PERFORMANCE EXAMINATION

Improving Road Safety

- Speed and Red Light Cameras
- The Road Trauma Trust Fund

REPORT NO 1 – MAY 1996

OFFICE OF THE AUDITOR GENERAL
WESTERN AUSTRALIA

Preface

This report presents the findings of a performance examination of the efficiency and effectiveness of the Police speed and red light camera program and of road safety activities funded from the Road Trauma Trust Fund (RTTF).

Speed and red light cameras address two of the major causes of road accidents and injuries in Australia. However, the impact on road safety from cameras extends beyond the prevention of speed related crashes or crashes at intersections. Since 1991, one third of the moneys from camera infringement notices have been paid into the RTTF for the purpose of educating and training road users. Management of the RTTF is undertaken by the Traffic Board of Western Australia (Traffic Board) in conjunction with its role of facilitating overall management and coordination of road safety activities in Western Australia (WA).

The issues and associated recommendations raised in this report contain implications for Parliament, the Police Service, the Traffic Board, other organisations involved in road safety and the general public. The ultimate objective of this information is to act as a catalyst for improved road safety and public sector administration.

Executive Summary

Background

Speed is a major contributing factor in about 15 per cent of motor vehicles crashes. Speed related accidents are a major cause of death and injury and are also costly, one estimate putting the cost to Australia at about $1 billion per year. Another major contributor to serious crashes and injury are right angle and indirect right angle crashes. This type of crash accounts for around 25 per cent of serious injuries resulting from multi-vehicle crashes. The Police Service's speed and red light cameras program specifically addresses these two major causes of vehicle crashes and resulting injury.

The Police are increasingly reliant on speed and red light cameras to detect and deter unlawful and dangerous driving. For instance, in the 12 months ended June 1995, the number of speeding infringements issued from speed cameras increased by nearly 100 per cent whilst the number of infringements issued by traditional means declined by 20 per cent. In the 12 months to October 1995 around 111 000 speed and over 28 000 red light infringements were issued.

The impact of the camera program on road safety extends beyond speed or right angle related crashes. In 1990 an amendment to the *Road Traffic Act 1974* provided for one third of moneys derived from infringement notices issued as a result of photographic detected traffic offences to be paid into a fund called the Road Trauma Trust Fund (RTTF). The Fund, to be administered by the Traffic Board of Western Australia (Traffic Board) is for:

- the prevention of road accidents and injuries; and
- the education and training of road users.

Between February 1991 and November 1995, $10.6 million was paid into the RTTF while expenditure from the RTTF totaled $8.8 million.

This report describes the findings of an examination into the efficiency and effectiveness of the Police Service's camera program and the operations of the RTTF.

Executive Summary

Overall Conclusions and Findings

Speed and Red Light Cameras

Speed cameras have been effective in reducing the incidence of speeding and red light cameras have reduced the incidence of right angle crashes at intersections where the cameras are used, but there is considerable potential for improvement.

The examination found that the percentage of vehicles detected by speed cameras exceeding the posted speed limit has declined from 67 per cent in February 1992 to 38 per cent in October 1995. During the same time, the number of cameras deployed increased from 5 to 11 and the number of hours that speed cameras were deployed increased from 3 742 to 10 800 for the respective preceding 12 month periods.

Red light cameras were also found to be effective. At the 44 intersections where red light cameras have been installed the average number of right angle crashes has decreased by about 40 per cent since 1985. This compares with almost no change for the same type of crash at all 920 traffic signal intersections in Perth over the same period.

The examination identified a number of opportunities for improving operational practices. A number of constraints were also identified that would need to be removed if the cameras are to be made more effective. These included:

- New red light camera sites were being installed without reference to comprehensive crash data or the use of selection criteria. Selected locations were often found to not readily correlate to the main right angle crash black spots. As well, the cameras were being rotated around the available installations without any evaluation of the crash or infringement data for each location.
- Speed cameras were placed at sites that had not been selected using comprehensive crash data and site selection criteria to identify 'best' camera locations. Consequently, locations selected often did not readily correlate to crash black spots and wide variations were found in the number of infringements issued from the various camera locations. For instance, a sample of records from different camera locations found that the number of vehicles speeding ranged from 2 to 349.

- Speed camera utilisation rate was low. Between 1992 and 1995 the deployment of the speed cameras during normal operational hours has only occasionally exceeded 40 per cent of their potential.
- Speed cameras have rarely been used in the rural areas yet over 50 per cent of road fatalities occur.
- Speed cameras are rarely used outside of normal operating hours. However, trials of the cameras outside of these hours found that over 50 per cent of vehicles were speeding compared to an average of about 38 per cent during normal hours.
- Thousands of traffic infringement notices are cancelled, not issued or their issue delayed primarily because of the lack of full owner onus legislation. Currently, responsibility for identifying infringing drivers rests with the Police. Owners who declare that they were not driving at the time of the offence often provide insufficient information to the Police to enable the driver to be identified. In other states of Australia where full owner onus exists, owners are unable to relinquish liability for traffic infringements involving their vehicles by stating that they were not the driver.
- In 1994–95, 1 673 unlicensed vehicles were photographed by cameras. Because of assessed low priority these were not followed up by the Police. However, third party insurance implications for the State arising from the use of unlicensed vehicles suggest a higher priority is warranted.
- Speed cameras are ineffective in deterring motorcyclists from speeding because motorcycles do not have front licence plates and hence cannot be identified using the current mode of camera operation. Statistics suggest that annually around 2 500 motorcycle infringements go unissued.

Road Trauma Trust Fund

The Traffic Board was established in 1982. Its aims in general terms were to facilitate improvements to road safety in WA. The 1990 Amendment to the *Road Traffic Act* that created the RTTF provided the Board with the funds necessary to support its aims.

The examination found that the Board has steadily improved its management of the RTTF. The Board has devoted significant effort to developing its strategic and operational plans that give direction and provide coordination of road safety

Executive Summary

activities. These plans have included identification of priority expenditure areas to guide spending from the RTTF. However, a number of issues were identified that impacted on the effective use of the RTTF:

- The capacity of the Board to undertake its role is restricted by insufficient administrative and technical support
- The allocation of funds from the RTTF to the broadly defined priority areas is largely historically based rather than determined by relative cost effectiveness.
- The regular statistical information used by the Board has been of only limited value for analysing road crashes and casualties and for evaluating road safety interventions. However, the Board is taking steps to improve this situation.
- Available road safety statistical and research information is not consistently incorporated into the decision making processes of the Board.
- The effectiveness of most of the RTTF funded media campaigns in changing behaviour is unknown because the evaluations have generally only measured effectiveness in advertising terms such as message recall and perceived impact.
- Though hundreds of thousands of dollars have been spent on road safety brochures, it is not known who the brochures are distributed to, how they are used and whether any change in attitude or behaviour occurs.
- No meaningful evaluation has been done on those training programs that have been funded. Research into training programs conducted elsewhere has raised doubts about their effectiveness.
- Aspects of the management of grants from the RTTF has been unsatisfactory, providing a poor platform for obtaining cost effective utilisation of funds for road safety purposes.
- Two grants from the RTTF totalling $301 000 were inconsistent with the legislative purpose of the Fund.

Summary of Recommendations

Speed and Red Light Cameras

- **Efficiency and effectiveness indicators for the camera program should be developed and monitored and used when consideration is given to either expanding the camera program or to initiatives that would enhance its effectiveness.**
- **Recent management improvements implemented or being developed by the Police Service in the camera program should be monitored for progress and evaluated. These improvements include:**
  - **availability of appropriate traffic infringement and crash data;**
  - **criteria for selection of speed and red light camera locations;**
  - **criteria for rotating red light cameras around available installations;**
  - **a computer program to assist in the selection of speed camera sites; and**
  - **documenting of policies, procedures and guidelines for all areas of camera operations, including the issuing of infringement notices.**
- **The Police Service should formally clarify for internal operational purposes the level to which speed cameras should be used in rural areas and the hours of operation in all areas.**
- **The Police Service should ensure that speed cameras are used cost effectively.**
- **The Police Service should address the problems of unissued, cancelled or reissued traffic infringement notices to maximise the deterrent effect of the camera program.**
- **The potential implications for third party insurance provisions from unlicensed vehicles being used on WA roads is significant and should be a matter of urgent discussion between the Police Service and the State Government Insurance Commission.**

Executive Summary

Road Trauma Trust Fund

- **Strategic analysis of the Western Australian road crash data should be undertaken to establish key priority areas for spending from the RTTF.**
- **The cost effectiveness of road safety programs should be one of the criteria used in allocating funds from the RTTF.**
- **Available statistical and research information relating to road crashes and traffic enforcement should be consistently synthesised into the Board's decision making regarding RTTF spending.**
- **Control groups or measures should be used in evaluations of the effectiveness of mass media campaigns and they should be evaluated in terms of road safety outcome measures as well as key advertising measures.**
- **The production of any new road safety brochures should be based on some formative research and there should be some evaluation of their effectiveness.**
- **Future funding for the various driver training courses should be based on assessments of the programs in terms of appropriate outcome measures.**
- **Processes to improve the management of the grants program should be established.**
- **A plan to evaluate the effectiveness of the new mobile road safety unit should be developed.**

Introduction

Western Australia's speed and red light camera program address two of the major causes of vehicle crashes and resulting injury. Both programs provide a deterrent effect to unlawful and dangerous driver behaviour. In addition, the programs through the issue and payment of traffic infringement notices provide direct funding to the RTTF which was established to fund activities that improve road safety in Western Australia.

This report describes the results of an examination into the efficiency and effectiveness of the Police Service's speed and red light camera program and of the RTTF managed by the Traffic Board.

Background

Trends in Road Safety in Western Australia

The number of road fatalities in Western Australia (WA) has fluctuated during the 1990s. After increasing each year from 200 in 1992 to 211 in 1994, the number of fatalities fell slightly to 209 in 1995.

From a public health perspective, the number of road fatalities per 100 000 population provides a measure of the fatality risk from motor vehicle crashes. In WA, the fatality rate per 100 000 population has remained relatively constant over the last five years.

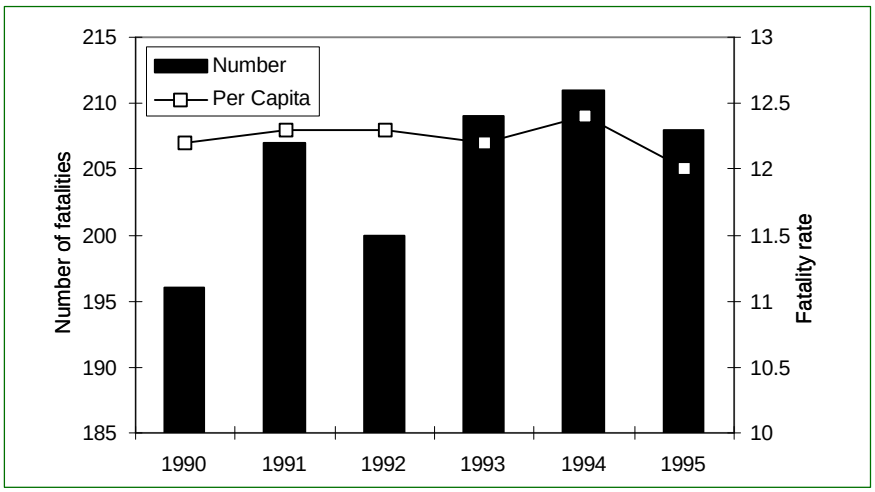


Figure 1: *Trends in the number of road fatalities and fatality rate per 100 000 population in Western Australia, 1990–1995.*

Source: Federal Office of Road Safety. Road Fatalities Australia. Various editions.

Introduction

In 1990, WA had the second lowest per capita fatality rate in Australia. However, compared to other states and territories in Australia, WA in recent years has been relatively less successful in reducing the per capita fatality rate (Table 1).

	WA	NSW	Vic	Qld	SA	Tas	NT	ACT	Aust
1990	12.2	13.7	12.5	13.8	15.8	15.4	41.5	9.2	**13.7**
1991	12.3	11.4	11.2	13.0	12.6	16.2	41.8	5.8	**12.1**
1992	12.3	10.8	8.8	13.6	11.4	15.1	28.8	6.9	**11.2**
1993	12.2	9.7	9.5	12.6	14.8	12.0	25.2	3.9	**10.9**
1994	12.4	10.8	8.4	13.2	11.1	12.3	24.0	5.7	**10.9**
1995	12.0	10.2	9.2	13.9	12.3	12.1	35.1	4.9	**11.2**

Table 1: *Number of road fatalities per 100 000 population in Australian states and territories 1990 to 1995.*

Speed and Red Light Camera Programs

Speed is considered a major contributing factor in about 15 per cent of crashes. Speed significantly contributes to the frequency of crashes and to the magnitude of the impact and the severity of the resulting injury. Speed related accidents are also costly. One estimate[1] puts the cost to Australia at about $1 billion per year.

The Police Service speed camera program aims to reduce the frequency of speeding and speed related crashes by changing driver behaviour through detection and punishment.

Around 25 per cent of serious injury multi-vehicle crashes are either right angle or indirect right angle crashes. The aim of the red light camera program is to reduce the frequency of right angle and related crashes at signalised metropolitan intersections where the incidence of this type of crash is highest. The red light camera program seeks to change driver behaviour by detecting and punishing drivers who enter signalised intersections against the red signal.

[1] Monash University's Accident Research Centre 1993

Introduction

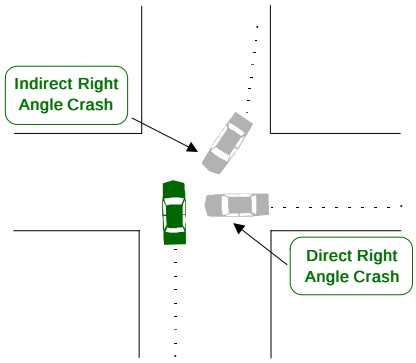


Figure 2: *Types of crashes red light cameras attempt to prevent.*

Road Trauma Trust Fund

In December 1990 an amendment to the *Road Traffic Act 1974* provided for one third of moneys derived from traffic infringement notices issued as a result of photographically detected traffic offences to be paid into the RTTF. The amendment provided for the RTTF to be administered by the Traffic Board in support of its stated road safety functions:

- the prevention of road accidents and injuries; and
- the education and training of road users.

Between February 1991 and November 1995, the RTTF's total revenue amounted to $10.6 million and its total expenditure to $8.8 million. Figure 3 shows the trend in the Fund's revenue, expenditure and surplus.

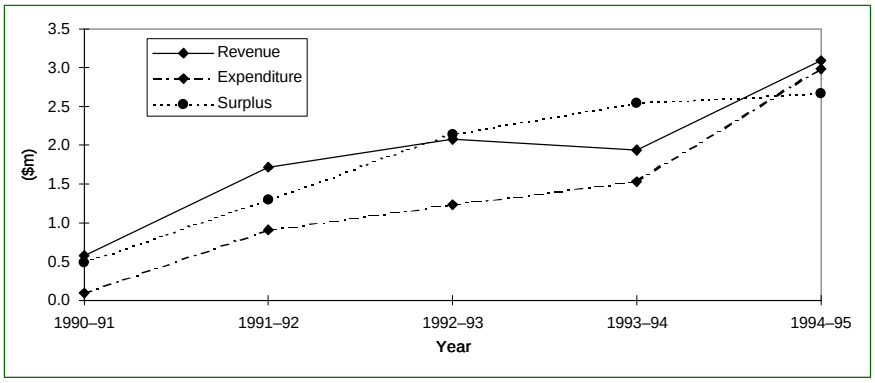


Figure 3: *Trends in RTTF revenue, expenditure and surplus, 1990–91 — 1994–95.*

Increased revenue into the RTTF from the camera program has enabled expenditure on road safety initiatives to also significantly increase.

Source: Traffic Board

Traffic Board

The Traffic Board of Western Australia was established in 1982 by amendment to the *Road Traffic Act 1974*. Its functions are defined under section 11 of the Act and in general terms are to:

- Administer the Road Traffic Act.
- Undertake road safety research including the collection and analysis of road traffic statistics.
- Disseminate road safety information, including technical information and traffic laws.
- Increase the level of community support for improved road safety and more efficient traffic movement.
- Investigate and develop proposals for the alteration of traffic laws.
- Ensure the efficient and effective use of resources by coordinating road safety in WA and monitoring best practice for road safety.

The membership of the Traffic Board includes the Commissioner of Police (Chairperson); a representative of the Western Australian Police Service, Assistant Commissioner (Traffic and Operations Support); the Commissioner of Main Roads Western Australia (MRWA); the Director General of Transport; and a representative from each of the Local Government Associations; the Country Shire Councils' Association and the Country Urban Councils' Association.

Three non-voting members representing the Health Department of Western Australia, the State Government Insurance Commission (SGIC) and the Australian Medical Association were appointed in 1994.

Examination Focus and Approach

The objective of the examination was to assess the efficiency and effectiveness of the Police Service's speed and red light camera program and the operations of the RTTF which is directly funded from revenues derived from camera issued traffic infringement notices.

Introduction

The approach to the examination of the Police speed and red light camera program involved:

- interviews with staff of the Camera Section and with supervisory staff of the Traffic Branch of the Western Australian Police Service;
- review of documents and records held in the Camera Section;
- review of the report of a Police internal audit examination of the Camera Section conducted in May 1995;
- review of the Camera Section process redesign report prepared by Unisys Information Services in February 1995;
- interviews with staff of Main Roads Western Australia (MRWA), and inspection of crash and speed survey data held by MRWA;
- interview with Hi Tech Photographic Services, suppliers and installers of the red light violation recorder cameras;
- telephone interviews with Camera Operations personnel in Victoria, New South Wales and South Australia; and
- review of relevant published literature on speed cameras and red light camera operations.

The approach to the examination of the RTTF involved:

- interviews with the members of the Traffic Board and with key stakeholders in road safety in Western Australia;
- review of relevant strategy, policy and planning documents of the Traffic Board;
- review of the minutes of Traffic Board and Traffic Board Working Group (TBWG) meetings;
- inspection of funding grant applications to the RTTF, funding reviews, reports submitted to the Board by applicants receiving funding, and any other relevant documents of these groups; and
- review of relevant published literature on road safety activities and best practice.

Assistance to the examination team was provided by the Road Accident Prevention Research Unit , Department of Public Health of the University of Western Australia.

Section A

◆ Speed and Red Light Cameras

Camera Operations

In recent years the Police Service have significantly expanded their speed and red light camera programs:

- ***The percentage of vehicles speeding has declined steadily since 1992 as the use of speed cameras has increased;***
- ***The deterrent effect of speed cameras in rural areas or in all areas outside of standard operating hours has been small because of minimal deployment; and***
- ***The incidence of right angle crashes at traffic signal intersections has decreased where red light cameras are used.***

Both speed and red light camera operations could be made more effective through the use of formal site selection criteria and comprehensive crash and camera surveillance data.

Background

Speed Cameras

A speed camera combines a radar detection unit with an automatic camera and flash unit. The radar beam is projected across the road towards oncoming traffic at an angle. The camera takes a photograph when the radar detects a vehicle travelling at more than a predetermined speed. This speed is set above the posted speed limit by a small margin (speed threshold) partly to allow for the camera manufacturer's tolerance. The photograph records the date, the posted speed limit, and the travel speed of the vehicle. From the photograph it is possible to determine the make and the registration number of the vehicle, and some physical characteristics of the driver. The camera unit also records the number of vehicles passing through the radar beam.

Camera Operations

A speed camera deployed in the metropolitan area.

The first use of speed cameras by the WA Police Service occurred in 1986 with the evaluation of a Multanova radar system model 6F manufactured by Zellweger Uster Pty Ltd of Switzerland. The successful trial of the system led to the purchase of three cameras in 1988.

Red Light Cameras

The red light cameras are mounted in a housing on a pole about 20 metres upstream from the traffic signal stop line. The camera and flash unit are connected to a loop detector which is laid under the road surface near the white stop line. When a vehicle enters the intersection after the beginning of the red phase the loop detector triggers the camera. Two photographs are taken one second apart to determine whether the vehicle continued through the intersection or stopped just over the white line. Film is removed and replaced from each camera every 48 hours.

Little of the history of red light camera operations in WA is available. It is known that the first red light cameras were acquired and commenced operations in 1979 and that only two cameras were available for use prior to February 1992. Between February 1992 and November 1993, a further 17 cameras were purchased and installed, making a total of 19 cameras as at October 1995.

Camera Operations

The number of traffic light intersections through which the red light camera can be rotated also increased over this time from 12 prior to 1992 to a total of 44 in 1995. A further ten traffic light intersections are listed for red light camera development in early 1996. In the 12 months to August 1995, 28 045 red light camera infringement notices were issued.

Findings

Speed Cameras

The Extent Of Speed Camera Operations

The extent of speed camera operations in terms of the number of vehicles checked, hours worked, cameras used, and locations monitored has more than doubled during the period February 1992 to October 1995 (Table 2). In August 1995, the program was supported by the installation of 52 road signs alerting drivers to the use of speed cameras throughout WA. The Police have advised that a further five cameras are expected to be operational by April 1996.

Output	Year			
	1992 (Feb –)	**1993**	**1994**	**1995** (– Oct)
No of vehicles processed	1 722 008	2 074 205	3 059 701	4 923 941
Locations monitored	1 456	1 758	2 404	3 878
Cameras in operation	5	7	7	11
Hours worked	3 742	4 682	6 757	10 806
Infringement notices issued	60 841	61 572	95 603	111 166

Table 2: *Speed camera operations, Western Australia, February 1992–October 1995.*

The level of speed camera operations has increased significantly since their introduction in 1992.

Source: WA Police Service

Camera Operations

Accuracy of Speed Cameras

Accuracy of the speed cameras was first evaluated for the WA Police Service in 1986 by Professor Attikouzel of the University of Western Australia. The tests found that the camera "*is an extremely accurate speed measuring device capable of being used in a large range of traffic conditions*". Ordinary operating procedure is for the accuracy of each camera to be checked by hand held radar at the beginning and end of each session, and after every 50 photographs. Speed camera self-diagnostics are also run at the beginning and end of each photographic session. Further assurance of camera accuracy is provided by an annual check by a technician.

Durability of the speed cameras is difficult to ascertain as records that show the relationship between individual camera usage (the hours used) and maintenance are not kept. However, each speed camera unit requires repairs about every three months.

Speed Camera Effectiveness

As previously mentioned there has been a significant increase in the intensity of camera operations since 1992. Figure 4 shows how the expansion of the speed camera program has been associated with a decline in the incidence of speeding.

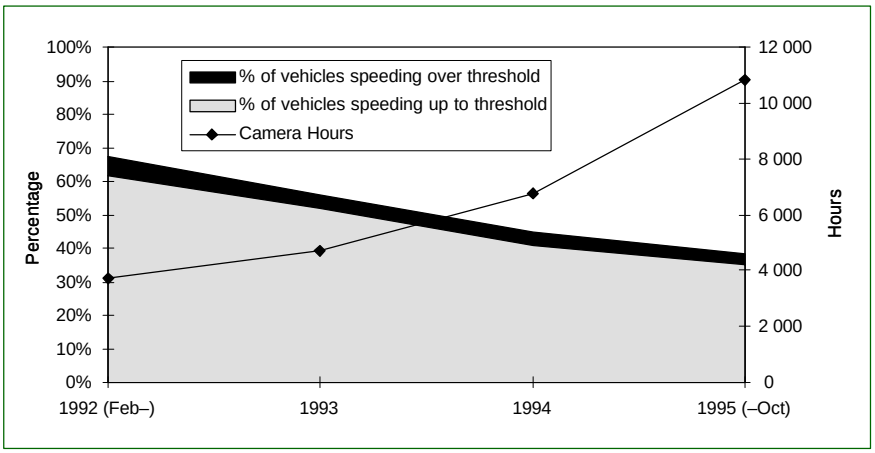


Figure 4: *Relationship between camera hours and the incidence of speeding.*

The increase in camera hours has corresponded to a decline in the incidence of speeding.

Source: WA Police Service

Camera Operations

Changes in the number of crashes in which speed played a major contributing role would be an appropriate indicator of the effectiveness of the speed camera operations. Unfortunately, this data is not available. Serious crashes, that is crashes in which there was a fatality or hospitalisation can be used as an indirect indicator because of the known association between speed, extent of vehicle damage and severity of injury. The examination found that in 1995 when there was a marked increase in camera operations in the metropolitan area there was a coinciding fall in serious crashes in the metropolitan area. The fall was larger than that which occurred in rural regions.

Selection of Camera Sites

Choosing speed camera locations is based on crash frequency, complaints from the public regarding speeding vehicles and on operational considerations. Cameras are positioned at the roadside with no attempt to disguise or conceal them. A sign informing drivers of the fact that they have just passed a speed camera is placed just past the camera position.

The examination found that the selection of speed cameras sites has not been based on defined criteria or sufficient relevant data.

The selection of speed camera surveillance sites is based primarily on a manual analysis of a listing of the top 100 road traffic crash black spots in and around Perth, speeding complaint letters and the previous week's sites (up to 280 locations).

However, this process is inefficient and excludes other factors relevant to the selection of sites and to the deterrent effect of the cameras. Speed camera sites were not being selected using comprehensive criteria and data that take into account for each site, the number of crashes (or speed-related crashes, if available), the time of day and day of week when they occur, the frequency of speeding detected over the past year, and the time since last monitored.

The information required to support such comprehensive site selection methods was found to be unavailable or not used. Relevant crash data has not been used, although it could be supplied quarterly. Recently, it has become possible to extract some basic information on camera operations from data held on a personal computer. However, the process is time consuming and the ability to manipulate the data is restricted by the limited computing capacity available in the Camera Section.

Camera Operations

Analysis of camera use at some selected sites revealed the effect of the lack of formal criteria and appropriate data. Table 3 shows that the hours of camera operation at a site often do not appear to be related to its ranking on the list of crash related black spots. For example, Great Eastern Highway, Midland, the second highest ranked black spot as at December 1994, received less surveillance over the period 1994–1995 than William Street, Beckenham which is ranked 60th.

Black spot rank *	Street	Suburb	Hours
2	Great Eastern Hwy	Midland	77
4	Welshpool Rd	Welshpool	56
5	Great Eastern Hwy	Belmont	19
6	Albany Hwy	Victoria Park	3
8	Canning Hwy	Como	199
9	Great Eastern Hwy	Rivervale	125
10	Stirling Hwy	Claremont	35
11	Albany Hwy	Gosnells	144
12	Canning Hwy	South Perth	90
15	Scarborough Beach Rd	Osborne Park	34
16	Stirling Hwy	Nedlands	188
17	Karrinyup Rd	Karrinyup	29
60	William St	Beckenham	92

* based on the frequency of all crashes

Table 3: *1994–1995 Black spot rank, location, and camera hours worked.*

The relationship between the black spot rank and the level of camera use is often not clear.

Source: WA Police Service, Main Roads WA

Camera Operations

The proportion of vehicles registered as speeding by cameras at a particular location is one indicator of whether effective use is made of the camera. A sample taken from various locations and various times of day during 1994 and 1995 revealed a wide variation in camera results. For instance, during sessions ranging from about two to three hours:

- the number of vehicles checked by individual cameras ranged from 118 to 4 036;
- the number of vehicles registered as speeding ranged from 2 to 349; and
- the proportion of vehicles registered as speeding varied from 0.13 per cent to 22.9 per cent.

However, these statistics should not be regarded as the sole indicator of whether effective use has been made of a camera. Other factors also need to be considered such as:

- the time of day and hence number of vehicles on the road; and
- strategies such as continuously targeting the same areas or randomly placing cameras to deter speeding at all locations.

Nevertheless, the statistics do suggest opportunities for improved effectiveness from the locating of the cameras.

The Police have recognised the need for appropriate site selection criteria and data and have advised that "*speed camera sites are now being selected in compliance with speed related crash statistics supplied by the Main Roads Department*". As well, "*two high tech computers are on order that will have the technology to 'store' all relevant statistics relating to each individual speed and red light camera location*".

Use of Speed Cameras Outside of Metropolitan Perth

Speed camera operations have largely been confined to the metropolitan area of Perth, except for special operations during holiday periods. It is estimated that only about five per cent of speed camera operations relate to non metropolitan areas. This commitment seems disproportionately small considering that over 50 per cent of road fatalities occur on non metropolitan roads. Other means of speed enforcement, including hand held radar are normally used in rural areas. No investigation has been done to establish the comparative cost effectiveness and conditions for best use of speed cameras versus hand held radar in rural areas.

Camera Operations

Recently the Police conducted 24 hour speed surveys at three country locations. The surveys found that at these locations the percentage of vehicles exceeding the posted speed limit varied from 20 per cent to 48 per cent, a rate comparable to the metropolitan area.

The Police advise that "*speed cameras are now utilised in country areas*". However, the extent of the increased use was not made clear.

Speed Camera Staffing and Utilisation

Speed cameras are operated in two, eight and a half hour shifts. Generally each shift operates at two locations, which means that a speed camera can be used at four locations per day. Each camera is operated by one trained and qualified civilian employee of the Police Service. At the time of examination the 11 cameras were being utilised by 13 operators. A further 15 operators were receiving training.

In 1995 the cameras were only used to about 40 per cent of their potential, though usage is increasing. The monthly analysis in Figure 5 considered the number of cameras available for use, the potential use of four locations per day, seven days a week and the actual number of locations at which the cameras were used.

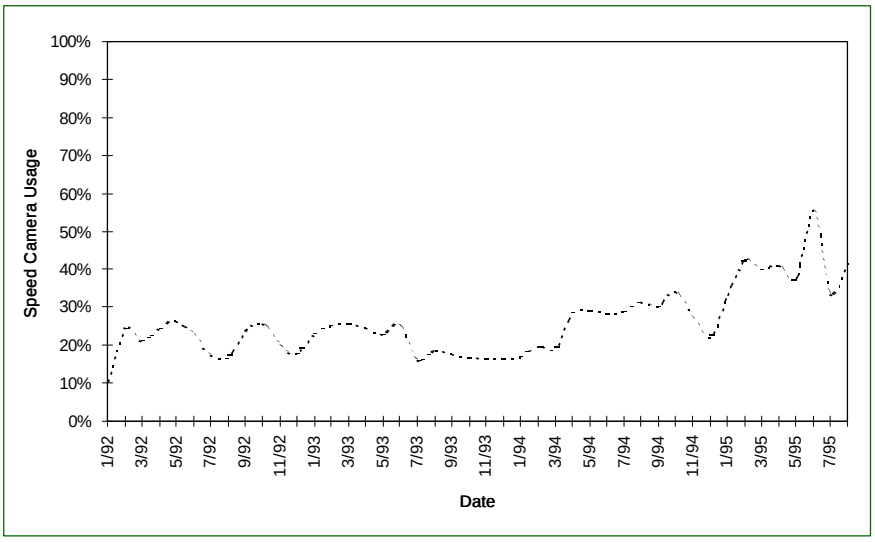


Figure 5: *Utilisation of speed cameras, Western Australia, January 1992– August 1995.*

The use made of available speed cameras is increasing though it is still well below potential use.

Source: WA Police Service

Camera Operations

The low rate of camera utilisation means that the deterrent effect of the camera program is not fully realised. It also means that up to seven cameras valued at about half a million dollars have remained idle. The Police advised that additional staff are being trained so that the cameras can be more fully utilised. However, authorisation to employ still more staff will be necessary if the five additional cameras to be delivered in March/April 1996 are to be effectively deployed.

Time of day of speed camera operations

Speed cameras are usually used in two eight and a half hour shifts. However, recently the use of the cameras outside of these hours was trialed on four occasions to determine the extent of excessive speeding. Of 7 500 vehicles checked by the cameras almost 50 per cent were exceeding the speed limit. This compares with an average of about 38 per cent of vehicles recorded in normal operations in October 1995.

The cost effectiveness of using speed cameras during these hours has not been investigated by the Police and was not determined during the course of this examination. However, an analysis that considers the value of traffic infringements issued during the trial periods (estimated at around $43 000) and the deterrent benefits likely to be gained from using speed cameras during these hours suggests some expansion to the camera program might be justified.

The Police advised that "*the use of speed cameras (outside of standard hours) is an operational matter and will be taken on a needs basis*".

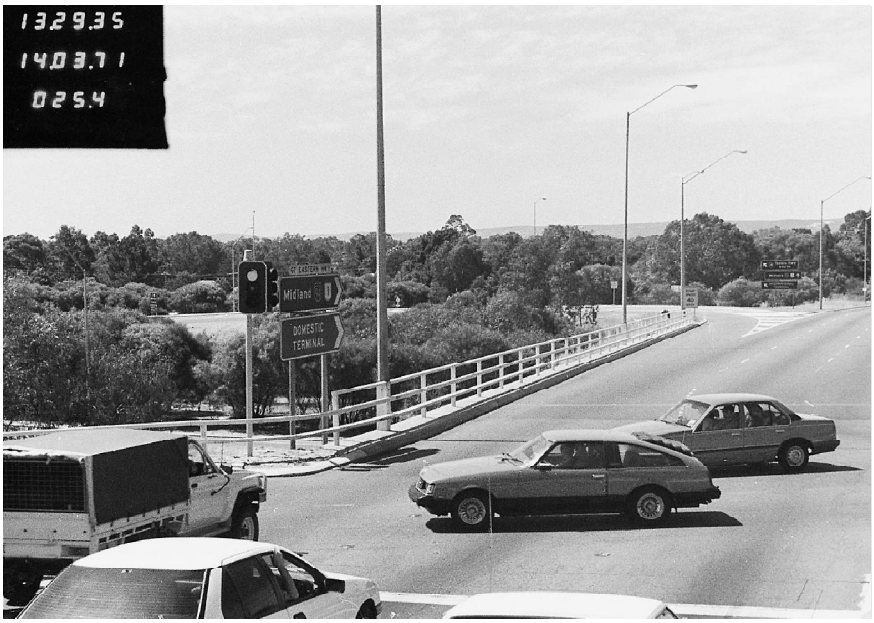
Red Light Cameras

Red Light Camera Effectiveness

The introduction of red light cameras has been associated with a significant change in the incidence of right angle or indirect right angle crashes at intersections. The examination found that the average number of right angle crashes decreased by about 40 per cent at the 44 intersections where red light cameras have been installed. This compares with almost no change for the same type of crash occurring at all 920 traffic signal intersections in Perth over the same period (Figure 6).

An increase in rear-end crashes has sometimes been attributed to the use of red light cameras. However, little change was found in the average number of rear-end crashes occurring at the red light camera intersections over the same period.

Camera Operations



An infringement and ensuing crash recorded by a red light camera.

Red light cameras often record the consequences of a driver's failure to observe a red traffic signal.

Source: WA Police Servive

Camera Operations

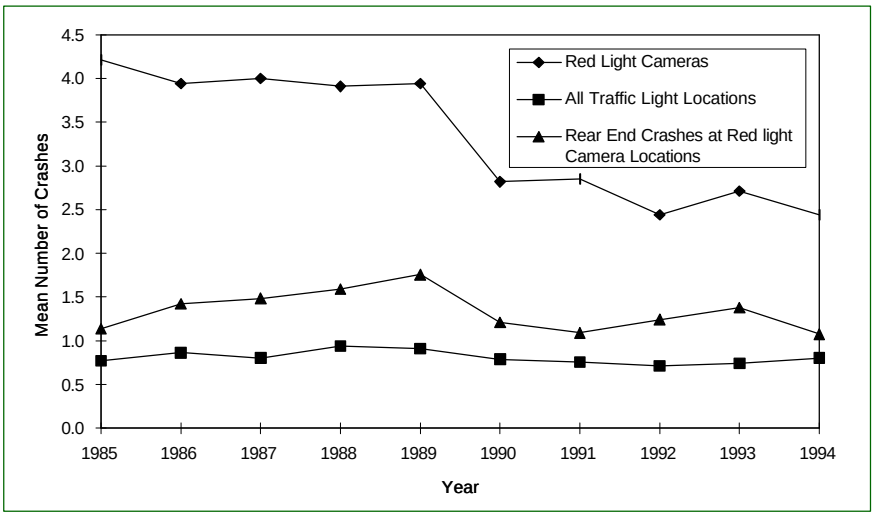


Figure 6: *Mean number of right angle crashes per year for red light camera and all other traffic intersections, and mean number of rear-end crashes for red light camera intersections.*

Rear-end crashes have been scaled down to 1:10 their actual number.

The figure shows that the frequency of right angle crashes have declined at intersections where red light cameras have been installed. In comparison there has been little change in the frequency of right angle crashes at all traffic light intersections. The figure also shows that cameras have not led to an increase in rear-end crashes.

Source: Main Roads WA

Selection of red light camera sites

The selection of traffic light controlled intersections for camera installation is normally based on the frequency of right angle crashes or indirect right angle crashes. Red light cameras will not be effective at all right angle black spots as other factors such as poor road design may contribute to the crashes. However, provided road design is also considered, then direct and indirect right angle crash rates are a good basis for determining which traffic light intersections should have a red light camera installed.

Once installed, camera locations should take account of the fact that there are fewer cameras than installations. Cameras should therefore be rotated around the available installations on the basis of the frequency of relevant crashes and the number of red light infringements detected.

Camera Operations

The examination found little relationship between the decision to install a red light camera at an intersection and the frequency of occurrence of right angle crashes at the intersection. For instance, at the time of the examination only three of the top ten black spot intersections for right angle crashes had a red light camera operational. (Table 4). The fifth and tenth ranked intersections were scheduled to have cameras installed by January 1996. No documentary evidence was available to indicate if road design was a factor considered in the locating of camera installations at these sites.

Rank	Intersection	Average Right Angle Crashes/Year			Camera Installed
		10 Year	5 Year	3 Year	
1	Alexander Dr/Morley Dr	8.40	9.60	11.67	No
2	Beaufort St/Newcastle St	10.30	7.60	7.33	Yes-used occasionally
3	Stock Rd/Winterfold Rd	6.70	5.60	6.33	Yes
4	Mitchell Fwy on Ramp/Hutton St	5.00	5.80	5.67	No
5	Loftus St/Aberdeen St	1.60	3.20	5.33	Planned
6	Great Eastern Hwy/Tonkin Hwy on Ramp	4.70	4.20	5.00	Yes
7	Albany Hwy/ Leach Hwy off Ramp	2.10	3.40	5.00	No
8	Main St/Hutton St	3.20	4.00	4.67	No
9	Scarborough Beach Rd/Liege St	4.80	4.00	4.67	No
10	Morrison Rd/Lloyd St	2.70	3.40	4.67	Planned

Table 4: *Ranking of intersections according to the frequency of right angle crashes over the last 3, 5 and 10 years, and camera installation status.*

Source: WA Police Service

In September 1994 11 new camera sites were installed. However, at the beginning of November 1995 only four of these sites were operational. Of the remaining seven sites, five are not used because they return very few offences and two are unusable because of camera angle difficulties. As shown in Table 5, some of these seven locations do not have a high ranking of right angle crashes.

Camera Operations

Right Angle Crash Ranking	Location
32	Roe Hwy/KalamundaRd
38	Morley Dr/Crimea St
70	Marmion Ave/Hepburn Ave
85	Beach Rd/Joondalup Dr
310	Hodges Dr/Marmion Ave
508	Hodges Dr/Joondalup Dr
617	Roe Hwy/Great Eastern Hwy

Table 5: Non-operational red light camera locations installed in 1994 and their respective right angle crash ranking.

Source: WA Police Service, Main Roads WA

Some of the ten new locations selected for red light camera installation in 1996 also appear not to have been chosen on the basis of right angle crashes (Table 6). The basis of their selection is unclear and undocumented.

Right Angle Crash Ranking	Proposed Location
5	Loftus St/Aberdeen St
15	Hay St/Milligan St
27	Newcastle St/William St
41	Scarborough Beach Rd/Duke St
100	Stock Rd/Forrest Rd
115	Alexander Ave/Woodrow Av
177	Riverside Dr/Plain St
190	Welshpool Rd/Roe Hwy
253	Forrest Rd/North Lake Rd
274	Nicholson Rd/Spencer St

Table 6: *Black spot ranking for proposed red light camera intersections based on 3 year average 1992–94.*

The table shows that some of the recent intended red light camera locations bear little relationship to their black spot ranking.

Source: WA Police Service, Main Roads WA

Camera Operations

The Camera Section have only recently begun to maintain records regarding the transfer of cameras between sites. Moreover, the rotation of cameras between installations was carried out without evaluating the crash data for each location or the infringement data for each camera location.

Following the identification of these issues the Police have "*developed new criteria for locating red light cameras that take into account right angle crash statistics, backed by surveys and appropriate recognition of road design. Camera rotation is now determined by right angle crashes and traffic infringement detection rates*".

The Police also advised that seven of the top ten right angle crash black spots identified during the examination now have operational red light camera sites. The other three sites are no longer rated in the top ten black spot listings under the new more comprehensive criteria. A review of the ten sites planned to be installed in 1996 using the new criteria led to cancellation of four of the sites.

Monitoring and Evaluation of Camera Operations

The Police are increasingly relying on speed and red light cameras as a deterrent to dangerous driving and as a tool to changing driver behaviour. For instance, in the 12 months ended June 1995 the number of infringements issued by speed cameras increased by nearly 100 per cent while the number of infringements issued by traditional means declined by 20 per cent.

The increasing importance of the camera program for traffic management means that it is essential that the Police have appropriate measures in place for monitoring their use and effectiveness. At the moment the Police receive information such as hours used and infringements issued but not higher level indicators that measure the efficiency of the camera program in comparison to other detection or deterrent methods or outcome based indicators that assess the impact of the cameras on driver behaviour.

Camera Operations

Recommendations

- **Efficiency and effectiveness indicators for the camera program should be developed and monitored and used when consideration is given to either expanding the camera program or to initiatives that would enhance its effectiveness.**
- **Recent management improvements implemented or being developed by the Police in the camera program should be monitored for progress and evaluated. These improvements include:**
  - **availability of appropriate traffic infringement and crash data;**
  - **criteria for selection of speed and red light camera locations;**
  - **criteria for rotating red light cameras around available installations;**
  - **a computer program to assist in the selection of speed camera sites; and**
  - **documenting of policies, procedures and guidelines for all areas of camera operations, including the issuing of infringement notices.**
- **The Police Service should formally clarify for internal operational purposes the level to which speed cameras should be used in rural areas and the hours of operation in all areas.**
- **The Police Service should ensure that speed cameras are used cost effectively.**

Traffic Infringement Notices

Full owner onus legislation such as exists in other States would enhance the deterrent effect of the cameras and contribute to improved efficiency in the issuing of traffic infringement notices.

Speed cameras are ineffective in deterring motorcycles speeding because motorcycles do not have front licence plates and hence can not be identified using the current mode of camera operation.

Background

Developed camera film is reviewed by the Police Camera Section for issue of Traffic Infringement Notices (TIN). TINs are issued to the registered owner of the vehicle who may either pay the fine within 28 days or inform the Camera Section that they were not the driver of the vehicle at the time of the reported offence. This is done by signing a declaration attached to the TIN and providing details of the driver's name and address so that Police may re-issue the TIN. Where the registered owner of the vehicle is a corporation, a letter is forwarded to the company detailing the offence. The company is asked to forward the particulars of the identity of the driver to the Police for the issue of a TIN.

Initially, after red light and later speed cameras were introduced to WA, drivers were only issued cautions for infringements detected by the cameras. Later, owners/ drivers were asked by mail to attend an interview with Police, the outcome of which was often a hand written traffic infringement notice. This changed in January 1991 when the Governor's assent was given to amendments to the *Road Traffic Act* allowing traffic infringements to be issued direct to the vehicle owner for any camera detected offence.

The Police Camera Section views and determines possible traffic infringements from camera film developed from 11 speed and 19 red light cameras. The film is examined by civilian operators through a projector that allows the operators to clarify and magnify various parts of the photograph.

Operators examining speed camera film check each frame on the film to ensure the vehicle speed, posted speed, date and time of day are recorded. The operator also checks that there are no objects in the photographed frame which may reflect the radar beam away from the direction in which it had been aimed. Where more than one vehicle appears in the frame the operator may reject the photograph

Traffic Infringement Notices

depending upon whether certain conditions are met. If conditions are acceptable and the target vehicle can be clearly identified, the operator will match the registration and description of the target vehicle against Police vehicle records. The infringement notice issued to the registered owner is based on the speed recorded on the film.

Operators viewing red light camera film also follow guidelines when determining if an infringement has occurred. From the photograph, the operator can determine which vehicle activated the camera, whether the vehicle stopped, turned a corner or continued through the intersection and the speed the offending vehicle was travelling. In the event that the photograph shows that the offending vehicle was involved in an accident, a near miss or was speeding, then the photograph is referred to a police officer to assess if a charge of dangerous driving is warranted. Identification of the photographed vehicle is based on its rear registration plate and matching the description of the vehicle against Police Service records.

Findings

Owner Onus

Under the *Road Traffic Act 1974* of Western Australia, the registered owner of a vehicle is regarded as the driver of the vehicle at the time of an offence unless the owner states otherwise in writing to the Commissioner of Police. The Act does not compel owners to furnish exact details of the driver's identity, though they are required under section 58 of the Act to provide Police with whatever information that they have to assist in establishing the identity of the driver. In this regard the Act is different from similar legislation in other States in Australia where owners are not able to relinquish liability for traffic infringements involving their vehicles by stating that they were not the driver (owner onus).

Often, vehicle owners pass on only minimal information to Police about the identity of the driver. Whilst the Police could charge an owner if they consider that he or she had not taken all reasonable steps to identify the driver, this has never been done.

Traffic Infringement Notices

On the basis of the nature of the infringement and the information provided by the owner, the Police then decide whether to commence investigations to establish the identity of the driver. If the driver of the vehicle cannot be identified, regardless of whether the registered owner is an individual or a corporation, the infringement is cancelled.

In the twelve months to August 1995, 3 646 infringement notices with an estimated value of $281 000 were cancelled. About 60 per cent were from speed cameras, and about 42 per cent involved corporate owners. Just over two per cent of speed camera and five per cent of red light camera TINs were cancelled. In comparison, Victoria which has full owner onus legislation and is generally considered to be leading Australia in traffic crash prevention has an infringement cancellation rate of 0.04 per cent.

Cancellations relating to corporate speed camera infringements were found to be particularly high with a number of corporations having 80 per cent or more of infringements cancelled. Table 7 below was compiled from a Police database. Because the database did not have the capability to identify and extract repeat offenders the information was extracted manually and with minimal analysis. It is therefore likely that there are worse repeat offenders than those listed below.

Corporation *	No. of offences	No. cancelled	% cancelled
A	178	167	94%
B	108	97	90%
C	72	62	86%
D	47	31	66%
E	27	14	52%
F	25	22	88%
G	12	12	100%
H	10	7	70%

* Corporation names have been withheld

Table 7: *Traffic infringements issued and cancelled to corporate registered vehicles.*

Source: WA Police Service

Traffic Infringement Notices

The additional workload and the delays involved in investigating, reissuing and or cancelling TINs is significant. It is estimated that about five staff are fully occupied by the investigation process. This is a significant proportion of the resources of the Camera Section.

Camera Section staff indicated much dissatisfaction with the workload attributed to the legislation and a general feeling of frustration because of what is perceived as the inability to appropriately penalise drivers photographed breaking the law who evade the infringement process.

The deterrent effect of the camera operations is also reduced by the delays and difficulties involved in identifying drivers and re-issuing infringement notices. Other Police concerns with the effect of the legislation are:

- owners can satisfy their legal obligation under section 58 by providing only minimal details to the Police;
- ultimate responsibility for determining the identity of the driver rests with the Police, not the owner and this takes time and resources; and
- the identity of some drivers who commit speeding or red light offences may not be established and thus, no penalty will be applied.

On a number of occasions during 1995 the Police and the Traffic Board raised with the Minister for Police concerns about the impact of the legislation on the deterrent effect of the cameras. Suggested legislative changes were also put to the Minister. In September 1995, the Minister, in considering these proposals asked the Legal Services Branch of the Police Service to consider the option of using a Statutory Declaration in relation to owner onus.

Identifying Motorcyclists

Speed cameras in WA do not identify speeding motorcyclists because motorcycles in WA[2] have not been required to display a front licence plate since 1982. Therefore, the registered owner of the motorcycle and hence the rider cannot be determined. This situation is believed to be well known to motorcyclists and many instances have been recorded of speeding motorcyclists '*playing up*' to the cameras.

[2] Front licence plates were removed from motorcycles throughout Australia because of concern for the potential injuries the metal plates might cause in the event of a crash.

Traffic Infringement Notices

Speed camera photograph of a motorcyclist travelling at 189 kph in a suburban 70 kph zone.

Source: WA Police Service

The Camera Section has recently commenced recording the number of motorcycles photographed by speed cameras. In October 1995, 208 motorcycles were photographed speeding. This suggests that, over a year, about 2 500 motorcycle infringements would be detected and go unpenalised. The estimated value of the penalties that would apply to these infringements is around $192 000.

This situation could be rectified if cameras were operated in the receding mode, that is, photographed the rear of motorcycles. However, to do so would mean that the physical characteristics of drivers of other motor vehicles would no longer be recorded. Therefore, for the receding mode to be effective owner onus legislation that placed the responsibility for proving the identity of the driver on the registered owner rather than the Police would be needed. An alternative would be to require motorcycles to have their registration number visible from the front, though with riders often wearing full face helmets identification would remain a problem.

Speed Threshold

When issuing speed camera infringement notices a threshold is set slightly above the posted speed limit partly to allow for camera manufacturer's tolerances in the measurement of vehicle speed. The threshold in WA is higher than that in use in other States such as Victoria which, since 1990, has been regularly reducing the threshold level and thereby increasing the deterrent effect of the cameras.

Traffic Infringement Notices

The Police Service has recognised that a high threshold reduces the effect of enforcement efforts by appearing to condone speeding behaviour. The Police advised that the threshold level "*is currently under review in line with operational procedures in other jurisdictions*".

Timeliness in the Issue and Re-issue of Infringement Notices

Australian and international research has found that the immediacy of punishment is an important factor in reducing the incidence of undesirable behaviour. Maximum deterrent effect from the traffic cameras is achieved when there is prompt issue of the Traffic Infringement Notice.

The examination found that the issue of TINs is prompt and hence promotes the deterrent effect of the program. The issue date of a randomly selected sample of 500 speed camera TINs was found to be within seven days from the date of the alleged offence for 99 per cent of TINs examined, with the majority issued within 4 days (Figure 7). Analysis of the timeliness in the issue of infringements was confined to the speed cameras since there are about four times the number of speed camera as red light camera infringements. However, it would be expected that the issue of red light camera TINs would take one to two days longer than for speed cameras because of the less frequent changing of the film. This result would still be acceptable.

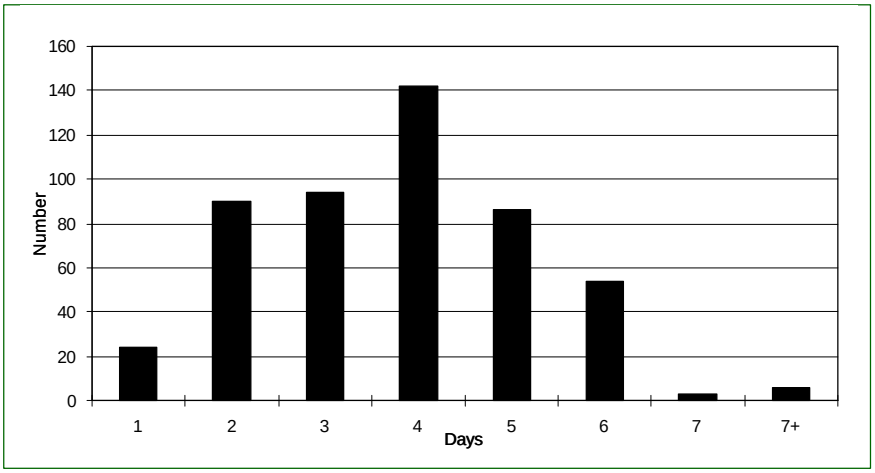


Figure 7: *Days taken to issue speed camera infringement notices.*

The deterrent effect of the cameras is enhanced by the prompt issue of TINs.

Source: WA Police Service

Traffic Infringement Notices

Whilst most infringements are initially issued promptly the same cannot be said for re-issued infringements. Of the sample of 500 infringements, 30 per cent were required to be re-issued to another person nominated by the registered owner as the driver of the vehicle at the time of the infringement. The re-issue of infringements naturally takes longer as it relies on the vehicle owner completing and returning a declaration (not a statutory declaration). Approximately 35 per cent of re-issued infringement notices were issued five or more weeks after the original offence.

Vehicle owners who send in a declaration after the required time period of 28 days advising they are not the driver of the vehicle are not penalised and receive no fine. Thus, there appears to be little incentive for vehicle owners to complete a declaration promptly. Lengthy delays in re-issuing infringement notices can reduce the effectiveness of the speed camera program for at least two reasons:

- the nominated driver may not be able to recall whether he/she was the driver at the time of the offence; and
- the temporal relationship between the offence and the punishment is lengthened and thus, the association between the infringement behaviour and its consequence is weakened.

Issue of Infringement Notices to Drivers of Police Vehicles

Drivers of Police vehicles photographed speeding or committing a red light infringement are required to submit a report to the Commander of Traffic explaining the incident. The Commander then decides whether an infringement should be issued. An examination of the files revealed that for the nine months from January 1995, 25 Police vehicles were detected by cameras committing an infringement. The resulting investigations led to two infringement notices being cancelled as on these occasions Police business necessitated speeding. Of the remaining 23 cases:

- 19 (83 per cent) infringement notices were issued;
- 3 (13 per cent) cautions were issued; and
- 1 (4 per cent) driver was sent to a speeding lecture.

Traffic Infringement Notices

Cancellation of Infringement Notices

Under certain circumstances offences and infringements detected by traffic cameras are not followed up by the Police or an infringement notice is not issued, or is cancelled. This means that detection does not always result in punishment.

For confidentiality reasons relating to Police operations only some of these circumstances can be revealed:

- Drivers photographed driving an unlicensed vehicle are not charged for the offence. The Police have determined that the resources required to follow up and possibly charge the owners involved make this a low priority. However, third party insurance implications for the State arising from the use of unlicensed vehicles suggest a higher priority is warranted. Under the *Motor Vehicle (Third Party Insurance) Act 1943*, "*vehicle owners of motor vehicles are required to insure against liability in respect of death or injuries directly caused by or by the driving of such motor vehicles*". Vehicle licences fees incorporate the third party insurance premium which is paid to the State Government Insurance Commission. The (Third Party Insurance) Act provides for special provisions in relation to uninsured motor vehicles that in effect can leave the Commission responsible for a liability as if the insurance had been paid. In 1994–95 1 673 unlicensed vehicles (unlicensed for more than 15 days) were photographed either by a red light camera or a speed camera.
- Vehicles registered interstate are not issued with an infringement notice. Recently the Police have begun recording details of the number of interstate vehicles committing infringements. During September and October 1995, 293 interstate vehicles were photographed speeding whilst 37 red light infringements were recorded for the period October 13 to the 30th, 1995.
- Motorcyclists photographed by speed cameras.

Traffic Infringement Notices

The likely dollar value of these forgone penalties is considerable. Table 8 below shows that the value of traffic infringements not penalised would be around $657,000 (based on the average fine). However, this does not include the penalties that might be imposed by the Courts on drivers of unlicensed vehicles.

Cancellation Type	Number	Estimated value
Motorcycles	2 500*	$192 000
Interstate registration	2 400*	$184 000
Other (confidential)	3 646	$281 000
Total	**8 446**	**$657 000**

* estimate for 12 month period based on sample data

Table 8: *Estimated value of Traffic Infringements notices not issued or cancelled, 1994–1995. The value does not include penalties that might be imposed on drivers of unlicensed vehicles.*

Source: WA Police Service

Management Information

The examination found that information relating to the timeliness, frequency and value of infringement notices was not readily available or was not being monitored and evaluated.

Information that should be provided to Police management on a regular basis includes for instance:

- the number of infringements issued each month where the driver is not known by the registered vehicle owner, the number of drivers identified by investigation during the month and the number still to be identified;
- the number, type and value of infringement notices cancelled or not issued; and
- the time taken to issue TINs.

Traffic Infringement Notices

Recommendations

- **The Police should address the problems of unissued, cancelled or re-issued traffic infringement notices to maximise the deterrent effect of the camera program.**
- **The potential implications for third party insurance provisions from unlicensed vehicles being used on WA roads is significant and should be a matter of urgent discussion between the Police and the State Government Insurance Commission.**

Section B

◆ Road Trauma Trust Fund

Road Trauma Trust Fund

In December 1990 an amendment to the *Road Traffic Act 1974* provided for one third of moneys derived from traffic infringement notices issued as a result of photographic detected traffic offences be paid into the RTTF. The amendment provided for the RTTF to be administered by the Traffic Board in support of its stated road safety functions:

- the prevention of road accidents and injuries; and
- the education and training of road users.

Between February 1991 and November 1995, the RTTF's total revenue amounted to $10.6 million and its total expenditure to $8.8 million.

Hierarchy of Road Safety Outcomes

There is general agreement that unsafe road user behaviour plays a major part in the occurrence of road crashes. As a result, the Traffic Board through the RTTF funds many programs that aim to improve road user behaviour.

The effectiveness of these programs can be evaluated in terms of a hierarchy of outcomes (Figure 8). The lowest level outcome is to increase the knowledge, attitudes and/or skills of road users. Achieving this outcome is normally a precondition to achieving the next level outcome of modified road user behaviour. For this to occur, it may not be sufficient that a person has the necessary road safety knowledge or skills. It may also be necessary that he or she is motivated to use the information to change behaviour. The highest level outcome is to reduce the number or severity of road crashes.

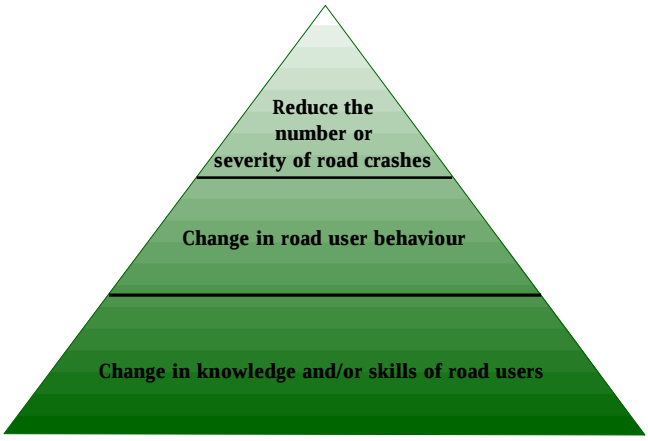


Figure 8: Road Safety Hierarchy of Outcomes

Strategic Direction

Improvements in the Traffic Board's strategic management is leading to more effective use of the Road Trauma Trust Fund.

The capacity of the Board to undertake its role is restricted by insufficient administrative and technical support.

The allocation of funds from the RTTF to different program areas and projects is based on broadly defined priority areas. The allocation of funds to these areas is largely historically based rather than determined by the relative cost effectiveness of the programs and projects.

The regular statistical information used by the Board has been of only limited value for analysing road crashes and casualties and for evaluating road safety interventions. However, the Board is taking steps to improve this situation.

Available road safety statistical and research information is not consistently incorporated into the decision making processes of the Board.

Background

Strategic direction is a vital part of the management process. Without such direction, organisational effectiveness is constrained. This direction is formulated by setting specific objectives that the organisation strives to achieve. Once the objectives are established, operational plans are then formed so that the organisation knows how it is going to achieve the objectives. These plans are then implemented. Finally, monitoring the progress in accomplishing the objectives is essential so that necessary adjustments can be made.

In the case of the RTTF, this process can be considered to include the identification, selection and funding of the most cost effective means of preventing road crashes and injuries, and of educating and training road users. However, it is difficult to isolate strategic management of the RTTF from the wider context of strategic planning of all road safety activities since the Traffic Board is also responsible for the overall coordination of road safety in WA. This Section therefore examines the strategic management of the RTTF, in the context of the overall road safety framework in this state.

Strategic Direction

Findings

Objectives
Plan
Implement
Monitor

Setting Objectives

The *Road Traffic Act 1974* describes the purpose of the RTTF as to support the road safety functions of the Traffic Board.

The Board has established as its main aim the goal of achieving a lower incidence of road fatalities than the national goal of 10.0 annual road fatalities per 100 000 population by the year 2000. Accordingly, the Board has set the objective of achieving a Western Australian rate of no more than 9.0 fatalities per 100 000 population by the year 2000. To achieve this target an annual road toll of 190 fatalities or less would be required, by the year 2000 (based on a projected state population of 1.85 million). This is about nine per cent less than the 1995 road toll of 209.

In 1992 the Board developed a Western Australian Road Safety Strategy containing seven supporting objectives and numerous strategies and tasks. The seven objectives were:

1. *to promote community ownership and participation in road safety issues;*
2. *to develop an integrated approach to road safety planning and action;*
3. *to ensure road safety is a major consideration in transport and land safety planning;*
4. *to promote road safety as a major consideration in the provision of health services;*
5. *to achieve safer roads;*
6. *to develop safer road users; and*
7. *to promote the development and use of safer vehicles and equipment.*

Having objectives that focus on intended results, and which are achievable and measurable is essential for monitoring and measuring performance. The seven objectives listed above are not outcome focused and hence make performance measurement difficult. Setting more specific objectives would allow the Board and key stakeholders to focus on achieving specific results within the required time frame.

Strategic Direction

Objectives
Plan
Implement
Monitor

Development of Strategic and Operational Plans

In recent years, the Board has devoted significant effort in developing strategic and operational plans. For instance:

- The '*Western Australian Road Safety Strategy – Direction Towards 2000*' prepared for public comment in 1992. An updated draft of the plan was submitted for Government endorsement in May 1994 but is yet to be approved.
- The compilation since 1992–93 of annual expenditure plans which prioritise and allocate spending from the RTTF to different program areas.
- Sponsorship in 1993 of '*Local Government Road Safety Strategy*' and the Western Australian Municipal Association's community road safety program '*RoadWise*' (a local government initiative established to encourage community participation in road safety).
- Completion in 1995 of the Traffic Board's inaugural Corporate and Business plan.
- Establishment in 1995 of the Traffic Board Working Group (TBWG) consisting of representatives from Board member agencies, one of the local government members on the Traffic Board, and the Board's executive officer. The TBWG has been authorised by the Board to:
  - review the draft Road Safety Strategy and develop amendments where necessary for consideration by the Board; and
  - develop and monitor strategies included in the Board's approved expenditure plan.

These efforts have given greater focus to the use of moneys from the RTTF. In the early years of its operation, the RTTF had no priority expenditure areas identified to guide spending. Funding of road safety activities depended primarily on perceived needs for public education, grant applications received and other expenditure. However, the '*Western Australian Road Safety Strategy*' (1992–93) provided the basis for adopting a more planned approach to RTTF expenditure. The identification of road safety objectives, strategies, problem areas and priorities enabled the Board to prepare annual expenditure plans that followed the seven program objectives set out in the strategy document.

Strategic Direction

Funding is now allocated either to specific projects or to the objective generally (for future allocation to projects). The expenditure plans also specify a list of broad indicators of priorities that are identified from the draft strategic plan, road crash statistics and existing road safety programs in WA. Funding to projects in the expenditure plan is generally consistent with these priorities.

However, the allocation of funds to priority areas and to strategic objectives still remains largely historically based, and has not generally been determined on the basis of a detailed analysis of road crash data in WA or the expected cost effectiveness of different road safety initiatives and interventions.

Objectives
Plan
Implement
Monitor

Implementation

The implementation of strategic road safety initiatives requires provision of appropriate administrative and technical support to the members of the Board.

The Board also requires support in budgeting, documenting details of the strategic direction, evaluating requests for funding (i.e. grants), monitoring of projects granted funds, keeping abreast of research developments and developments in other jurisdictions.

During 1994–95, 32 research and other funded projects were evaluated, many projects required monitoring and 13 media campaigns were run. There are also numerous research reports that are yet to be analysed, with a precis prepared and implications (if any) for the Board determined. Budgeting information and the filing system are also in need of development.

Administrative and technical support to the Board is currently provided by two civilian employees of the Police Service, an executive officer and a project officer (the latter since 1993 only). This staffing level of two full-time officers is insufficient to support fully the administrative and in particular the technical needs of the Board and its members. Such technical needs would include for instance persons with well developed competencies in:

- road safety planning;
- road user behaviour;
- road safety research and statistical analysis;
- economic analysis; and
- management of funded road safety projects.

Strategic Direction

The Board has in recent years identified the need for a sufficiently resourced permanent professional secretariat as essential for the achievement of its road safety objectives. On various occasions the Board has met its immediate research needs by employing various consulting groups to undertake specific projects. However, the Board has not used section 12(2) of the *Road Traffic Act 1974* which permits the Board with the approval of the Governor to engage professional, technical or other assistants as may be necessary to enable it to carry out effectively its functions under the Act.

Objectives
Plan
Implement
Monitor

Monitoring

Information is an integral part of the strategic management processes. Without valid and reliable information for monitoring and evaluating policies, programs and outcomes, the Board would have little chance of consistently improving road safety performance.

The Board receives the following regular information:

- the Federal Office of Road Safety's monthly report of road fatality statistics for the different states and territories in Australia; and
- monthly road crash and traffic enforcement data for WA compiled by the Traffic Development Unit (TDU) of the Police Service.

The Traffic Board also receives an annual report, '*Road Crash Statistics in Western Australia*', prepared by the Police Service. Examination of the monthly road crash and traffic enforcement data found the information is of only limited use in identifying and analysing road crashes and for evaluating road safety interventions. Some of the data is still presented in tabular form making it difficult to assess, long-term trends are not shown and interpretation of the data is usually not provided.

The Board has recognised that much of the data it receives has not been designed specifically for road crash and injury surveillance and is not always up to date. To overcome this a number of steps have been taken:

- The TBWG is investigating the most suitable presentation of meaningful statistical data and has recently prepared a new draft format for the monthly statistical reports in consultation with other key stakeholder groups in road safety. The TBWG is also investigating if any agencies other than the Police Service have data that would be useful for the Board to receive on a regular basis.

Strategic Direction

- The Board has commissioned two projects to improve its road safety information. These are:
  - a major project investigating the potential for an improved road crash/ surveillance database that links Police, Main Roads and Health databases; and
  - a project to develop appropriate indicators or benchmarks to enable valid comparisons to be made of the road safety performance of the different states and territories.

Research information is available from national and international sources or from research that the Board funds. This material can be of great value in developing a strategic approach to road injury prevention in WA and in the Board's decisions about how to best allocate RTTF monies. However, no mechanism exists for collating the information and bringing it into the decision making processes of the Board and until very recently the Board had no storage and referencing system for the reports.

Framework

Objectives
Plan
Implement
Monitor

Operating Framework

The Traffic Board, supported by its Working Group, is the only official forum in WA for facilitating the overall management and coordination of road safety activities, including inter-agency coordination.

This is a significant task given that road safety is a complex issue involving a large number of different organisations and sectors including police, transport, road authorities, health, education, planning, justice, local government, the insurance industry, research institutions and community groups.

Most other states and territories in Australia have a more integrated framework for road safety. These include structures and processes (e.g. task forces, working groups) involving key stakeholders that assist the main coordinating group in policy and program development and to guide inter-agency operational activities.

The consequence of the Board having overall responsibility for all aspects of road safety and a lack of supporting structure has been a large emphasis on operational matters. This has had a detrimental effect on the Board's ability deal with strategic issues. For instance, there has been little coordinated policy development in road safety problem areas (e.g. drink driving, speed management, fatigue) in WA.

Strategic Direction

Recommendations

- **Strategic analysis of the Western Australian road crash data should be undertaken to establish key priority areas for spending from the RTTF.**
- **The cost effectiveness of road safety programs should be one of the criteria used in allocating funds from the RTTF.**
- **Available statistical and research information relating to road crashes and traffic enforcement should be consistently synthesised into the Board's decision making regarding RTTF spending.**

Changing Driver Attitudes

Media campaigns have been economically acquired and well coordinated with police enforcement activities.

The effectiveness of most of the RTTF funded media campaigns in changing behaviour is unknown because the evaluations have generally only measured effectiveness in advertising terms such as message recall and perceived impact.

Though hundreds of thousands of dollars are spent on road safety brochures, it is not known who the brochures are distributed to, how they are used and whether any change in attitude or behaviour occurs.

Background

Research[3] has established that the major contributing factors to serious injury are human factors (96 per cent), including the role of alcohol, excessive speed, fatigue, driver inexperience and non wearing of seat-belts. Other factors are road environment (30 per cent) and vehicle and equipment factors (9 per cent). The total exceeds 100 per cent because most crashes have more than one contributing factor.

With human behavioural factors as the major contributing cause to crashes, the Traffic Board has established the need to change driver attitudes and behaviour as a cornerstone of its activities. The Board aims to improve knowledge and to change attitudes and ultimately behaviour through education using media campaigns, brochures, promotions and school-based education (Figure 9). This chapter looks at road user education funded from the RTTF.

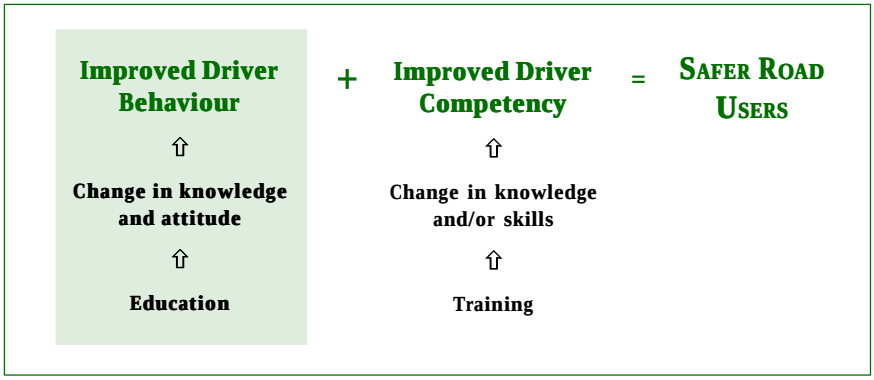


Figure 9: Education aims to reduce crashes by changing driver behaviour

[3] Haddon, W (1972). A logical framework for categorising highway safety phenomena and activity. Journal of Trauma.

Changing Driver Attitudes

Media campaigns and publicity materials are generally effective in encouraging people to adopt safer road behaviours if they are well targeted at a particular group, promote a clear achievable change in behaviour and are combined with a good evaluation of the campaign.

Education has on average accounted for at least 70 per cent of total spending from the RTTF. Between 1990–91 and 1994–95, RTTF funding for education amounted to $5.1 million. The major portion of these funds were spent on mass media campaigns. Each year mass media campaigns accounted for more than 73 per cent of education expenditure and 60 per cent of total RTTF expenditure.

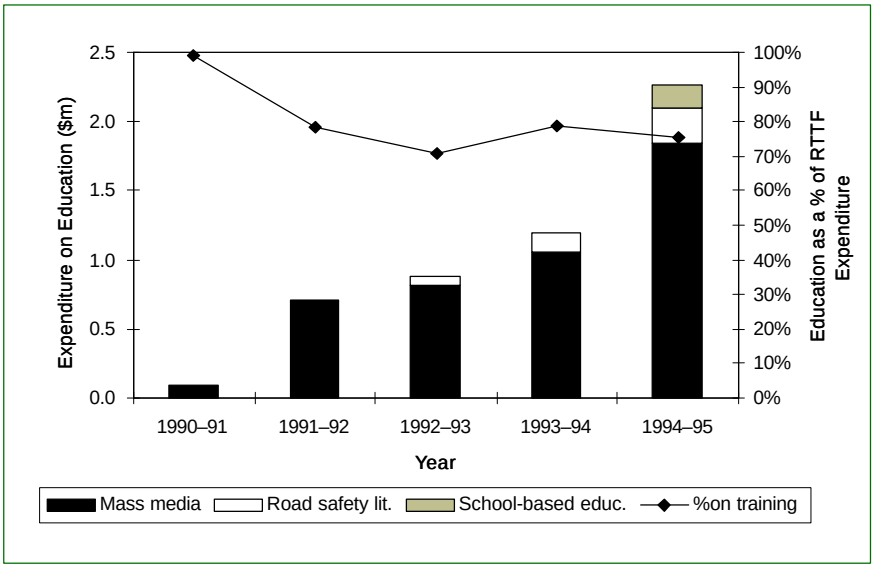


Figure 10: RTTF expenditure on education, 1990–91 — 1994–95.

Education spending is the major outlay from the RTTF and spending on media campaigns is the main form of education spending.

Source: Traffic Board

Findings

Media Campaigns

The Traffic Board's media campaigns aim to "*develop safer road users*" by "*encouraging safer attitudes and behaviour by all types of road users*" through "*high visibility deterrence and public education campaigns...*". Expenditure from the RTTF

Changing Driver Attitudes

on mass media campaigns amounted to $1.8 million in 1994–95 and is planned to increase to about $3 million in 1995–96. However, actual expenditure in 1995–96 is likely to be less than budgeted due to lower than anticipated revenue from speed and red light camera infringements.

Since 1994–95 the Board has developed its campaigns using a detailed forward media plan. Development of the campaigns is undertaken by the Traffic Board's executive officer in conjunction with a representative from the Police Traffic Branch and representatives from the contracted advertising agency. The campaign proposals are also reviewed by the members of the Traffic Board.

Effectiveness of the campaigns is enhanced through close coordination with Police enforcement activities that target those behaviours being addressed by the campaign. Thus, while the Board is attempting to change driver attitudes, the Police are simultaneously attempting to change driver behaviour.

The Board believes that the most effective way of changing driver attitudes is through a mix of hard-hitting television, radio and press and billboard advertisements that use emotional appeal and those with an informative content. The themes used in RTTF media campaigns reflect this.

Most campaigns are purchased from other agencies such as the Transport Accident Commission in Victoria, or are provided free by the Federal Office of Road Safety and Queensland Transport. Examples of campaigns purchased from other states include 'Glasses' ("*If you drink then drive you are a bloody idiot*") and '6 O'clock News' ("*Don't fool yourself, speed kills*"). A number of smaller campaigns, such as '*Keep Left*' have been locally produced in WA.

Purchasing campaign material from other states has proven economical as the prices paid for these campaigns are significantly below their production costs. For instance, advice received from the Board's media consultants is that the purchase price paid by the Board for a campaign would be less than 20 per cent of production costs.

Little formative research has been undertaken in WA to establish the characteristics and most suitable messages for target groups in WA. It is therefore uncertain whether the campaigns from other states are ideally suited to WA. Formative research is

Changing Driver Attitudes

relatively expensive. However, it needs to be seriously considered in light of its potential benefits such as preventing the costly failure of a campaign that is not ideally targeted or carries an inappropriate message.

In 1995 the Board commissioned its first comprehensive formative research study into drink driving. The research will provide the basis for the development of an anti-drink driving media campaign as well as some insights into fatigue for future advertising campaigns.

The effectiveness of a sample of mass media campaigns are evaluated each year. The decisions about which campaigns to evaluate depends mainly on the extent of the campaign and whether the campaigns have been evaluated in other states. In 1994–95 about 60 per cent of campaigns funded from the RTTF were evaluated including those relating to speed, drink driving, fatigue, seat-belts, pedestrian safety and returning to school. Between 1990–91 and 1993–94 about one third of the campaigns were evaluated.

Expenditure on evaluations as a percentage of mass media spending was seven per cent in 1994–95 compared to three per cent in 1992–93 and 1993–94 and less than one per cent in earlier years.

Campaign evaluations that have been undertaken have generally measured effectiveness in terms of key advertising measures such as awareness and message recall, and more recently perceived impact and self-reported behaviour. Few of the early campaigns that were evaluated had a baseline against which to assess campaign effectiveness. More recently, most of the campaign evaluations have included a baseline measurement. The most comprehensive of the evaluations that included a baseline were those monitoring the effectiveness of the 1994–95 Christmas campaigns for speed, fatigue and Random Breath Testing (RBT).

Overall, these showed a positive effect in terms of self-reported behaviour for speeding (metropolitan and rural) and drink driving but not fatigue. The campaigns did not have much impact on the perceptions of speeding, drink driving or driving when fatigued as main driving dangers.

None of the evaluations have used control groups or measures and the effectiveness of mass media campaigns have not been evaluated using wider outcome measures (for example, the number of alcohol related crashes could be an outcome measure for an anti- drink driving campaign).

Changing Driver Attitudes

Road Safety Literature

Road safety literature includes brochures, posters and stickers, school road safety literature, and other miscellaneous informational material. In 1994–95, road safety literature payments amounted to $252 000 or about 11 per cent of total spending on education. Expenditure in this year was significantly higher than in earlier years as previously there was little road safety literature specific to WA available.

The production of road safety brochures is coordinated by a publications group comprising members representing all of the Board agencies and the Royal Automobile Club (RAC). The brochures are produced primarily by the Road Safety Section of the Police Service and the Traffic Safety Branch of MRWA. Distribution is from outlets such as police stations, licensing centres, local government offices, MRWA offices and RAC offices, and also at venues where road safety displays are held.

The examination found that there has been very little evaluation undertaken of the road safety brochures, either in terms of formative evaluation to identify target groups and to develop the brochures or outcome evaluation that measured their effectiveness. Consequently, it is not known whether the content of the brochures meets the information needs of the public, whether the language is appropriate for the target group, who the brochures are distributed to, or how they are used after they have been distributed and whether any change in attitude or behaviour occurs. The only indicator available to evaluate their effectiveness is the basic measure of the number of brochures that are produced and distributed.

School-based Road Safety Education

School-based road safety education courses aim to teach school children the basic concepts of road safety. The Traffic Board assists by supporting the WA School Road Safety Project. This is a three year project aimed at assisting school communities to implement effective road safety education programs using road safety curriculum materials. The project commenced in 1994–95 with funding of $164 000. Further funding of $574 000 is anticipated.

There is little research evidence either supporting or refuting the effectiveness of such programs. However, the examination found the project objectives to be clearly defined and the project to be carefully planned and administered. Accountability to the Board is provided by an annual report, whilst an end of project evaluation funded from seven per cent of the project's budget is expected to provide a meaningful assessment of its effectiveness.

Changing Driver Attitudes

Recommendations

- **Control groups or measures should be used in evaluations of the effectiveness of mass media campaigns and they should be evaluated in terms of road safety outcome measures as well as key advertising measures.**
- **The production of any new road safety brochures should be based on some formative research and there should be some evaluation of their effectiveness.**

Improving Driver Competencies Through Training

Only a small proportion of the funds available from the RTTF for improving road safety have been expended on driver training.

No meaningful evaluation has been done on those training programs that have been funded. Research into training programs conducted elsewhere has raised doubts about their effectiveness.

Background

Driver training programs have much support from the general public as road safety countermeasures. This support is evident worldwide with many countries investing considerable resources in programs aimed at improving the driving skills of road users.

Driver training can take a number of forms such as the provision of training at a basic pre-licence level or advanced or driver improvement courses after initial licensing. The training can also vary in content; from being primarily theory based where the aim includes changing driver attitudes and behaviour to primarily practical driving lessons where the aim is predominantly skill enhancement.

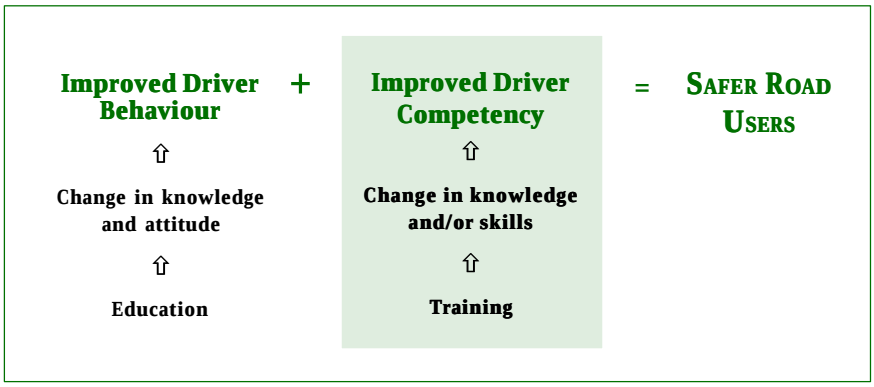


Figure 11: The aim of driver training is to reduce crashes by improving competencies.

This chapter looks at the driver training activities funded from the RTTF that have been aimed at improving driver competency.

Improving Driver Competencies Through Training

Findings

The Traffic Board devotes a small percentage of RTTF funds to driver training programs targeting especially groups over represented in road crashes.

In 1994–95 spending on driver training from the RTTF was $255 000 or nine per cent of total expenditure. Most of this expenditure ($180 000) was allocated to the Road Transport Training Council for a road transport training course to expand its training capabilities. The other main expenditure items were the Aboriginal Road Safety Project, the Defensive Driving Course and the Motorcycle Skills Enhancement Course. In past years funding has also been provided to investigate the possibility of establishing a Driving Education Centre.

The Aboriginal Road Safety Project and the Defensive Driving Course are both run by the Road Safety Section of the Police Service. The Aboriginal Road Safety Project is a 'train the trainer' style course delivered to Aboriginal people working in fields related to road safety and also to members of rural Aboriginal communities. Three courses have been completed in Broome and Kununurra with 36 people attending. No formal evaluation of the course has been undertaken, though positive feedback has been received from participants and communities. Interest has also been expressed in the course both nationally and internationally.

The Defensive Driver Course is an advanced driver training course that consists of small group discussions of one 2-hour session per week over a four week period. The course is provided free of charge to the general public, but at a charge to the corporate sector. In 1994–95 the number of people completing the course was 349, and future demand is expected to outstrip the Police Road Safety Section's capacity to supply. As a result, plans are being made to outsource the course. No evaluation of the effectiveness of the course has been undertaken.

The Motorcycle Skills Enhancement Course is a motorcycle rider training program conducted by off-duty officers of the Police Driver Training Unit. Since first run in 1993, some 1 111 participants have received training. Whilst there has been no evaluation of the course in terms of crash reduction, a 1994 survey of participants found that 81 per cent of the 42 per cent of participants who returned their survey forms felt that the skills gained on the course had saved them in hazardous road situations.

Improving Driver Competencies Through Training

In 1992–93 the then Police Minister announced plans for a driver education centre to be built on 60 hectares of crown land in Gnangara north of Perth. The estimated cost of the centre was $8 million, with funding to be provided by the private sector and the Road Trauma Trust Fund. The centre was to provide:

- driver's licence testing;
- advanced driver courses for the public and Police;
- training for people with disabilities; and
- children's road safety.

A sub committee of the Traffic Board was formed to coordinate planning of the facility and advertisements were placed calling for expressions of interest in conducting a feasibility study. However, the feasibility study never went ahead.

In 1994, the Police Minister, in response to requests from the Board that the feasibility study proceed, advised that the study would not proceed until the Select Committee on Road Safety[4] had inquired into the matter. The Minister also questioned "*the wisdom and effectiveness of spending eight million dollars on a single driver training establishment which will be limited to the number of drivers who can be admitted and hence benefit from training...*".

In December 1995 the Select committee released its report on 'Driver and Vehicle Licensing, Education and Training'. Recommendation 23 of the report was "*that a major road safety training centre be established in Perth and subsequently smaller scale facilities in major rural centres to provide venues for learner and driver training and retraining of offenders as required by the penalty system*". The Committee also included in its recommendations that the Traffic Board play a key role in the development and running of the Centre. At the time of writing this report the Board was preparing advice to the Minister based on the recommendations of the Committee.

[4] The Legislative Assembly of the Parliament of Western Australia established the Select Committee on August 11, 1993 to inquire into, report and make recommendations on all aspects of road safety.

Improving Driver Competencies Through Training

It is worth noting however, that the effectiveness of driver training in reducing crash involvement is generally not supported by research [5]. Improvement in driver knowledge or attitudes to safe driving may result, but often this is only temporary. Training can increase competency, but drivers may also modify their driving accordingly and take more 'controlled' risk.

Recommendation

- **Future funding for the various driver training courses should be based on assessments of the programs in terms of appropriate outcome measures.**

[5] "Adequacy of Existing Driver Training and Education Programs – a Literature Review", conducted by the Road Accident Prevention Research Unit of the Department of Public Health for the WA Traffic Board (1994).

Funding Grants

Aspects of the management of grants from the RTTF has been unsatisfactory, providing a poor platform for obtaining cost effective utilisation of funds for road safety purposes.

The Board's strategy of generating community participation in road safety through funding of the Local Government "RoadWise" strategy and other community activities has been effective.

Two grants from the RTTF totalling $301 000 were inconsistent with the legislative purpose of the Fund.

Background

Various road safety activities, other than education and driver training, are funded from the RTTF on the basis of grant applications made to the Traffic Board. These activities can be grouped into the following categories: research, community participation in road safety, community road safety promotion, and a miscellaneous group.

Research into the causes and prevention of road crashes and injuries is one of the functions of the Traffic Board. Under the draft Road Safety Strategy, funding from the RTTF for research is allocated under the objective of "*developing an integrated approach to road safety planning and action*".

Community participation in road safety is widely regarded as integral to achieving a reduction in road crashes and injuries. Consequently road safety agencies in most states and territories in Australia actively encourage community consultation and involvement in road safety. Funding from the RTTF for community participation in road safety is provided against the objective "*to promote community ownership and participation in road safety issues*".

Community road safety promotion mainly comprises expenditure on road safety display materials, and could be grouped with education and training or alongside community involvement in road safety (as it has been in this report). The aim of community road safety promotion is to encourage the community to adopt safer road practices by increasing their knowledge of road safety through the use of road safety displays and other similar promotions.

Funding Grants

Funding grants have accounted for up to 25 per cent of RTTF expenditure over the period of the Fund's operation, and the amount spent on these grants has grown steadily every year to $460 000 in 1994–95. Between 1990–91 and 1994–95 the total amount allocated to funding grants was $1.3 million.

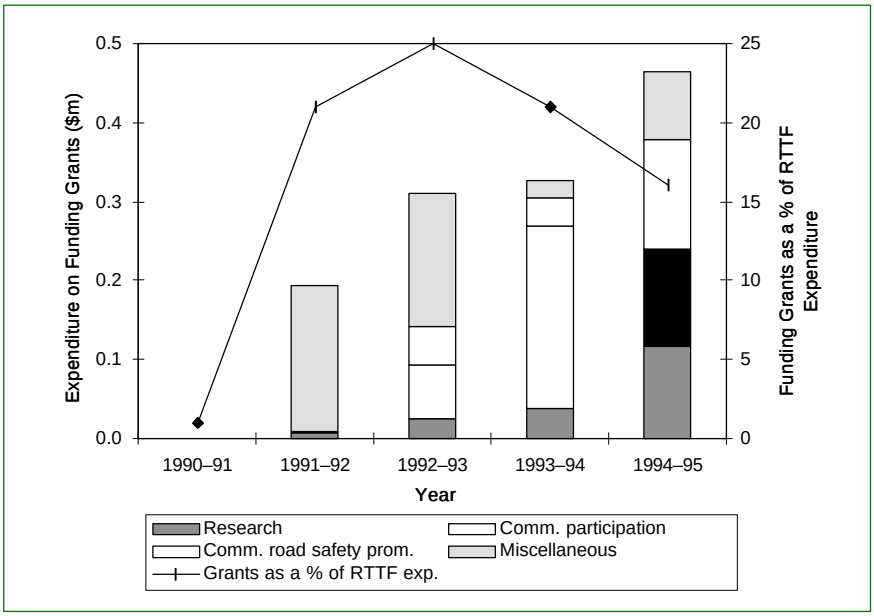


Figure 12: Expenditure on funding grants from the RTTF.

Grants for various types of road safety projects represent a significant proportion of RTTF expenditure.

Source: Traffic Board

Findings

Funding Guidelines

The *Road Traffic Act* states that money from the RTTF is to be used for the purpose of the Traffic Board's functions in relation to "*...the prevention of road accidents and injuries resulting from them and the education and training of road users*". The Board has further specified that proposals for funding from the RTTF will only be considered if they:

- enhance an existing program;
- provide funding for a pilot program to demonstrate a need prior to the implementation of a large scale project;

Funding Grants

- promote new and innovative approaches to road safety that will change road user behaviour and create a safer environment for all road users; and
- relate to intrastate projects.

These guidelines are very general, giving the Board scope and flexibility to fund any activity that can be related to road safety. However, because they are broad they do not facilitate decision making in terms of prioritising funding. More defined evaluation criteria to support the guidelines would overcome this.

Since December 1993, the Board has interpreted the guidelines to exclude applications for funding from government agencies if the purpose of the funding relates to normal operational expenditure of the agency other than educational expenditure. More recently, in September 1995, comprehensive draft guidelines for use in the issuing of research grants were prepared. These provide that until the Board identifies areas of specific relevance to WA, priority areas for funding will be:

- drink driving; and
- dangerous driving, particularly speeding.

Funding Grants Process

Individuals and groups seeking funding for road safety-related activities can apply throughout the year to the Board for grants. Applications are evaluated by the Board's executive officer or project officer and a funding recommendation is then made to the Board.

Expert or peer review of the applications is not obtained. The quality of evaluations were found to vary. In some instances, no evaluation of the submissions was provided to the Board. The evaluations that were undertaken did not involve consideration of the comparative cost effectiveness of the submissions and usually were not clearly related to specifically identified priority funding areas. These shortcomings were supported by most of the Board members in comments to the examination team, that funding was often ad hoc, uncoordinated and reactive

Grant approvals generally consist of letters sent to the applicants informing them of the approval for funding and the conditions of the approval. There is no formal signed agreement between the Board and the applicant. Rather, the applicant is considered to accept the conditions by acceptance of the funds.

Funding Grants

Some monitoring of the progress of projects and compliance with grant conditions was evident, though this was usually of an informal nature and did not involve feedback to the Board. Accountability from recipients of completed projects was evident in all cases examined though this was usually in terms of work done and general statements about the likely effect on road safety.

Research Funding

Expenditure on research grants has increased each year to $117 000 in 1994–95. In that year 10 research projects were funded, ranging from about $4 000 to $34 000. Between 1990–91 and 1994–95 the total expenditure on research from the RTTF was $187 000.

Research projects funded from the RTTF have all had specific relevance to Western Australia, which is a condition in the funding guidelines. Funding approval has not been given to any project that is known to duplicate research undertaken in other states and territories. No particular area of research has dominated in the research grant funding, and no individual recipients or organisations have been unduly favoured.

Community Participation

The amount spent on community participation has varied each year, and in 1994–95 amounted to $124 000. The main items included under community participation are those relating to the development of 'The Local Government Road Safety Strategy', including support to the Western Australian Municipal Association for establishment of 'The Local Government Road Safety Strategy' program; 'RoadWise'. Other RTTF expenditure includes Apex 'Livedrive' projects and a Gosnells City Council 'Urban Art' project.

RoadWise is the Traffic Board's major funding commitment to community participation. The principal aim of RoadWise is to promote community road safety initiatives amongst local governments and the community. Funding for RoadWise was first approved in 1993–94. Total funding up to 1994–95 amounted to $115 000. A further $289 000 including $75 000 for the community grants program has been allocated in 1995–96.

Funding Grants

The Community grants program provides grants of up to $5 000 for projects that focus specifically on promoting road trauma reduction within the community. The Community Grants program until 1994–95 was directly administered by the Traffic Board. However, in June 1995 the Board accepted the suggestion of the RoadWise Management Committee that the ongoing liaison between RoadWise and the community made it more appropriate for the community grants to be administered at that level. Responsibility for this program was transferred to RoadWise from 1995–96. Separate guidelines and processes are applicable to the funding procedures of these projects.

This examination found the RoadWise project to be well managed, and its activities to be effective in terms of their success in promoting community interest and participation in road safety. Accountability to the Board by RoadWise was found to be satisfactory.

Community Road Safety Promotion

Between 1990–91 and 1994–95 the total expenditure from the RTTF on community road safety promotion was $225 000. Most funding grants for community road safety promotion have been provided to the Road Safety Section of the Police Service for road safety display materials of different types.

A major project initiated by the Police Road Safety Section is the development of two interactive road safety exhibitions to promote positive road safety behaviour at schools, shopping centres and other venues around the state. One of the exhibitions is a mobile unit and will replace the existing mobile unit that has been in use for 11 years. Total cost to the RTTF is estimated to be about $520 000. A study was commissioned to examine the feasibility of the concept, the target groups, the equipment and the cost. However, the cost effectiveness of the new mobile road safety unit as a way of promoting road safety was not investigated.

Miscellaneous Group

In 1992–93 and 1992–93 the Board provided two major grants to the Police Service. These payments related to normal police enforcement activities and as such appear inconsistent with the function of the RTTF.

Funding Grants

The first payment of $175 000 in 1991–92 was for the purchase and refit of an aircraft from the Royal Flying Doctor Service. The Police submission for funding was based on the need for aerial patrol of highways, though the aircraft was also to be used for other operational purposes. A minimum 36 hours per month aerial traffic patrols was guaranteed. Since purchase, the police have provided regular reports to the Board outlining usage made of the aircraft. These show that on average the aircraft is flown for 39.5 hours per month and is responsible for issue of 55 infringements or cautions per month.

The second payment of $126 000 in 1992–93 was to pay for speed and red light camera film, maintenance and repair. The request for funding was a result of a cutback in the budget of the Police Service. The Board approved the funding though it considered it "*...contradictory to the original legislative purpose of the Fund and reduces the ability of the board to fulfil its responsibilities to improve road safety in Western Australia*". The Board considered a denial of funding 'would have necessitated a curtailing of the (Traffic) Branch's operations to the detriment of ongoing road safety operations". The Board resolved to approve the payment as a once only contribution and advised the Minister and Treasury of this view.

Legal advice obtained by the Minister for Police from the Crown Solicitor's Office in 1995 on the appropriateness of using RTTF monies for the purchase of 'booze buses' and speed camera equipment confirmed that this type of payment appears inconsistent with the legislation. The opinion stated " *it is not a function of the Traffic Board to enforce the provisions of the Road Traffic Act and it appears... that the primary purpose of such equipment is to assist the police force in performing that function*".

Recommendations

- **Processes to improve the management of the grants program should be established.**
- **A plan to evaluate the effectiveness of the new mobile road safety unit should be developed.**

Performance Examination Reports

1992	
Management of the Recruitment and Selection Process in the Public Sector	November 3, 1992
Management of Information Systems in the Public Sector	November 17, 1992
Management of Government Social Concessions	December 1, 1992
1993	
Internal Audit in Selected Government Agencies	November 2, 1993
Child Care in Western Australia	November 10, 1993
Public Sector Travel **Corporate Card** **Main Roads Properties** **Mining Royalties**	November 16, 1993
1994	
Utilisation of School Facilities in the Metropolitan Area	March 24, 1994
Grants to Non-Government Organisations **Pastoral Leases** **Records Management** **Purchasing**	May 11, 1994
Public Hospital Waiting Lists Information: Waiting Times – The Real Issue	October 19, 1994
Financial Assistance to Industry **Public Rental Housing** **University Consultancy Services**	November 3, 1994
1995	
Legal Aid Commission	April 5, 1995
Police Department Operations Centre	May 4, 1995
Management and Control of Minicomputer–based Systems in Western Australian Government Agencies	May 23, 1995
Management of the Public Bank Account Investments	August 23, 1995
Value for Money in TAFE	August 30, 1995
Public Sector Travel **Corporate Card** **Cabcharge Facilities**	September 19, 1995
Hospital Emergency Departments	November 1, 1995
Contracting for Services	November 22, 1995
Public Dental Services	December 6, 1995