission

- (a) to manage the transport accident compensation scheme as effectively, efficiently and economically as possible;
- (c) to ensure that the transport accident compensation scheme emphasises accident prevention and effective rehabilitation

Section 12 . Functions of the Commission

(i) to collect and assess data and statistics in relation to transport accidents;”<sup>3</sup>

The TAC’s mission is to work with the Victorian community to reduce road trauma and support those it affects and its vision is a future where every journey is a safe one.

To achieve its objectives, the TAC collects a premium on approximately 4.3 million motor vehicles. In 2010/11 the TAC:

- Collected \$1.315 million in premium revenue
- Charged a \$397 annual premium for a metropolitan based car
- Received 16,500 no-fault claims from injured (81% for minor injuries)
- Most of the TACs outstanding claims liability (64%) relates to its major injury portfolio (3%of claims).
- Delivered \$937 million in support services and benefits to 43,794 clients
- Held provisions for outstanding claims liabilities of \$7.7 billion.

The TAC expends well over \$100 million per annum on road safety programs.

In 2010/ 11 key road safety initiatives were:

- Safer Roads Infrastructure Program (\$84.3m)
- Public Education Campaigns including sponsorships (\$29.5m)
- Road Safety Programs (enhanced enforcement/ schools education) (\$5m)
- Research (\$3m)

So, for the TAC, road safety programs represent both a financial investment decision, where programs are specifically developed to provide a predicted financial benefit to the insurance scheme (e.g., the Safer Roads Infrastructure Program noted below) and a policy decision designed to achieve a socially desirable outcome – to reduce transport incidents and severity for the Victorian Community.

The ability to collect data and request information from other agencies provides the TAC with extensive insight into the trauma issues faced in Victoria. The TAC’s status as a monopoly insurer provides it with access to details about almost all serious injury and fatal crashes. The ability to link this data with Victoria Police’s crash data – further strengthens the TAC’s ability to both look at causation and undertake in-depth evaluations of programs.

### **3.3 Historical perspective – TAC’s first investments in road safety**

From its inception in 1987, the TAC has been actively involved in road safety. During the first two years of operation, the TAC discharged its road safety responsibilities under the Transport Accident Act through funding initiatives conducted by other agencies, mainly VicRoads. The scale of the activity was around \$4 million per year.

Policy and strategy papers were completed and presented to the TAC board and management in the first half of 1989, these included a proposed program of action similar to previous activities, but with an emphasis on extended random breath testing and publicity as the centre point and a Strategic Plan for Accident Prevention which recommended a leap in TAC resourcing of road safety to \$7m in 1990-91 and \$10m in

1992-93. (Personal communication from Ray Taylor, Director Accident Prevention, TAC, at that time)<sup>4</sup>.

A key strategy objective outlined in the paper was:

'Ensuring a co-ordinated program including addressing current public perceptions and increased police enforcement is conducted over the next 4 years.'<sup>5</sup>

### **3.3.1 Case Study: Booze Buses and Random Breath Testing (RBT)**

13 new purpose-built highly visible "booze buses" were developed and purchased by the TAC for Victoria Police during 1990. This allowed Police to run large scale, statewide breathtesting initiatives, resulting in the number of RBTs increasing from around half a million in 1989 to over 900,000 in 1990 and over 1,100,000 in 1991.

In December 1989, the TAC launched a major statewide multi-million dollar publicity campaign "If you drink then drive -you're a bloody idiot" to support the new RBT operations. Further media launches and publicity for the new booze buses occurred in April and September 1990.

Successive evaluation of the program by Monash University Accident Research Centre have shown the RBT program roll-out was also accompanied by progressive reductions in the proportion of drivers and motorcyclists killed (and tested) with a Blood Alcohol Content (BAC) exceeding .05%.

Booze Buses continue to be used to this day still supported by large scale public education campaigns. Currently, around 1.2 million booze bus RBTs are conducted per year.

### **3.3.2 Case Study: Speed Cameras**

54 Radar mobile speed cameras were developed and purchased by the TAC for Victoria Police in early 1991. This resulted in the state's first ever speed camera program. The program included an intensive statewide mass media publicity campaign "Don't fool yourself-speed kills" which aimed to increase the perception of the level of camera operations and their legitimacy. This multimedia campaign involved much larger expenditure than previous road safety campaigns. It was launched in April 1990 and maintained at high levels for most of 1990.

Three research programs were undertaken by the Monash University Accident Research Centre (MUARC) as to of the effect of the program. Analysis showed that the combined effects of speed cameras and publicity were effective in reducing speed related casualty crashes on Victorian Roads. Along with bicycle helmet wearing laws, lowering the 110km/h freeway speed limit to 100km/h and other enforcement programs these initiatives were seen as the reason for a remarkable reduction in trauma on Victoria's roads

In the three and a quarter years from October 1989 to December 1992, there was a drop in fatalities from 776 in 1989 to 396 in 1992. This was the largest reduction ever experienced in Victoria, and brought the total to below 400 for the first time since 1948, when there were 87% fewer registered vehicles. Figure 1 below illustrates the drop and other initiatives that have been implemented in Victoria.



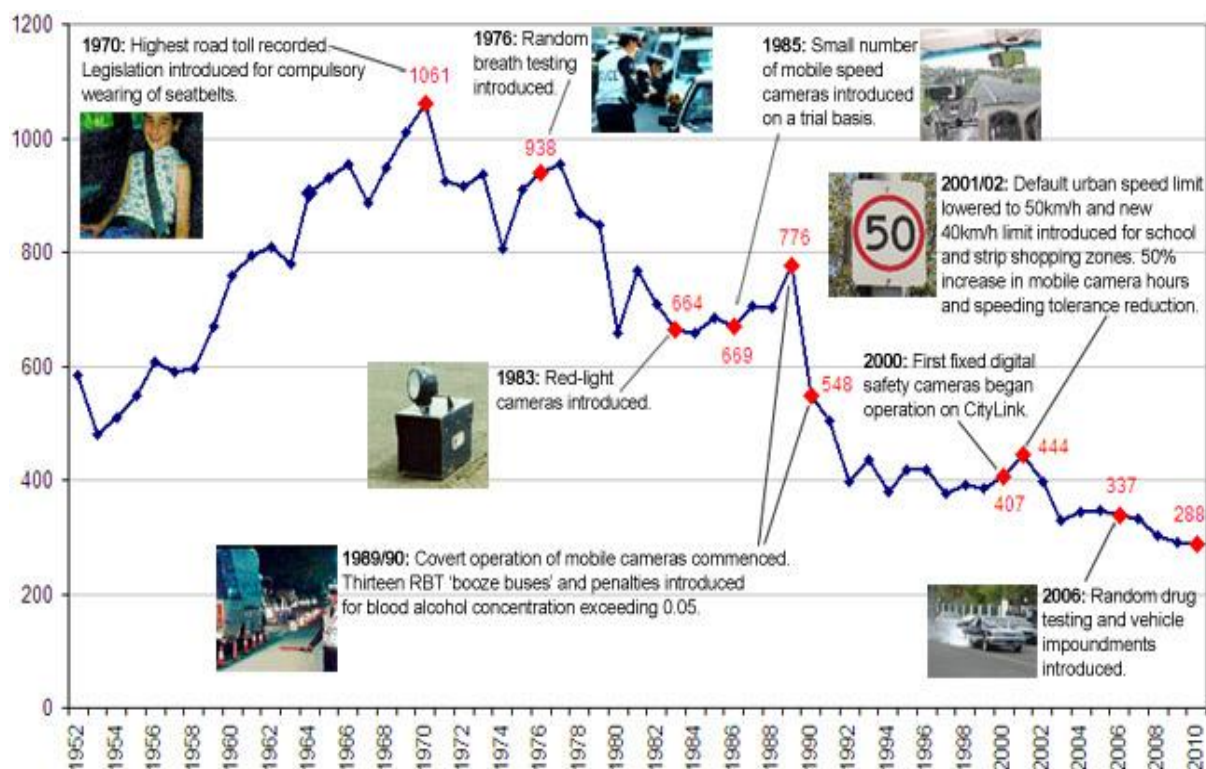


Figure 1; Victorian road fatalities and road safety initiatives (TAC, 2011)

## 4. ROAD SAFETY IN VICTORIA NOW

### 4.1 Victorian Road Safety Strategy

In Victoria, road safety is managed via partnership of the key government road safety agencies, who together, deliver Victoria's road safety strategy – *arrive alive 2008 – 2018*. The partners are:

- VicRoads – the lead agency, responsible for road infrastructure, licensing, key policy and legislation, and a range of behavioural and vehicle safety programs
- Victoria Police – delivering traffic enforcement and collecting crash and enforcement data
- Department of Justice – responsible for automated enforcement, primarily speed and redlight camera programs
- TAC – primarily responsible for public education programs but with an interest in vehicle safety and infrastructure programs.

A range of coordination mechanisms, ensure that the *arrive alive* partnership remains vibrant and strong. Key co-ordination mechanisms are detailed in Figure 2 below.

The TAC, unlike other Victorian road safety agencies is not legislatively required to address all road safety issues and tends to concentrate its efforts on issues where it believes it can make the biggest difference in terms of trauma numbers and outcomes and/ or to viability of the TAC scheme.

Issues such as bicycle safety and heavy vehicle safety which have not to this point had a great impact on the TAC in terms of claim numbers or claims costs, are not addressed to any great extent.

Decisions about what to fund are made on the basis of business cases put to the TAC Board of Management. Historically, the TAC has felt it could make the 'biggest difference' by addressing behavioural issues such as drink driving, speeding, seat belt wearing and fatigue together with and road infrastructure (blackspot) improvements. In the last decade, it has moved to embrace the 'safe system' philosophy and now also has a considerable investment in developing safer vehicles.

## Managing & coordinating the strategy

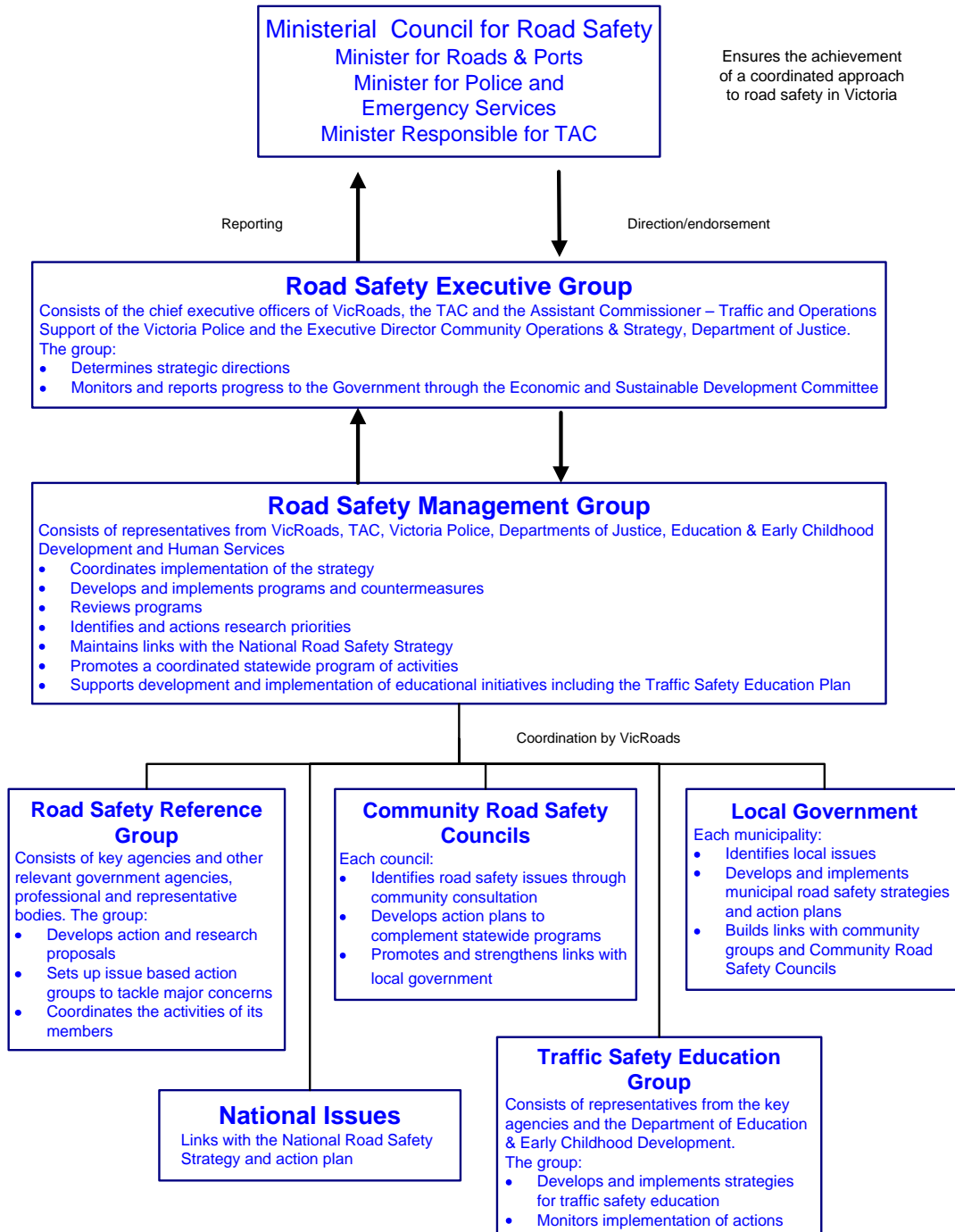


Figure 2: The Victorian Road Safety Strategy Management Structure – from 'arrive alive 2008 – 2017' strategy document, 2008.

In 2002, the Victorian Government launched its first ever road safety strategy embracing the 'Safe System' philosophy – *arrive alive 2002 - 2007*. The strategy acknowledged that all aspects of the system – roads and roadsides, the people travelling on them and the vehicles they use must be addressed. In 2007, the second strategy *arrive alive 2008 – 2017* was released which further emphasised the 'Safe System' approach to addressing road trauma.

The approach adopted was possibly best described the Austroads Council at its meeting in November 2003.

The description of the Safe System strategy that was presented to the Council and has since been further developed<sup>6</sup>, has close similarities to the Swedish and Dutch approaches:

- it is accepted that crashes will continue to occur, prevention efforts notwithstanding;
- the challenge for the proposed Safe System in the event of a crash, is to ensure that the impact forces released in the crash are within the boundaries of human tolerance and that no fatalities will occur (and serious injuries will be reduced);
- the key task of the Safe System is to manage vehicles, the road infrastructure and speeds in order to minimize the probability of death as a consequence of a road crash;
- as with Vision Zero and Sustainable Safety, the Safe System approach does not dismiss individual road user responsibilities and behavioural countermeasures (for example, it stipulates the need for alert and compliant road users) but explicitly points to these aspects as supporting components of the system.

As a partner in the *arrive alive 2008 – 2017* road safety strategy, the TAC plans its own work around the safe system philosophy.

## **4.2 Roads Infrastructure Programs**

Since the early 1990s the TAC has funded substantial Safer Roads Infrastructure Programs (SRIP) - initially known as accident blackspot programs. The programs have been delivered by VicRoads (Victoria's lead road safety agency and the organisation responsible for developing and maintaining Victoria's road infrastructure).

The first of these programs was implemented from 1992/93 and 1995/96 and had a budget of \$85 million. In total, 559 distinct sites were treated under this program.

A subsequent blackspot program, with a budget of \$240 million was implemented from 2000/2001 – 2003/2004. This program, known as the Statewide Blackspot Program, had two distinct components; the accident blackspot program and the potential blackspot program. The 841 sites were treated under the Blackspot program were selected based on their poor history of casualty crashes over a number of preceding years – similar to that used for the \$85 million program. However, the 285 sites treated under the Potential Black Spot component were identified using an alternative method that did not rely on crash histories of sites. Of the \$240 million allocated to the Statewide Blackspot Program, approximately \$20 million was allocated to the Potential Blackspot component.

Following these programs came the Safer Roads Infrastructure Programs (SRIP).

- SRIP1 was a \$130 million program running between 2002 and 2004, it treated 113 sites: 42 of which were intersections and 71 being for lengths of road.
- SRIP 2 was a \$110 million program running between 2005 and 2006, it treated 250 sites: 194 of which were intersections and 56 being lengths of road.
- SRIP 3 is a \$650+ million program that commenced in 2008 and will finish 2017.

The SRIP programs have primarily used a methodology that used crash histories at a site or along a length of road to identify a site for treatment. Sites are selected on a Benefit Cost Ratio based on a formula originally developed by the TAC.

The method to calculate the BCR for a SRIP project is based on the following formula:

$$\text{BCR} = \frac{\text{Estimated Project Benefit Discounted @ 6.5\%}}{\text{Estimated Project Cost Discounted @ 6.5\%}}$$

The TAC requires a minimum projected BCR of 3:1 for any single SRIP project.

The TAC Board approves tranches of work based on business cases developed by VicRoads. The average cost of a tranche will be about \$100 million. A business case will outline the likely benefits this tranche of work is likely to achieve for the TAC in relation to:

- casualty crash numbers
- fatalities
- serious injuries
- cost effectiveness
- overall BCR

All blackspot and SRIP programs are evaluated by Monash University Accident Research Centre (MUARC), against these criteria. Outcomes for the three SRIP programs noted above are detailed in the table below<sup>7</sup>.

<b>Program</b>	<b>Sites treated &amp; evaluated</b>	<b>Casualty Crash Reduction</b>	<b>Serious Casualty Crash reduction</b>	<b>Overall BCR to Community</b>
<b>SRIP 1</b>	109	24%	31%	2.4:1
<b>SRIP 2*</b>	245	33%	44%	4.5:1
<b>SRIP 3*#</b>	210	31%	Not available	2.4:1

\*- interim evaluations only

# - limited sites had enough data for evaluation.

### 4.3 Safer Vehicles

Monash University Accident Research Centre (MUARC) estimated, if we all changed from our current vehicle to the very safest vehicle in our class, that serious road trauma on our roads would drop by 22%. Moreover, if we were to change over to a vehicle that

combines all the best safety features currently available, that serious trauma would drop by as much as 42% (Newstead *et al.*, 2004<sup>8</sup>).

These findings provided fundamental support for the TAC's involvement in targeted vehicle safety promotional and educational activities, highlighting that regardless of any behavioural change in road users such as reductions in drink driving or excessive speed, substantial reductions in the road toll can be achieved by raising vehicle safety performance levels.

Even before it fully understood the safe system philosophy, the TAC identified the potential associated with investment in more crashworthy vehicles and vehicle safety technologies. In the mid to late 1990's the TAC became aware of the importance of vehicle safety in the mix of initiatives designed to reduce road trauma. It also became aware that, despite its developed economy and love of the motor car, Australian vehicles were older and on average (based on star ratings) far less safe than those of Northern Europe and North America.

The TAC saw two opportunities, where it could usefully and, in the long term, profitably invest to improve the safety of vehicles in the Victorian fleet.

- 1) Use of social marketing techniques to educate Victorian car buyers about vehicle safety; and
- 2) Investment in and promotion of technologies and programs that would advance vehicle safety

#### **4.3.1 The market-driven model**

Regulation through the introduction and modification to the Australian Design Rules (ADRs) has played a significant role historically in making cars safer on Australia's roads. Significant examples include seatbelt fitment in January 1969 and side-door strengthening in January 1977 (Newstead *et al.*, 2007)<sup>9</sup>.

Improvements to the design rules slowed dramatically in the 1990s such that regulatory change could no longer be relied upon to drive safety improvements to vehicles. There was an opportunity to influence market dynamics as a means to secure safety gains. Overseas experience supported this approach. Tingvall *et al.*, (2007)<sup>10</sup> reported that in Sweden, a country that has adopted the market-driven model, at least 85% of new cars sold now come with electronic stability control (ESC) systems.

A description follows of some of the key developments in Victoria that aim to accelerate the uptake of current new safety technologies and that can bring to the fore the emerging technologies for tomorrow's vehicle fleet.

##### *Research and development*

The TAC supported the provision of crash performance information through investing in the Australasian New Car Assessment Program (ANCAP), as well as the annual development of Used Car Safety Ratings (UCSR) by MUARC. The results generated by these two projects form the basis for providing consumers with reliable, accurate and timely information on the safety performance of both new and used cars (also see development of [www.howsafeisyourcar.com.au](http://www.howsafeisyourcar.com.au) below).

The TAC together with the Department of Innovation, Industry and Regional Development (DIIRD) and Bosch Australia have supported an upgrade to the facilities at the Australian Automotive Research Centre to enable ESC testing to be conducted in a timely and convenient manner for Australian, and potentially overseas customers, rather than in Europe and the USA. The availability of this facility enabled the launch of new vehicles onto the Australian market with customised ESC to be brought forward and for consumers to derive the safety benefits earlier.

#### *Marketing and promotions*

The TAC with its partners VicRoads and the RACV (Royal Automobile Club of Victoria, an Automobile Association affiliate) have sought to build consumer demand for safer vehicles through the following avenues:

#### *Promotion of car safety ratings and [www.howsafeisyourcar.com.au](http://www.howsafeisyourcar.com.au)*

Both mass media and tactical advertising (e.g. on car sale websites) have been deployed to both educate the consumer about ANCAP star ratings of vehicle crashworthiness and to drive traffic to a specially customised website ([www.howsafeisyourcar.com.au](http://www.howsafeisyourcar.com.au)). This searchable site provides access to more detailed information together with comparative performance of the crashworthiness of both new and used vehicles. Recognising that for this campaign to be effective, that a larger demand than could be driven out of Victoria was required, the website was not branded overtly by the TAC so that other States interested in promoting vehicle safety could use it. To date three other jurisdictions have done this.

#### *Highlighting new in-vehicle safety technologies with proven safety benefits*

In February 2007, the TAC launched a new public education campaign that specifically highlighted the life-saving potential of ESC and side curtain airbags. The campaign comprised television, radio and supporting outdoor placements and included both emotive and instructive elements. The communications were so constructed and talent fees negotiated to minimise the barriers to other jurisdictions adapting the advertisements for local branding and promotion.

As a complement to the advertising program, the RACV, VicRoads and the TAC staged a number of promotional events with the specific purpose of educating consumers with the respect to the availability and utility of ESC systems. With the assistance of Bosch Australia and the State Coroner, a major event was staged at a Melbourne shopping centre in which the Bosch ESC simulator was made available for testing by the public and the Coroner drew a strong link between a number of tragic crashes and the role that ESC could have played in either avoiding it altogether or mitigating the severity of the crash outcome. Further public demonstrations were (and continue to be) staged at additional events including the Melbourne International Motor Show and at the Formula 1 Grand Prix in Melbourne.

In short, the level of activity directly aimed at increasing general community knowledge, and pressure on vehicle manufacturers to incorporate safety technology in vehicles, has undergone significant growth in Victoria. As well as targeting the broader community, however, a target audience of special interest is senior management and fleet managers within a workplace setting.

### **4.3.2 Corporate behaviour**

Australasian jurisdictions have recognised for some years the important role that corporate behaviour can play not only in helping to modify driver behaviour to safer forms, but also to help fast-track the introduction of safer vehicles into the workplace and then, as second-hand vehicles, into the broader vehicle fleet. The main motivators for progress in this area are Occupational Health and Safety (OH&S), good corporate citizenship, maintenance and insurance costs together with a reduction in staff down-time due to road crash-related injury.

In Victoria, a number of recent developments have given impetus to this pathway for accelerating the introduction of safer vehicles into our vehicle population. They include:

- Development of in-house vehicle lease/purchase policies by a number of government departments;
- Production and promotion by VicRoads and the TAC of a Safe Driving Kit in partnership with local government;
- Collaboration between the TAC and WorkSafe Victoria in order to develop a guidance note and subsequent workplace inspector training to encourage companies to upgrade their fleet for the purpose of improved OH&S.

While recent developments have been promising in this area, the “uncollected dividends” remain substantial with cost-based decision making by fleet managers still likely to be prevalent.

### **4.3.3 Identifying and promoting emerging technologies**

In addition to the objective of accelerating the take-up of existing effective in-vehicle technologies, there is the challenge of preparing for the future – identifying and then promoting the next generation of high-yield safety systems.

In this context, the issue of speeding and the role of technology has been the focus of considerable developmental effort, given that research shows that even small reductions in both excessive and average traffic speeds will significantly improve the safety of all road users.

Intelligent Speed Adaptation (ISA) utilises global positioning system technology to determine the location of the vehicle which is automatically cross-referenced to a digital road map containing speed limit information for each road.

The effectiveness of ISA technology has been demonstrated in countries around the world with large-scale trials undertaken in Sweden, Denmark and The Netherlands.

In Victoria, the results of the on-road trial of ISA (as part of the TAC *SafeCar* project) showed that the system had a positive effect on driving performance. Use of the ISA system resulted in a significant reduction in average and peak travel speeds and in the percentage of time spent travelling above the speed limit. The system was most effective at reducing speeds in 60 km/h zones, but importantly also showed no increase in the amount of time it took drivers to reach their destination (Regan et al., 2006)<sup>11</sup>.



Following the successful outcomes of the SafeCar project, work has continued with ISA in order to develop a low cost device that can be retrofitted to most vehicles. The TAC is currently initiating an expanded demonstration of this technology involving key decision-makers, stake-holders and the community, as part of a concerted effort to stimulate market demand for this technology.

Associated with increasing national interest in ISA, the TAC has helped form a collaborative working group comprising representatives from road authorities across Australia. The group aims to develop an agreed set of functional requirements and standards for the technology and for its linked speed limit databases, as well as to support implementation of these systems.

#### **4.3.4 Indicators of success**

It would be incorrect to assume that the progress reported below is directly and exclusively related to the range of activities reported in this paper. Outcomes are also influenced by the initiatives conducted by other Australian jurisdictions as well as by decisions taken off-shore by the major vehicle importers to Australia.

Nevertheless, improvements have been achieved. Brief reporting on a series of relevant outcome indicators follows:

- There are between 16,000 – 35,000 unique visitors to the “howsafeisyourcar” website each month. Numbers increase significantly during periods of intense promotion;
- The uptake of ESC (as standard) in new cars sold in Victoria has grown from 1.5% in 2001 to 71.3% in 2010 (refer to figure 3);
- The Victorian Government announced in 2009 that ESC would be mandatory on all new passenger vehicles registered after December 2010.
- Similarly, the uptake of side curtain airbags (front) has grown from 3.3% in 2001 to 59.5% in 2010 (refer to figure 3);
- New cars sold for which ANCAP ratings are available in Victoria now average 29.4 points (out of 37) up from 21.2 in 2001 - this equates to an average rating for new cars sold of four and a half stars (out of five);
- In 2001 safety was rated as fifth (unprompted) on the list of car choice criteria in TAC’s annual driver/rider monitor survey. In the 2004, safety had been elevated and was rated second behind price. From 2005 – 2010; safety remained as the 2<sup>nd</sup> or 3<sup>rd</sup> most important criteria in vehicle purchase with fuel economy entering the picture as 2<sup>nd</sup> during the recent economic downturn. Awareness of ESC and side curtain airbags as important life saving technologies has now grown to 58% and 64% respectively.
- Awareness of [www.howsafeisyourcar.com.au](http://www.howsafeisyourcar.com.au) (unprompted) has increased from 1% (2002) to 10% (2009) and prompted from 28% in 2004 to 52% in 2009.

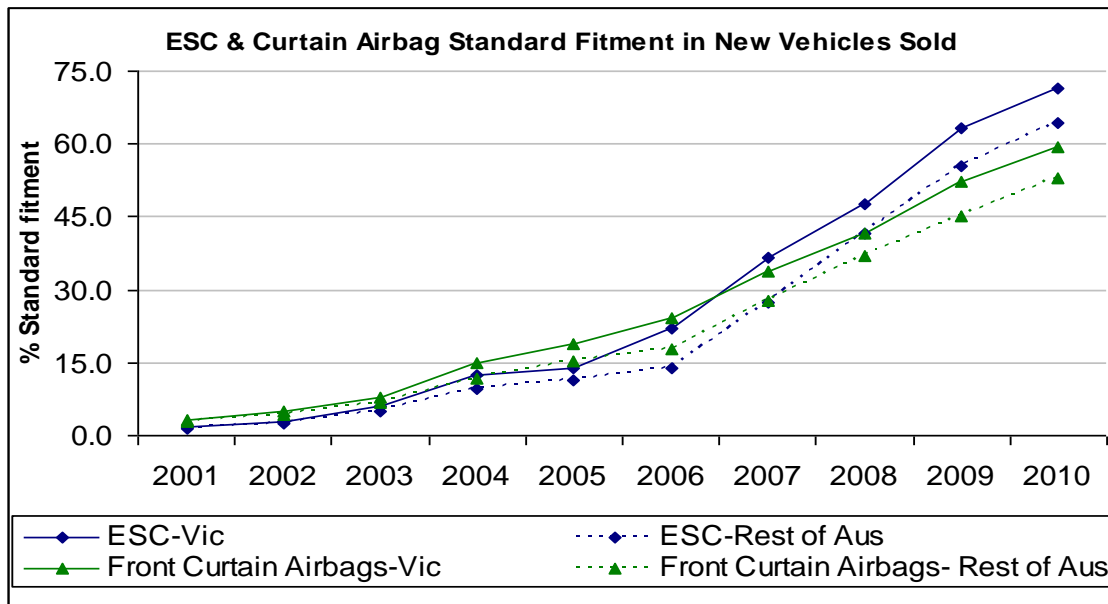


Figure 3 – ESC & Curtain Airbag Standard Fitment Rate in New Vehicles Sold *Source: R.L. Polk, Australia.*

#### 4.4 Behavioural Programs

The TAC’s primary role is to introduce initiatives to modify road user attitudes and behaviours. In this context, communications programs have long been an effective weapon in the armoury of the road safety practitioner in order to influence the behaviour of drivers and other road users. The TAC develops between five and ten major communication programs (public education campaigns) per year. Campaigns are usually led by high profile TV advertisements and supported with on-line, radio, outdoor (billboards) and some print advertising.

The TAC’s communications program is very large – possibly the largest in the world. The TAC is one of the largest single advertisers in Australia investing around \$30 million per annum in developing and airing campaigns. For the sake of brevity, this section of the paper sets out to:

- To describe the key objectives underpinning the TAC’s public education programs targeting unsafe driver behaviours;
- To provide an example of a communication campaign and the role it played in influencing the driver’s choice of speed; and
- To sign post, through two examples, new targeted communication approaches addressing young driver safety.

##### 4.4.1 Communication Objectives

The major objectives underpinning the TAC’s public education campaigns targeting drivers are:

- To place the road safety issue on the public agenda and, by so doing, to create a climate in which change to safer forms of behaviour can be fostered
- To deter drivers from unsafe behaviour by increasing their perceived risk of being involved in a crash and of the harsh consequences
- To provide a supporting rationale for the police to undertake enforcement activity by realistically portraying the impact of road crashes upon individuals and the community
- To deter drivers from unsafe behaviour by increasing their perceived risk of being apprehended by the police
- To provide information to support decision-making to adopt safer forms of behaviour.

These objectives, in turn, help to shape both the key features and content of the TAC's public education campaigns.

#### *Key Features of the Communication Approaches*

As a means of achieving the communication objectives, public education campaigns developed by the TAC have in common many of the following features:

- Integration with other initiatives such as enforcement and regulatory change in recognition of the value of a coordinated, system-wide approach to curbing risky driver behaviour
- Strong guidance from market research to ensure that the key messages are communicated both effectively and efficiently and are "acceptable" to the target audience
- An "emotive" style of advertising designed to be "attention grabbing" and to confront high-risk drivers with the consequences of their behaviour
- Complementary advertising designed to highlight police enforcement capabilities with the aim of deterring drivers from risky behaviour
- Traditionally, television has been the prime medium but strongly supported by radio, press and outdoor advertising that either reinforce or complement the main messages; more recently, targeted direct contact programs are supplementing this "mainstream" approach
- Strong public relations activity designed to enhance the newsworthiness of the message and to sensitise the public to the campaign
- Evaluation as a means of both assessing impact and guiding future communication approaches.

The following example of a public education campaign illustrates how many of the above key features were incorporated within a particular communications approach targeting the speeding driver.

#### **4.4.2 A Public Education Program to Introduce Laser Speed Detectors**

In December 1996, the Victoria Police first deployed 60 new laser speed detectors. These devices were originally purchased to "fill a gap" within the arsenal of enforcement equipment held by the police. It was considered that the thin laser beam would allow more effective enforcement targeting the speeding driver within moderate to busy traffic environments. The speed detectors were to be deployed predominantly in metropolitan Melbourne with four (4) allocated for Police Task Force deployment in blitzes across the State.

In parallel with the introduction of the laser detectors, the TAC developed a new public education campaign with the specific objectives of alerting the motoring public to the new enforcement regime, raising the perceived risk of detection if a driver chooses to speed and directly supporting police in their enforcement activity.

Normally, the TAC commissions qualitative market research (via focus groups) to test a range of advertising campaign concepts developed by its advertising agency, in response to a TAC brief. From this research process, which may involve several stages, a final TV execution is developed. As the campaign to support the introduction of laser devices was non-emotive, designed to inform the community of the introduction of new detection equipment and support police enforcement efforts, market research was not undertaken at the concept stage.

The TV advertisement that was developed shows police deploying a laser device in moderately heavy urban traffic. The advertisement is filmed from the vantage point of a speeding driver and his passenger as they gradually become aware that they have been caught exceeding the speed limit in a situation where they thought they were safe from detection. The advertisement focuses on the key differences between laser technology and other speed devices – the ability to detect a speeding driver in traffic. This is reinforced by the end slogan – ‘You can speed, but you can’t hide’.

Market research was undertaken once the TV advertisement had been filmed, but prior to final editing, to ensure that its message was clear to the target market.

The TV campaign was shown only in metropolitan Melbourne, where lasers were initially deployed. (A separate speed enforcement campaign focusing on mobile radar was launched simultaneously for use in regional Victoria.) The TV advertisements ran for an initial period of two weeks, strongly supported by outdoor billboards, radio and press advertising. As with all new TAC campaigns, a major media launch was conducted, attracting coverage on prime-time TV news, as well as press and radio. This high-profile public relations activity helps ensure that new road safety communications are placed on the public agenda. In the case of an enforcement campaign like ‘Laser speed’ it also helps raise public perception of police activity.

Quantitative tracking research was conducted after the launch campaign to test public awareness and response. Key outcomes from this study were:

- 71% of people recalled the advertisement
- 96% of those who had seen the advertisement correctly identified the Speed theme
- The predominant messages recalled were “*Don’t speed, you’ll get caught*” and “*New police devices can detect speed, even in heavy traffic*”
- 69% believed the campaign was “talking to people like me”, rising to over 80% among the primary target market of young males
- 98% agreed that “this ad shows just how easily you can get caught speeding”  
(Source: Sweeney Research Tracking Study #10021, Feb. 1997)

Similar results were derived from later tracking studies undertaken after subsequent airings of the ‘Laser speed’ campaign.

In addition to the results derived from the tracking surveys, Monash University Accident Research Centre (MUARC) was commissioned to undertake a crash-based evaluation of

the laser speed enforcement program. A comparison of locations where lasers were and were not deployed in the metropolitan area revealed a significant 8.3% drop in casualty crashes on enforced roads with reductions greatest on arterials with low to moderate enforcement levels.

The crash-based evaluation was of the program in total (enforcement plus public education combined). A separate study was commissioned to track the influence of the public education on driver perceptions of being detected for speeding. Taken together, the studies provide strong evidence that the two major elements of the program (enforcement coupled with public education) worked in concert to reduce speed-related crash numbers.

#### **4.4.3 Young Driver Safety – A Direct-Contact Communication Approach**

##### *HELP Campaign*

A direct communication approach was developed to supplement mass media programs in targeting the learner driver as he or she prepares for independent licensed driving. Approaches of this type are most appropriate where individuals can be identified through electronic means (e.g., a computer database), the total target audience is a “manageable” number, the communication is personable and its personal relevance is likely to motivate the recipient to respond in the intended manner (in this case, to increase the level and variety of supervised driving practice).

In March 1999, the TAC launched its HELP campaign, which incorporated a range of elements targeting P-plate holders, learner drivers and their parents. The overall objective of the campaign was to reduce the incidence of road trauma among young drivers, who were at greatest risk on our roads.

Market research undertaken during the development of the campaign showed that parents in particular are often anxious about giving their learner driver teenagers supervised driving practice. There is also a tendency for learners to lose momentum after they have had their permit for a few months and not maintain their driving practice. The TAC was keen to address both these issues using targeted communications (supported by mass media advertising).

Learners receive an informative booklet (*'From Ls to Ps'*) at the time they receive their learner permits. The TAC believed there was an opportunity to follow this up 3 months into the learning period, through a direct marketing mail-out using the licensing database. The mail pack was addressed to the learner and contained separate booklets, one for the learner and one for the parent/supervisor. The mailout was designed to provide useful tips to assist both learner and parent, and promote an increase in the amount and variety of supervised driving practice.

Another element of the HELP campaign was the TAC's Learner Driver Trial. Research from Swedish studies<sup>12</sup> indicated that substantially increasing learner driver experience (about 120 hours in all types of driving conditions) could reduce young driver injury crashes by about a third.

##### *Learner Driver Trial*

Building on this research, the TAC decided to trial a program that aimed to increase driving experience amongst learner drivers - the Learner Driver Trial. Designed as a

longitudinal study, the trial involves personalised contact with the supervisors of learner drivers every three to four months. Each at each contact, the TAC surveyed supervisors about the amount and type of driving the learner is experiencing and compares this information to that of a control group who are not contacted regularly.

The results of the Trial were very encouraging. Those participating in the trial consistently:

- Recorded higher levels of practice than the control groups (in the most recent survey, participants attained an average of 70 per cent more driving experience than those not on the program) and
- Recorded higher use of log books than control groups (in the last survey 52% of participants used a log compared to 27% of those in the control group)

From the data collected, it appears that the simple act of contacting driving supervisors had a very positive impact on the amount of experience learner drivers receive.

In 2007, after years of concerted effort by the TAC and VicRoads, the Victorian Government announced a new licensing scheme for young drivers, a key measure in the scheme was the requirement for learner drivers to obtain 120 hours of supervised practice prior to licensing. The TAC's campaign was credited with creating community acceptance of the 120 hour practice requirement and allowed the government to mandate this practice with no backlash from young people or their parents.

#### *Vanessa – Mobile Cinema Bus*

Research has shown that young people respond better to peer to peer communication than to instruction and 'finger wagging' from authority figures (such as the TAC). In 2007, having succeeded in addressing the issue of inexperience, the TAC decided to tackle another cause of young driver trauma - risk taking. The TAC developed Vanessa to provide a platform for meeting with and engaging with young people in their own spaces. Vanessa, a decommissioned booze bus, was fitted out as a mobile cinema and 'chill out' zone to provide young people with targeted road safety related information.

As peers are key motivators for young people the messaging centres around 'Looking after your mates'. Vanessa is staffed by young people who are trained to understand key risk factors for young drivers and how to engage with young people in relation to risky activity they may undertake. The TAC's research has shown that the kinds of young people who attend festivals and events have a tendency to behave in a more risky way. Vanessa travels to music festivals, universities and other youth events. Vanessa shows short films made by young people for young people about road safety, provides free water and coffee, disseminates information about the use of alcohol and drugs and driving, runs competitions centred around safety messages and offers free breath testing to drivers leaving events.

The program has proved so successful that in 2010 a new Mini Vanessa mobile cinema was developed. Mini Vanessa was developed as a partnership program with Mercedes Benz Australia. Mercedes provided a Vito van and the TAC the fit-out and event staff. The Vito's five star crash rating meant that over and above the risk taking measures, it could talk to young people about purchasing safe cars.

Vanessa and mini Vanessa are now seen as important fixtures at events targeting young people. Police will often insist that a “Vanessa” is booked as part of a permit to hold an event and young people themselves actively look out for Vanessa at their events.

#### **4.5 Other programs of interest**

Some of the key road safety initiatives undertaken by the TAC have been highlighted above. What follows is a number of other initiatives that the TAC has been involved in that could be used in thinking about other ways in which insurance companies may get involved in road safety issues.

##### **4.5.1 Motorcycle Levy Program**

In 2002, following a review of the TAC premium paid by motorcycles (premium is paid on a vehicle), the Government decided that rather than increase the premium in-line with their costs to the TAC scheme, that it would place a motorcycle safety levy on the motorcycle premium. Initially \$50, the levy was to go into a fund that would specifically be used to improve the safety of motorcycle riders.

Initially the levy raised around \$4 million per annum. Despite being very unpopular with motorcyclists, the levy has continued. Increasing numbers of motorcycle registrations meaning that the amount collected is now around \$6 million per annum. The levy fund has support a range of projects dedicated to improving rider safety. Examples of projects funded by the levy are:

- Road infrastructure treatments on many popular motorcycling routes
- Police enforcement activity (with a focus on motorcycle safety)
- Mass media public education campaigns
- Research
- A trial of on-road coaching as a safety measure
- Education materials on making roads motorcycle friendly for road designers and constructors

##### **4.5.2 Enhanced Enforcement**

Since its inception the TAC has funded Victoria Police to conduct additional enforcement activity. Initially through the development and purchase of equipment (see speed cameras and booze buses above) and more recently through paying for enforcement activity that is over and above that which would normally be undertaken.

The aim of this project has been to increase enforcement activity at high risk times in high risk areas and to increase the perception of risk of being caught by police among road users. Three specific enforcement programs have been funded over the past five years:

- 1) The local enhanced enforcement program - This program allows police at a local level to apply through a submission process for funds to run projects that address road safety issues they face in their police area. Two funding rounds are run per annum and police need to provide a strong rationale for their project to be competitive in a funding round – around 50% of those who apply are funded. The program has assisted in educating police about formulating road safety strategy

and using data and other research evidence to formulate best practice enforcement initiatives.

- 2) Centrally coordinated statewide enforcement campaigns are run at high risk (or perceived high risk) times of year. The TAC works with police to substantially boost police numbers at Christmas, Easter and other holiday periods. The TAC developed public education programs support these operations which are designed to increase driver and rider perceptions of being caught should they undertake risky driving behaviours.
- 3) High risk areas - The TAC identifies through claims and police data, the areas that represent the highest costs and risk to it and the Victorian Community. In 2010, ten high risk areas (from a possible 78 areas) were identified that together represented almost 35% of the Victorian road trauma problem. The TAC provides each of these Police areas with approximately \$100, 000 to enhance and extend their own enforcement strategies.

#### **4.5.3 Incentive Programs**

In recent times the TAC has been looking at ways to further increase the uptake of safer vehicles or specific vehicle safety features such as curtain airbags. The role incentives can provide has started to be investigated.

Initial market research<sup>13</sup> indicated that consumers would need very large incentives to move their buying intention. As an example, it is unlikely that a \$200 discount on the cost of a car would be enough to push the average new car purchaser to order an \$800 safety feature such as a curtain airbag. Moreover, if ordering the safety feature meant waiting for the vehicle for some months (such was initially the case with most safety features ordered after-market) there was almost no incentive that could be offered to encourage their purchase.

Recognising that incentivising individual consumers, was unlikely to create a great increase in demand, the TAC has recently been investigating at whether it is possible to provide an incentive to manufacturers to incorporate safety features as standard across a range through an expression of interest process. Installing safety features such as curtain airbags after market is expensive, the consumer pays far more than the feature costs. Modelling work undertaken by Monash University Accident Research Centre (see Fitzharris<sup>14</sup> as an example) has shown that the break-even point for the fitment of head protecting airbags is approximately in the Victorian context is between \$700 – \$1200 depending on airbag type. If an incentive could encourage manufacturers to install curtain airbags for less than this amount in cars where fitment is currently optional, a positive Benefit Cost Ratio and investment related business case may be able to be developed. The TAC is now considering what other issues need to be consider prior to pursuing this initiative. A key concern about introducing such an incentive is vehicle manufacturers future intentions - would they be less inclined to incorporate other safety features early? Given if they wait, financial support might be forthcoming for these features too.

#### **4.5.4 Trauma Centre and Helipad**

In recognition that treatment during the first hour following an accident is key in improving outcomes for accident victims, the TAC invested in improving the State's



trauma system. In the late 1980s the TAC invested in the Trauma Centre at the Alfred Hospital (now one of the three trauma hospitals in the state's coordinated Major Trauma service) including investment in an integrated helipad for triage of the state's most severely injured patients, many of whom are road accident victims and consequently TAC clients. The Alfred Hospital Trauma Centre is the largest and most active trauma centre in Australasia. The success of this trauma centre has seen TAC further investing in other major trauma centres to ensure road trauma victims have every chance of survival and access to high quality emergency care.

## 5. INSURANCE AND INVESTMENT IN ROAD SAFETY

Andrew Fronsco's paper 'Road Safety and Insurance Markets', also presented at this workshop, discusses the need for insurance organisations to be involved in improving road safety outcomes. The TAC, as the monopoly third party insurer in Victoria takes this responsibility seriously and its investments in road safety can be used as examples of the approaches mentioned. *Inter alia*, TAC:

- Educates the public about risks on the roads, providing supporting data and research evidence to the community
- Draws on data from TAC claims, police crash reports, police enforcement, registration and licensing to identify key risks and to develop and evaluate road safety initiatives.
- Works cooperatively with other government agencies and stakeholders in road safety to ensure a well coordinated approach
- Sets targets and works within a strategy framework
- Learns from and adapts to new evidence from other jurisdictions about what works in road safety
- Invests in initiatives that reduce the burden of road trauma on not only the TAC scheme but the community as a whole.

However, the TAC insurance scheme is unique, with its investments in road safety having their roots in legislative rather than financial or pure economic objectives. That said, many of the programs the TAC undertakes, particularly those which involve substantial amount of money, are expected to and do provide a healthy return on investment to the TAC scheme.

The paper provides only a small number of examples of the areas and programs that the TAC has been involved in since its inception in 1986.

The TAC scheme's on-going viability has some dependance on gains being made through the reducing claims numbers and severity. The TAC's Road Safety programs generally receive high levels of support from both the TAC Board and Government. It is a unique model, but does allow consideration about how other insurance organisations may involve themselves in addressing road safety issues in their own jurisdictions.

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**International Transport Forum**

2 rue André Pascal

75775 Paris Cedex 16

[itf.contact@oecd.org](mailto:itf.contact@oecd.org)

[www.internationaltransportforum.org](http://www.internationaltransportforum.org)

