

FEDERAL BLACK SPOT FUNDING – HOW TO MAKE SURE YOUR COUNCIL’S SUBMISSION IS A WINNER

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Abstract

As the IPWEA representative on the Federal Black Spot Consultative Panel, I have reviewed over \$75 million in value of projects since 1997. Some council's take full advantage of this funding opportunity to eliminate crash sites. Of concern is that many council's, both urban and rural, are missing out, often due to inadequate assessment, incomplete data and non-complying or ineligible proposals.

By providing an overview of this Federal Program, the role and makeup of the Panel including insight into successful projects, their type, value and location it is intended to encourage winning bids. Key issues are presented including the eligibility criteria; project evaluation; the benefit/cost ratio for funding allocation and contacts for assistance.

The presentation of this Paper will include examples of the accident review and assessment process, to assist councils in submitting projects for Federal funding.

Introduction

The IPWEA has through the Road Safety Panel been given the opportunity of being an active contributor in a number of road safety initiatives at National and State levels of Government.

Since 1996 the IPWEA has maintained continuous membership of the Federal Black Spot Community Consultative Panel. Details of this Panel, the makeup and role in the project assessment process will be provided to delegates. Involvement of the Roads and Traffic Authority (RTA) will also be discussed in the Paper.

In the six years that the Federal Black Spot Program has progressed, 635 projects have been considered, valued at over \$75 million, with the majority being approved. The success of the program has seen the removal of many crash sites and a significant reduction in injuries at sites where counter measures have been implemented. This benefit has not been shared

evenly across the local government community, due to the proactive approach of some councils and the limited action of other councils. In rural areas the RTA is active in submitting successful projects, often in collaboration with the local council.

The councils not participating in the Black Spot Program together with those forwarding incomplete or poor submissions are missing funding opportunities to address crash locations that are affecting their local communities.

Preparing crash maps, analysis of trends, determining counter measures is a key activity that councils must engage in, to reduce crash and injury statistics occurring in the local area. Applying Department of Transport and Regional Services (DOTARS) criteria can result in the project being funded, 100% funded. This process will be further discussed in the Paper with examples.

Black Spot Locations

Sites are classified as black spots after an assessment of the level of risk and the likelihood of a crash occurring at each site. The risk of a crash is not uniform throughout the road network. At certain locations, the level of risk will be higher than the general level of risk in surrounding areas. Crashes will tend to be concentrated at these relatively high-risk locations. Locations that have an abnormally high number of crashes are described as crash concentrated, high hazard, hazardous or black spot sites.

Although the term *black spot* suggests a precise location, it is also often used to refer to sections of road.

Black spots are usually linked to particular characteristics of the road environment, i.e. busy intersections and sharp bends.

Federal Black Spot Program

The prime objective of the Program is to reduce the numbers and severity of crashes at black spot locations.

To reduce the social and economic costs of road trauma by improving the physical condition and management of black spots involves several facets:

- The identification of sites with a record of casualty crashes.
- Determination of cost effective treatments.
- Reviewing lengths of roads and areas where formal road safety audits have identified potential crash locations.
- Encouraging wide consultation with the community to ensure local road related safety concerns are addressed.

The Program aims to achieve this by implementing traffic management

techniques and other road safety measures that have proven road safety value.

Evaluation of Program Success

Continued evaluation is undertaken to determine the effectiveness of the Program. The Bureau of Transport and Communications Economics (BTCE) presented a report in 1995 on the program 1990 to 1993. The results of the evaluation strongly suggested that the Program has achieved its aim of improving safety at locations with a history of crashes involving death or serious injury. The comparative crash experience before and after treatment in the sample of sites studied clearly showed this. Overall, the decrease in injury crashes at the sample sites was over two and a half times what could have been expected. Fatalities fell by one third, people hospitalised by two thirds, and the number in need of medical treatment by one half.

The Bureau of Transport and Regional Economics Canberra presented a further report in July 2001. A sample of 608 black spot projects around Australia for the program between 1 July 1996 and 30 June 1999 was analysed. The total cost of these projects was approximately \$59.5 million. The Report's purpose was to provide information to help the Federal Government assess the merits of continuing to fund black spot treatment.

Overall, the Black Spot Program appears to have been highly effective in reducing the number of casualty crashes. It is estimated that the Program prevented around 32 fatal crashes and 1,539 serious crashes between 1996–97 and 1998–99.

Further benefits will continue to accrue into the future, beyond the formal assessment period.

Crash Statistics

Road crash fatalities in Australia have been almost constant since 1997 in absolute terms, but declined per 100,000 people, per 10,000 registered vehicles, and per 100 million vehicle-kilometres travelled. In Appendix A Figure 1 and Figure 2 demonstrate the changes to these statistics in Australia for the period 1925 to 1999.

New South Wales continued its long-term downward trend for road fatalities in 2001 and recorded its lowest road toll in more than half a century. The lowest road toll for NSW prior to 2001 occurred in 1947. This is shown in Figure 2, Appendix A.

The 2001 statistic is in context with continued growth in the population and the number of drivers and vehicles on our roads since 1947. Over the last half century the NSW population has doubled, the number of licences has increased eightfold and the number of vehicles in 2001 is eleven times that for 1947.

Effective Counter Measures

In the evaluation reports prepared by the Federal Department, particularly the July 2001 Report, the effectiveness of several of the counter measures implemented in both urban and rural areas were discussed, which are highlighted below.

There was strong evidence in urban and regional areas that roundabouts and new traffic lights with no turn arrows effectively reduced the number of casualty crashes. Traffic islands on approach, new traffic lights with turn arrows, edge lines, medians and signs had a more limited effect on reducing the number of casualty crashes.

Most of the road safety measures based on existing technology that are effective, relatively cheap and easy to implement are already in use in

Australia, as they are in most of the developed world. Therefore, without help from new technology, it will be difficult to substantially improve Australia's road safety statistics. This does not mean that treating individual sites and stretches of road identified as hazardous would not be worthwhile. It means that all available quick fixes are already in widespread use.

The fatality and serious injury rates for regional areas are much higher than in urban areas when compared for the same motor vehicle and population numbers.

The analysis of expenditure indicates that considerably more money was spent on roundabouts than on any other treatment type.

The Crash History Process

Each year the appropriate agency in each jurisdiction analyses its crash database to identify particularly dangerous sites. Some of these sites are nominated for treatment as black spot sites. Readers are referred to Appendix B for the steps in the review process.

The local agency responsible for the Program's implementation performs a preliminary Benefit/Cost analysis to determine what treatment will be applied.

Benefit/Cost analysis conducted before a formal project assessment starts are often used to help determine if the project should go ahead.

Largely because of greater traffic flow through capital city black spots, the capital city (urban) part of the Program delivered significantly greater benefits than the regional part. On this basis, if the only criterion for program expenditure were to maximise the economic return to Australia, then the proportion of expenditure in urban areas would be increased.

Nominations of sites can be submitted from State and local governments, community groups, associations and clubs, road user groups and industry.

Councils should be aware that site nominations which fail to confirm the basic eligibility criteria in regard to crash history (or are not supported by road safety audit) cannot be considered for approval.

On receipt of a site nomination, the RTA checks the eligibility of the site and may undertake an economic assessment of the treatment proposal. In all cases, nominations are referred for review by the Consultative Panel.

Federal Black Spot Consultative Panel

The NSW Consultative Panel is made up of representatives from several organisations nominated by the State Minister including:

Local Government & Shires
Association
Road Freight Advisory Council
NSW Police
IPWEA NSW
Parents & Citizens Association
Council on the Aging
RTA

The Panel is chaired by a Federal Member of Parliament and supported by RTA staff.

The duties and functions of the Panel are two fold:

- The Panel is to forward for consideration by the Federal Minister a list of all nominations for black spot treatments, including comment where appropriate.
- In considering nominations the Panel takes into consideration whether individual sites nominated meet the program criteria, i.e. crash history, treatment viability, Benefit/Cost Ratios, environmental

concerns, funding contributions and where applicable road safety audits.

The Panel formally meets at least annually to undertake this review process.

In line with national road safety policy objectives approximately 50% of Black Spot Funds in each State is allocated for project in non-metropolitan areas. This has been the case for NSW funding allocation.

Issues raised by Panel

The issues raised by the Panel when reviewing the submissions included:

- The high number of submissions from some councils and minimal or nil submissions from others.
- The small number of conforming audit submissions.
- The high number of ineligible submissions particularly from councils in the Northern Region of the State.
- The process of informing the wider Community and Organisations of the program.
- Are the councils advised of the reasons why projects were unsuccessful?
- A number of individual projects were questioned and the type of treatment noted, particularly where a number of projects were located on the one road or in one locality.
- The process where the RTA indicates its support or non – support for council submissions.

These issues are to be followed up by the RTA and advice provided to the Panel.

Recent invitations to councils to submit new Black Spot proposals encourage funding from other sources, this is of concern as this may lead to BCR's being artificially increased by councils by matching Federal funding (it is not clear that other funds are included in the costs in preparing the BCR).

Clarification of calculation techniques is required to ensure the BCR is being undertaken consistently to enable a true comparison when reviewing by the Panel. This situation could favour Councils that have alternative cash resources for funding works.

Recommendations are provided from the Panel to the Federal Minister on measures to improve the operation of the program and where further review is considered appropriate, for example:

- The holding of workshops in both Rural and Urban Regions on the identification and preparation of submissions, as a priority with Councils where there are high levels of submissions that were non-conforming.
- Additional information to be provided to Councils on projects that were not successful in gaining funding support.
- A further review of projects questioned by the Panel, particularly projects with high crash statistics, conforming benefit cost ratios, but not supported by the RTA (noting mainly at traffic signals sites).
- Sites that have council contributing to the project value, the issue of how the benefit cost ratios have accounted for this contribution. Consistency in calculations has been questioned.
- A detail review of projects that are occurring at various locations on individual roads (particularly in rural areas).

Eligibility Criteria

Funds in the Program are available for works on public roads regardless of ownership or control including both urban and rural areas, other than National Highways. The Program aims to fund cost effective safety oriented projects.

Criteria for the program were developed in consultation with the three levels of government Federal, State and local.

Two categories of projects are eligible for the program, 'History of Crashes' and 'Road Safety Audit'.

History of Crashes Sites, these are sites that meet the prime criteria of:

- A minimum of 3 casualty crashes in the most recent 5 years of crash data.
- Road length criteria have to have an average of 0.2 casualty crashes per kilometre per annum over the most recent 5 years of crash data.

Projects also require a benefit cost ratio (BCR) of at least 2.

The Projects **cost limits** are:

- The maximum cost of a single project is \$750,000 and
- Projects of \$10,000 or less are expected to be included in local or State programs.

The Department of Transport and Regional Services (DOTARS) advise that a discount rate of 5% be applied in assessment of proposals. Noting that the RTA in their project analysis and in previous Federal Black Spot submissions 7% has been the discount rate applied.

Road Safety Audit Sites are sites and routes identified through a formal road safety audit, according to a checklist.

This process identifies locations that are 'accidents waiting to happen' rather than those with a history of crashes.

Up to 20% of program funds can be used to treat sites where formal road safety audits have been completed and established that remedial measures are necessary.

A ranking process was developed by Jamieson Foley and Associates (1998) and adopted by the Consultative Panel.

The approach to the ranking of road safety audit recommendations was to qualitatively assess the risk of the audit finding and simply compare the cost of the treatment.

Through the formal audit process a level of risk is determined for each road safety site nominated for treatment. Although a simplistic approach, this enabled a rating to be developed, the cut off levels were:

Risk Level:

- High
- Significant
- Medium
- Low

Treatment Cost:

- \$300,000 High
- \$100,000 Medium
- \$ 30,000 Low

The ratings were established from 1 to 6, with rating of 1 being considered most worthwhile and a rating of 6 least worthwhile. The ratings are as follows:

Table 1 Road Safety Audit Ratings

Risk	Risk Level	Treatment
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obtaining information and assistance in the project analysis is provided in Appendix C.

Rating		Cost
1	High	Low
2	High	Medium
3	Significant	Low
4	High Significant Moderate	High Medium Low
5	Significant	High
6	Moderate Low	Medium High

Project Assessment

Each nomination is considered by the Consultative Panel against the Program criteria and ranked according to priority. Ranking of proposals assessed on crash history are based generally on the BCR.

For road safety audit nominations, DOTARS supports ranking of proposals on the basis of systematic risk assessment methodology as detailed earlier.

Program Approval

The Federal Minister considers the Program of projects submitted by the Consultative Panel. The projects submitted should be capable of completion within the time frame of the Program.

Once the Program is determined funds are paid to the RTA who are responsible for distributing project funds.

Contacts for Assistance

For the RTA Regions the current contact points for preparing proposals,

Conclusion

Councils cannot afford to miss out on the opportunity of Federal Funding to accelerate the removal of proven and potential crash sites, nor can time be

wasted in submitting projects that do not address the required criteria.

Through the systematic preparation of crash maps and severity index assessments councils can identify dangerous locations.

Cost/Benefit analyses and formal road safety audits will enable consideration of effective treatments to be prioritised for council Programs. Where projects meet the Black Spot Program criteria, submissions are encouraged to win funding available from the Federal Program.

The consistency in methods used by a councils, particularly in urban areas is

vital to ensure fair distribution of Black Spot funds is occurring for projects based on the cost/benefit approach.

Workshops between Federal, State and local government agencies needs to be held to clarify how funding contributions to project costs are to be accounted for in the benefit/cost evaluation process.

Councils not participating in the current Program need to be targeted to be proactive in the crash analysis process to take-up funding opportunities from the Federal Black Spot Program.

References

AUSTROADS 'Road Safety Audit' guidelines (2002) AUSTROADS Publication No. AP-30/94 or AP-G30/02). Second Edition.

Bureau of Transport, Communications and Economics (1995). Report 90 – Evaluation of the Black Spot Program. Australian Government Publishing Service.

Bureau of Transport and Regional Economics (2002). The Black Spot Program 1996 – 2002: An evaluation of the first three years. Australian Government Publishing Service.

Department of Transport and Regional Services, National Black Spot Programme – Notes on Administration (August 2002), Australian Government Publishing Service.

Fred Schnerring, (February 1998). Road Safety Audits – A Process for Ranking Audit Recommendations. Jameson Foley and Associates Pty Ltd.

O'Donnell & Hunt Pty Ltd. RTA Road Proposals Program (1993). For the Safety Section of the Roads & Traffic Authority, Sydney Region.

NSW Police, Roads and Traffic Authority, Motor Accidents Authority, NRMA. (April 2001). Report – Road Safety Task Force. RTA/Pub. 01.013.

Appendix A

FIGURE 1 ROAD FATALITIES PER 10 000 REGISTERED VEHICLES AND PER 100 000 PEOPLE IN AUSTRALIA 1925 - 1999

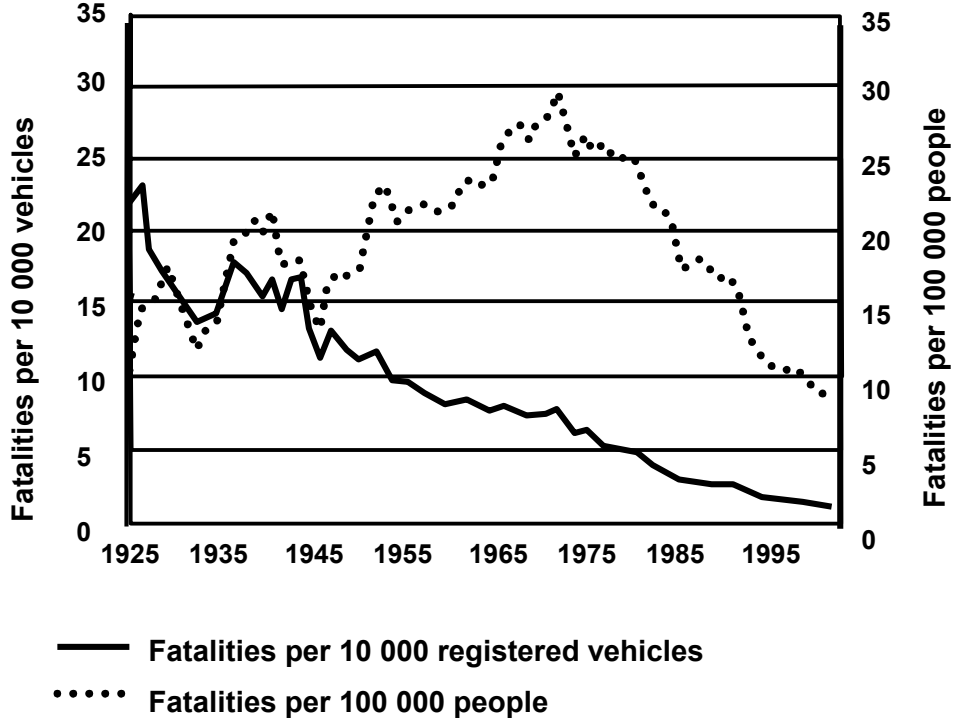
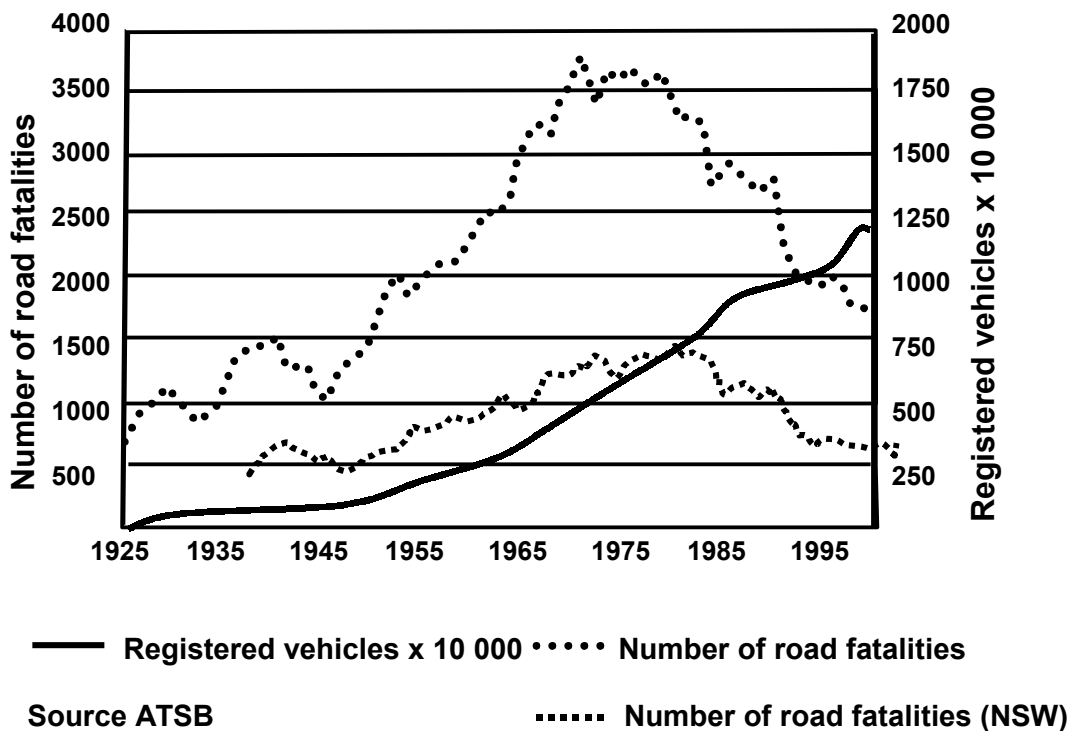


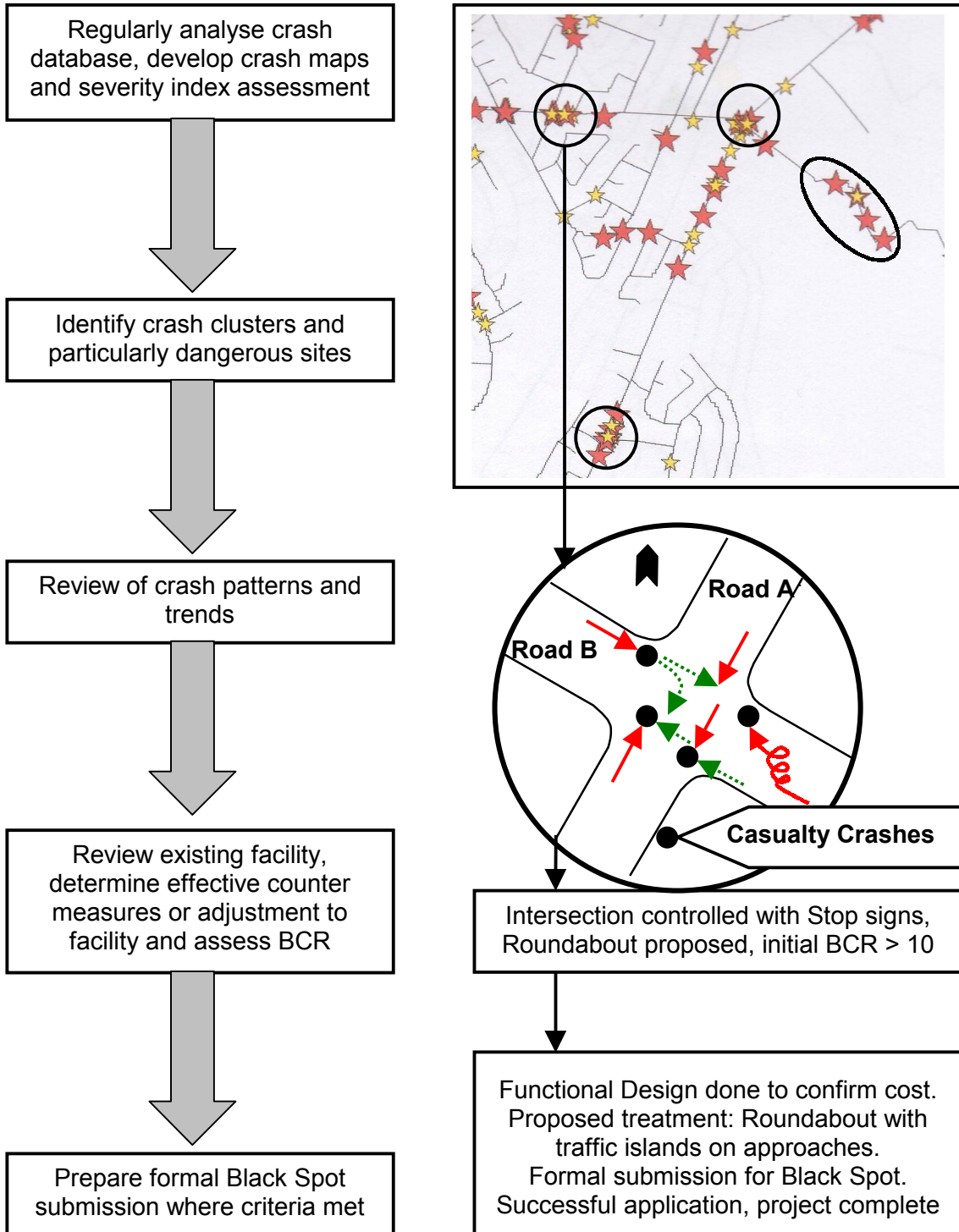
FIGURE 2 NUMBER OF ROAD FATALITIES AND REGISTERED VEHICLES IN AUSTRALIA 1925 - 1999



Source ATSB

Appendix B

Crash Evaluation and Counter Measure Development Process



Appendix C - Contacts

Project Nominations should be forwarded to:

NSW Black Spot Consultative Panel
Roads and Traffic Authority
PO Box K198
HAYMARKET NSW 1238

Program Contact:

Steve Levett
Manager, Federal Black Spot Program
Road Safety Strategy Branch
Roads and Traffic Authority
Phone (02) 92186246
Fax (02) 92186745
Email Steve.Levett@rta.nsw.gov.au

To contact the Federal Department for National Black Spot Programme matters use:

Director

Black Spot Unit
Roads Programmes Branch Transport
Programmes Division Department of
Transport and Regional Services
GPO Box 594
CANBERRA ACT 2601

For information about the Program, contact the Black Spot Programme Manager on (02) 6274 7467. The facsimile number is (02) 6274 7677. The programme's email address is:

General information on the program can be found on the Department's web site at:

The full list of National Black Spot Program sites allocated funding can be found at:

The pdf file for NSW is attached (note downloaded 23/8/02 and does not included 2002/03 financial year.

RTA Region Contacts:



Region (RTA Office) - Urban (U) / Rural(R) Areas	Email Contact as at May 2002
Hunter (Newcastle) - U/R	John.Alexander@rta.nsw.gov.au
Northern (Grafton) - R	Tony.Donohoe@rta.nsw.gov.au
Southern (Wollongong) - U/R	Trish.McClure@rta.nsw.gov.au
South Western (Wagga - R Wagga)	Neale.Irons@rta.nsw.gov.au
Sydney (Blacktown) - U	Rena.Elrington@rta.nsw.gov.au
Western (Parkes) - R	Russell.Humble@rta.nsw.gov.au

Author Biography

John Hely has 25 years of local government experience, gained at Campbelltown, the past two years as Director of City Works. John holds a Degree in Civil Engineering with a Masters in Local Government Engineering.

Particular areas of interest are flood mitigation, transport planning, traffic management and road safety. John has been an active participant in committees of the Institution of Engineers Australia and the Institute of Public Works Engineering Australia (IPWEA). He has been a member of the IPWEA Road Safety Panel since its commencement in 1995 to the present. John has represented the IPWEA on the Federal Black Spot Panel, State Speed Management Task Force, StaySafe Hearings on Pedestrian Safety and Safer Route to School Program.

He has maintained a strong interest in promoting improvements to road safety and transport planning in the area of Local Government.

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