

Annual
Report 1981 — 82

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TRAFFIC AUTHORITY of
New South Wales

Members of the Traffic Authority at 30th June 1982

Official Members

J.W. DAVIES, I.S.O., O.St. J., B.Ec., F.C.I.T.,
Commissioner for Motor Transport, N.S.W.,
Chairman.

C.R. ABBOTT, Q.P.M.,
Commissioner of Police, N.S.W.

B.N. LODER, B.E., M.I.E. Aust, Dip. T.C.P.,
Commissioner for Main Roads, N.S.W.

R.B. SMYTH, B.Sc. (Econ.) Hons. (London)
Dip. T.P. (Auckland) M.R.A.P.I., M.I.E. Aust,
M.I.C.E. (London).
Director.
Department of Environment and Planning.

K. EDGAR,
Managing Director,
Urban Transit Authority.

Appointed Members

A. REEVES,
Alderman, Council of the City of Sydney.

R.T. GOSLING, M.B.E.,
Nominee of the Local Government and Shires
Associations of N.S.W.

H.F. QUINN, Assistant State Secretary,
Transport Workers' Union of Australia.
(New South Wales).

G.F. MESSITER, B.Sc. (Tech), M. Eng. Sc.,
M.I.E. Aust,
Secretary (Policy & Planning)
Ministry of Transport, N.S.W.

FRONT COVER PHOTOGRAPH

The front cover reproduces a painting by the photo-realist artist John Doherty. To quote Susanna Short, Sydney Morning Herald Art Critic, "Doherty involves us directly in the dynamics of urban life". Indeed he does. For those of us involved in the traffic field his work typifies many areas of that involvement. The painting "Domain Vista" contains many elements of the Authority's responsibilities throughout the State.

From the Authority's concern with preserving or restoring the amenity of the environment to the safety of pedestrians, together with better traffic safety and access through to the parking needs generated by urban development are just some of the areas illustrated by the painter. Detail of the painting is shown on the outside back cover.

Reproduced from the painting "Domain Vista" by John Doherty. Acrylic on canvas. Dimensions 156 x 101 cm. Artbank collection.



Traffic Authority of New South Wales

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Our Reference

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The Hon. P.F. Cox, M.P., F.C.I.T.,
Minister for Transport,
Parliament House,
SYDNEY

Dear Mr. Cox,

I am pleased to present to you the Annual Report of the Traffic Authority of New South Wales for the year ended 30th June, 1982.

The report describes the Authority's responsibilities and functions and records its activities throughout the year. It also gives an outline of future programmes and plans.

It is with appreciation that I acknowledge the loyal and able assistance given by the Staff of the Authority's Secretariat who, with the help of those persons representing other Departments and organisations made such a substantial contribution towards the Authority's achievements this year.

Yours faithfully,



Chairman.



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Introduction

The Traffic Authority of New South Wales is a statutory corporation. The Authority is constituted under the Traffic Authority Act, 1976 and comprises five official members and four appointed members.

Before the Traffic Authority was established on 1st June, 1976 five Government departments and a large number of Municipal and Shire Councils worked independently of each other in road traffic matters. There was little co-ordination of policies, local interests overlapped and duplication of effort was inevitable. Although various committees existed to co-ordinate some activities, for the want of specific statutory powers member organisations were not bound by committee decisions.

The need for a management approach to transport planning was recognised in the mid-1970's along with the need for a unified approach to meet traffic related problems. Thus, the single decision-making Traffic Authority was established. It assumed, on a legal basis, full responsibility for road traffic control in New South Wales. The legislation under which the Authority operates is shown in Appendix 1.

Functions

The Authority's principal function is the determination of policies, priorities and programmes associated with traffic safety and traffic management measures. It deals with proposals submitted through its committees, by member organisations or with initiatives from within the Authority itself. The Authority then, as appropriate, recommends changes to the traffic laws, sets general design standards and priorities for traffic control facilities, produces guidelines or directs that traffic related works be implemented by particular authorities, initiates and determines priorities for road safety research and introduces necessary promotional or publicity activity.

The Authority

The Traffic Authority Act 1976 directs that membership of the Authority include as official members the Commissioner for Motor Transport, the Commissioner for Main Roads, the Commissioner for Police, the Director of the Department of Environment and Planning and the Managing Director of the Urban Transit Authority.

The Act also requires four other members to be appointed by the Minister for Transport for terms of three years. The appointed members are a member/or officer of the Council of the City of Sydney, a person appointed by the Minister on the joint nomination of the Local Government Association of New South Wales and the Shires Association of New South Wales, a person appointed by the Minister on the nomination of the Executive Committee of the Transport Workers' Union of Australia (New South Wales Branch) and a person appointed by the Minister as his personal representative.

Recently, at the Ministers' invitation, a nominee of the Minister for Health has participated in the Authority's proceedings pending legislative ratification.



TOP

Members of the Traffic Authority of N.S.W. and Delegates

From left to right-Mr. E. Edwards Organiser, Transport Workers' Union of Australia, N.S.W. Branch (Delegate), Mr. H.L. Camkin, Director, Traffic Authority, Mr. J.R. Caldwell, Manager, Transport Branch, Department of Environment and Planning (Delegate), Mr. K. Edgar, Managing Director, Urban Transit Authority, (Member), Mr. J.W. Davies, Chairman, Traffic Authority and Commissioner for Motor Transport (Member), Mr. B.N. Loder, Commissioner for Main Roads, (Member), Superintendent G.D. Shaw, Superintendent of Traffic, Police Department (Delegate), Alderman J. Calpis, Council of the City of Sydney (Delegate), Mr. W.A. Levitt, Secretary, Traffic Authority.

INSETS

Mr. R.M. Holloway, Assistant Commissioner of Police (Traffic) (Delegate).

Mr. G.F. Messitter, Secretary, Policy and Planning, Ministry of Transport (Member).

Mr. H.F. Quinn, Assistant State Secretary, Transport Workers' Union of Australia (New South Wales Branch) (Member).

Policies

An important function of the Traffic Authority is the determination of traffic safety and traffic management policies. It formulates and reviews such policies having regard to community need, social attitudes and available technology. Many of the Authority's policies are ultimately reflected in published guidelines which are distributed to relevant bodies.

The Authority's major policy establishes an ongoing commitment to provide general standards, principles and priorities for the implementation of traffic safety and traffic management measures.



Within that framework policies have been determined to cover a wide range of topics which include:

- the identification of and means to better identify traffic accident "black spot" locations so that remedial measures may be applied.
- the application of preferential treatments for high occupancy vehicles for the convenience of their passengers and to reduce overall traffic volume.
- the establishment of a road hierarchy for Sydney's Metropolitan area to provide a better interaction of traffic.
- the reduction of fuel consumption by the application of traffic management procedures.
- the removal of roadside poles and trees where located in potentially dangerous situations.
- the restoration of amenity to residential suburbs by the diversion of traffic away from such areas.
- the delegation and decentralisation of local level operational traffic management measures to Local Government Authorities, and on those of regional significance to the Department of Main Roads.

Objectives

In the exercise of its responsibilities the Authority works toward the general objective of promoting safety and efficiency in the use of the State's roads, having regard to traffic, social and environmental interests.

It also works toward providing an administrative system for the management of road traffic responsive to community needs, changing social attitudes and values, as well as innovations in technology.

To ensure that it is in a position to anticipate or keep abreast of change the Authority has as a firm objective an ongoing review of its stated role, function, membership, financial structure and the variety and composition of its committees and working groups.

Resources

In carrying out its responsibilities the Authority has available to it the facilities and staff of its member organisations and other bodies.

The Department of Main Roads is the Authority's principal operations and construction agency. In accordance with the Authority's policies, priorities and programmes, it has delegated to the Commissioner for Main Roads the power to authorise traffic facility devices on any public road throughout the State. These powers are exercised mainly by the Department's Divisional Engineers.

The Department of Motor Transport provides staff, accommodation and services for the Authority's Secretariat. It acts in a consultative capacity on legislative and regulatory matters when the Authority considers changes to traffic laws.



The Police Department. All decisions on traffic control must have regard to both the need for and the practicality of law enforcement. In this regard the Commissioner of Police has responsibility for the enforcement of traffic laws and regulations.

The Local Government Authorities. The Traffic Authority has delegated to Councils the power to authorise minor traffic facilities on local roads (other than main and secondary roads). It has also delegated powers to Councils to consent to the closure of local roads where this is seen to be in the public interest.

The Traffic Authority Secretariat. The Authority maintains a Secretariat which provides technical advice, conducts research and gives administrative support. The Secretariat is provided by the Traffic Authority's Chairman from the Department of Motor Transport, of which he is the Commissioner. Staff of the Secretariat comprise administrative, scientific and technical officers with wide experience in the areas of traffic planning and safety.

Committees. To assist in its deliberations the Authority maintains a number of permanent committees. It is also represented on a great number of inter-departmental committees working at all three levels of Government on transport, traffic and safety matters. The permanent committees are as follows:

A Principal Advisory Committee which advises on major policy, corporate planning and matters concerning the funding of the Authority's objectives and work programmes;

A Traffic Safety Committee which assists to co-ordinate traffic safety-related aspects of the education, health and judicial authorities with those of the Transport, Roads and Police administrations;

A Technical Committee which advises and assists in the implementation of major traffic management schemes;

A Development Technical Committee which advises in relation to land and building development proposals of a traffic generating nature.

The composition of the Committees is shown in appendix 2.

Organisational Developments

Corporate Plan. During the year the Authority's corporate plan was reviewed to include the current organisation and its objectives.

Traffic Accident Research Unit. The Authority's role in traffic safety was emphasised by the incorporation of the Traffic Accident Research Unit into the Traffic Authority's Secretariat. While the functions of the Traffic Authority have been conducted with the aim of promoting traffic safety by the application of traffic and road engineering techniques, the matters of human/vehicle related research and the development of crash countermeasures and promotional measures remained with their traditional base in the Department of Motor Transport when the Traffic Authority was established. During the year under review it was considered that it would be appropriate and beneficial to focus Government road safety activity with a single administrative agency.

To this end the Traffic Accident Research Unit of the Department of Motor Transport was incorporated as a unit of the Traffic Authority's Secretariat on 28th September, 1981. The reorganisation has emphasised the Authority's role in traffic safety matters. Details of the Unit's role are given later in the report.



Legislative Developments

During the year under review the Traffic Authority sought various changes to the legislation on matters of traffic safety and traffic management.

- **Child Restraint Laws.** On 8th January, 1982 the Motor Traffic Regulations were amended to strengthen the law concerning the safety of children in motor vehicles. The new regulation prohibited children from being carried unrestrained in the front seat of motor vehicles except where exempted on medical grounds or where no rear seat was available. The law applied to children up to eight years of age. At the close of the report year the Gazettal of a further amendment to the child restraint law was expected to take effect on 2nd July, 1982.

The amendment will extend the age of children subject to the law to 14 years of age. The law places the responsibility on drivers to ensure that child passengers are secure when riding in vehicles.

- **Turning of Lengthy Vehicles at Intersections.** In 1980 the Motor Traffic Regulations were amended to provide for the driver of a vehicle 7.5 metres or more in length to turn left from or partially from the lane adjacent to the kerbside lane. This provision applies only when the driver displays the appropriate flashing turn signals together with a sign "DO NOT OVERTAKE TURNING VEHICLE" at the rear of the vehicle.

Because of the increasing incidence of vehicles under 7.5m displaying the sign unnecessarily and taking advantage of the regulations to make turns from incorrect lanes, the Regulations were amended and from 25th June, 1982 it has been an offence to display the sign on a vehicle less than 7.5 metres in length.

- **Differences in Traffic Laws Between States.** One of the problems confronting motorists travelling between States is the difference in traffic laws, particularly in respect of intersection priority, the wearing of seat belts and the standing and parking restrictions. The Traffic Authority is committed to the maximum degree of uniformity possible in State traffic regulations and to this end major differences between New South Wales and other States' traffic laws and the National Road Traffic Code have been identified and are being examined to determine whether any changes to the New South Wales regulations are warranted.

As an attempt to gain uniformity on parking controls a change in the regulations to provide for "No Standing" signs to mean the same as "No Stopping" signs was introduced on 1st January, 1982. Following difficulties in the operation of the new regulations they were amended to revert to their former meaning on 10th May, 1982. The current regulations now provide for parking signs as follows —

"No Parking"	(may not park unless actually setting down or picking up goods or persons),
"No Standing"	(may not park except while actually taking up or setting down persons),
"No Stopping"	(may not stop or wait at the kerb for any purpose).

This allows "No Standing" signs to be retained at locations where there is a need for the taking up and setting down of persons and where traffic conditions allow. New South Wales will now be pressing for the adoption of this three-tier approach on a National basis.



- **Parking Advisory Committee.** Introduction of the Traffic Authority Act in 1976 brought about substantial changes in relation to the operation of parking advisory committees. Some functions of the committees had in effect been superseded by the Traffic Authority Act; others had not. In particular the advisory function of parking advisory committees in relation to general on-street parking and the movement of traffic had effectively been taken over by the Traffic Authority. Consistent with its overall strategy of delegation and decentralisation of decision-making to a local level it had delegated to councils certain powers related to the provision of minor traffic facilities, including parking, other than metered zones, and councils established traffic committees comprising representatives of council, the Department of Main Roads and Police, and the local member of Parliament or his nominee. The appointment and development of local traffic committees made separate parking advisory committees more or less redundant.

On 21st May, 1982 the Local Government Act, 1919 was amended and the local Parking Advisory Committees were abolished. Those committees' powers in relation to metered parking zones and spaces and parking stations were transferred to the Traffic Authority.

New Traffic Measures

- **Roundabouts.** There has been an increasing awareness among the various State and overseas traffic authorities of the advantages of using roundabouts as a traffic control measure, particularly on "local" roads. More than 200 roundabouts have been established in Victoria in recent years and analyses have shown an average 50% reduction in reported crashes at such sites.

Roundabouts can have advantages over traffic signals and other conventional intersection controls in appropriate circumstances. Principal advantages are:-

easy installation with negligible maintenance costs.

significant accident reduction and improvement in overall safety at intersections.

increase in intersection capacity by as much as 30%.

fewer delays during off-peak conditions.

Documentation highlighting the potential uses and importance of roundabouts in the control of traffic has been issued to all local government authorities for the guidance of engineers and planners. Detailed guidelines for the design of roundabouts have been endorsed by the Authority and issued to councils by the Department of Main Roads.

This represents a substantial departure from conventional intersection design and control practice in New South Wales, but progress is now accelerating and during the review period 7 new roundabouts were installed. (Appendix 3 gives their locations.) Seven were under construction at the end of the period and designs had been completed for a further 25.



Roundabouts are proving successful in combining improved traffic safety with better traffic flow in many areas of the State. A typical roundabout in suburban Sydney is pictured above.

- **Parking for the Disabled.** As part of the Authority's contribution to the International Year of Disabled Persons, guidelines were prepared and distributed to encourage and provide for preferential parking spaces for the disabled. Councils are encouraged to provide parking spaces for the disabled at the rate of one per hundred in all off-street public parking stations and developments. Preferential kerbside treatment may be provided by appropriate signposting which enables use by persons with a "Disabled Persons Parking Authority".
- **Bus Priority Right Of Way.** Means of improving schedule adherence, minimising delays to bus passengers and generally helping to enhance the public image of bus services as a major commuter transport mode have been under consideration. A counter-flow bus lane has been provided in Sussex Street between DrUITT Street and Market Street to give priority of access to the North Western Freeway leading to Pymont.

Attention is also being given to delays to buses leaving bus stops and bus bays. Traffic flow on arterial roads can be improved if bus stops are placed in bus bays clear of the traffic stream, but the delays incurred re-entering the traffic stream are often substantial, and bus operators are loathe to support their construction. To overcome this the Authority has agreed to the principle of priority for buses leaving bus stops as already practiced widely in Europe and recently introduced in Victoria. Advisory signs are being progressively fitted to buses. The advisory "Please Give Way" signs are to familiarise motorists with the principle. It is intended to review motorists' response to the signs to consider whether it would be necessary to give the signs regulatory status.



Road Safety

Traffic Accident Research Unit. As mentioned earlier, the Department of Motor Transport's Traffic Accident Research Unit was transferred to the Traffic Authority's Secretariat in September, 1981. The closer interaction between traffic accident research and traffic management provided by the amalgamation will give the Authority a better co-ordinated base of information when considering traffic crash remedial measures.

The objectives of the Unit as an integral part of the Traffic Authority are to provide a scientific and technical service embracing -

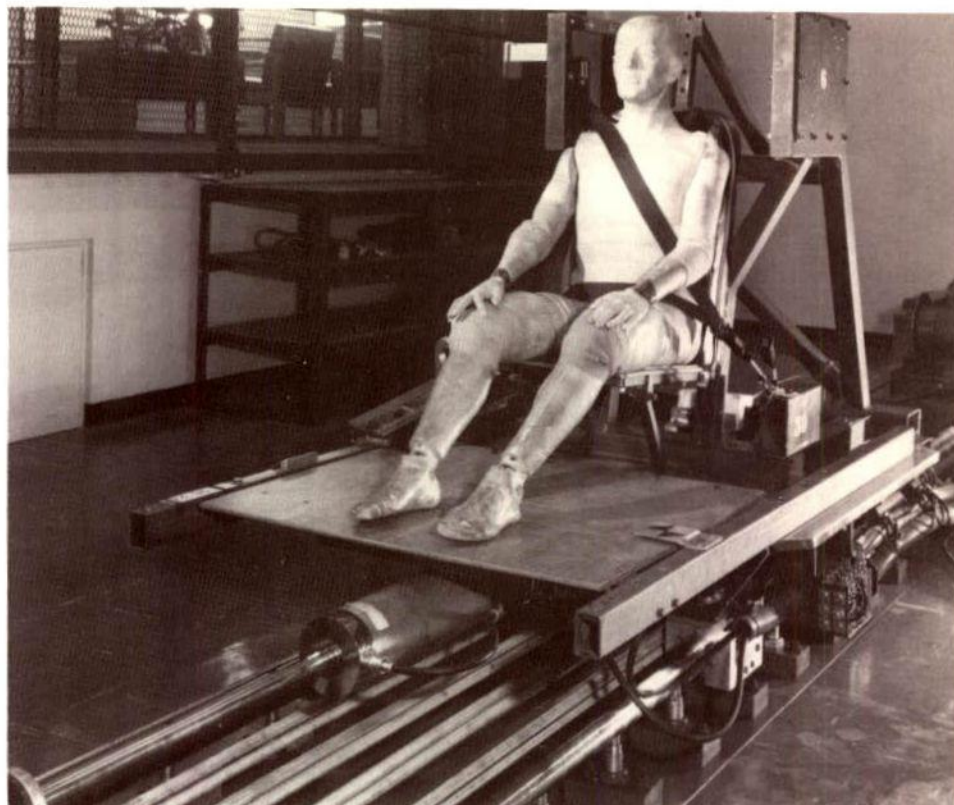
- advice on matters relating to traffic safety and the safety aspects of driver licensing and vehicle registration;
- laboratory testing facilities relating to such advice;
- scientific and technical research, as required, on which to base that advice;
- traffic crash data;
- library information having a bearing on the Traffic Authority's responsibilities;
- the dissemination of traffic safety information and guidance to the community;
- representation where appropriate on committees and enquiries dealing with traffic safety matters.

The Unit's research and development programme is mainly based on three principal factors — human, vehicle and environmental — in situations before, during and after a crash. Many hundreds of elements are likely to be involved in crashes, some of which are as follows:

	Before the Crash	In the Crash	After the Crash
HUMAN FACTORS	Alcohol Education Enforcement	Seat belt use Crash helmet use	Medical care
VEHICLE FACTORS	Brakes Tyres	Steering columns Vehicle interiors	Entrapment
ENVIRONMENTAL FACTORS	Road design Traffic engineering	Roadside furniture Natural hazards	Accessibility

Sound, reliably-based statistical support is essential to the Unit's research, which is aimed at identifying the most cost-effective means of modifying road-user behaviour, vehicle design and roads in order to improve traffic safety.

The Engineering and Medical Section is responsible for the evaluation of devices and hardware intended to protect road users from the destructive effects of crashes. These devices may be commercial products or may have been developed in the Unit to meet a need perceived through other of the Unit's activities, for instance crash helmets, child restraints and interior crash padding for passenger cars.



Scientific equipment in the Traffic Accident Research Unit includes the crash simulator pictured. The simulator comprises a sled propelled along rails to impact against a concrete block with predetermined forces. It is used to test a variety of vehicle components including occupant restraint systems. The results of such tests are monitored by computer.

The Behaviour Section researches and advises on the human contribution to traffic crashes. One aim of behavioural studies is to find cost-effective ways to change road users' behaviour through measures such as publicity, training, testing, regulation and law enforcement. Another aim of behavioural research is to identify the limitations of the humans who are using the road system, and suggest cost-effective ways of modifying vehicles, roads and roadsides, so that people will use them more safely.

The Analysis Section is concerned with investigating environmental and traffic engineering factors which may contribute to crashes. Areas of current concern include pedestrian safety and hazardous location analysis. The section is also responsible for processing and coding the reports of traffic accidents submitted by Police officers for subsequent computer analysis. It conducts analyses of data derived from these reports and uses such data, in conjunction with additional data collected by survey and in the field, to identify problem areas and monitor the effects of countermeasures that are introduced.

The Unit is staffed by medical personnel, behavioural scientists, statisticians and computer analysts; engineers with experience in crash analysis, traffic management and road-user behaviour and technical and administrative support staff.

Joint Working Party on Heavy Vehicle Safety. Concern stemming from the growth in recent years in the number of fatal crashes involving heavy trucks led the Minister for Transport to invite senior representatives of elements of the road transport industry to a special meeting of the Ministerial Road Safety Committee.



Arising from a meeting a Joint Working Party on Heavy Vehicle Safety was formally established comprising senior representatives of the Traffic Authority, Ministry of Transport, Departments of Motor Transport and Main Roads, Police Department, New South Wales Road Freight Transport Industry Council, Long Distance Road Transport Association of Australia, New South Wales Road Transport Association, National Freight Forwarders Association, Transport Committee of the Australian Institute of Petroleum Ltd. and the Transport Workers' Union of Australia (N.S.W. Branch).

The Working Party which held its inaugural meeting on 2nd June, 1982 has the task of examining known problems and evaluating remedial proposals. The Minister, in forming the Working Party, emphasised its importance to the Government in that the decisions and any resulting action could have not only State but National significance.

Forum of Road Safety Committees. A number of road safety and similar committees have been established either independently or by various organisations having some interest in road safety generally or a particular aspect of road safety.

A meeting between the various organisations and committees was arranged by the Authority with a view in setting up a formal liaison to stimulate co-ordination and an exchange of ideas. The inaugural meeting of the Forum of Road Safety Committees was held on 12th May, 1982.

Organisations represented on the Forum of Road Safety Committees are the Traffic Authority, Royal Australian College of Surgeons, New South Wales Drug and Alcohol Authority, National Safety Council of Australia, Doctors Reform Society of New South Wales, N.R.M.A., Australian Brain Foundation's Trauma Sub-Committee, S.A.L.A.D. Movement (Save A Life A Day), New South Wales Road Freight Transport Industry Council, St. John Ambulance Association, Life Insurance Federation of Australia and the Australian Red Cross.

Staysafe. On 17th March, 1982 on a Notice of Motion by the Minister of Transport, the New South Wales Parliament's Legislative Assembly resolved to appoint a Joint Standing Committee on Road Safety. The Standing Committee is the first Joint Parliamentary Committee established in New South Wales to monitor, investigate and report on road safety as an ongoing task. For brevity it is termed the "Staysafe" Committee. The Committee comprises five Members of the Legislative Assembly and three of the Legislative Council.

The Minister for Transport's Notice of Motion included the following terms of reference.

As an ongoing task, the committee is to -

- a) monitor, investigate and report on the road safety situation in New South Wales, and
- b) review and report on countermeasures aimed at reducing deaths, injuries, and the social and economic costs to the community arising from road accidents.

Without restricting the generality of the foregoing, the following are to be given urgent consideration -

- 1) Countermeasures aimed at traffic accidents associated with alcohol and other drugs.
- 2) Traffic law enforcement measures and their effectiveness.
- 3) A review of human factors affecting traffic accidents, especially those relating to driver and rider licensing requirements and standards.
- 4) The social and economic impact of death and serious and debilitating injuries resulting from traffic accidents.
- 5) Heavy vehicle safety.

The Superintendent of the Authority's Traffic Accident Research Unit, Mr. D. Herbert, was made available as an adviser to the Committee.



The Road Toll. During the year under review there were 1171 fatal traffic crashes which resulted in 1335 persons being killed in them. Generally the most common period for fatal crashes on weekdays was between the hours of 3pm and 9pm. At weekends, most fatal crashes occurred between 3pm and 3am. About one in three fatal crashes on weekends took place between the hours of 9pm and 3am on Saturday and Sundays. Those statistics strengthen independent research concerning the dangers of "social driving" and emphasise a link between late-night, weekend and alcohol-related crashes. More detail is given in table 1 of appendix 4.

Other important points emerge from table 2 of appendix 4. Drivers of motor vehicles accounted for more than one-third of the 1335 fatalities. The most common age groups of persons killed were those aged 17 to 20 years and 21 to 24 years. Together, those two groups accounted for one-third of all fatalities. Motorcyclists in these age groups were particularly over-represented with nearly two-thirds of all motorcyclists killed being aged between 17 and 24 years. Pedestrians accounted for 20% of fatalities and were most common among the three to seven year olds and those aged 50 and over. More than 50% of pedestrian fatalities were aged 50 and over.

The figures substantiate various research findings which show that young male drivers and motorcycle riders are relatively high risk road users, as are the very young and more mature pedestrians.

Trends in the number of fatalities (see Appendix 4) have shown a more or less steady rise over the last 20 years. This is consistent with the continuing rise in the population of the State, numbers of licenses on issue and vehicles registered. However, over the past 20 years, the fatality rate has fallen from eight to less than five fatalities per ten thousand vehicles registered.

Road Traffic Accident Statistics. The Authority's Traffic Accident Research Unit produces the official New South Wales traffic crash statistics for each year as a published Statistical Statement. The Statement is compiled from Police reports of crashes where at least one person was killed or injured or where one vehicle was towed away from the scene of the crash. There are about 70,000 such crashes each year and some 100 items of information are recorded for each crash. The Statement contains a wide scope of crash statistics which range through, for instance, the degree of alcohol involvement in crashes, the geographical spread of accidents to details of the mechanical condition of vehicles involved. It is distributed widely to appropriate Government and semi-Government bodies and to interested organisations and individuals. Other and more detailed crash information is produced on a regular and ad-hoc basis for the information of appropriate Government and Local Government authorities as a basis for local action. In their entirety, crash statistics form an important basis upon which to formulate overall traffic safety policy.

Progress Towards Objectives

Work Programmes

Earlier in the report it was mentioned that the Department of Main Roads is the Authority's principal operations and construction agency. The Department undertakes various activities, all with traffic safety objects uppermost in mind. It installs traffic signals, traffic signs and road markings. It carries out intersection reconstruction (including roundabouts), constructs bus bays, adjusts medians and carries out



pedestrian safety improvements. The scale of the Department's activities may be judged by the statistics given in Appendix 5 of this report which details works completed during the year under review.

The Authority is particularly indebted to the Department of Main Roads and its officers for the successful completion of these programmes and for the maintenance and operation of traffic facilities throughout the state.

Accident Reduction. The "black spot" accident data provided by the Traffic Accident Research Unit of the Authority was considered in allocating priorities for construction works where cost-effective solutions to the causes of road accidents were available within the scope of the 1981/82 Traffic Facilities Programme. Traffic management remedies were completed at 19 locations during the year and were in progress at a further 9 locations.

Traffic Signals. A total of 64 new sets of traffic signals were brought into service during the year using Departmental staff and contractors. In addition, there were 22 sites under construction or let to contract at 30th June, 1982. Fifty four sets of traffic signals were reconstructed and 4 sets removed through altered traffic factors.

Five mid-block traffic signals were installed specifically for pedestrian use, whilst pedestrian facilities were incorporated in most of the new or reconstructed intersection signals. To assist persons with sighting difficulties audio-tactile devices were installed at a number of signal locations in Metropolitan and rural centres after consultation with the Royal Blind Association.

At 30th June, 1982 there were 1,811 sets of signals in service throughout the State. Their distribution is shown in appendix 5.

The connection of signalised intersections to the Sydney Co-ordinated Adaptive Traffic (SCAT) System continued throughout the Sydney Metropolitan and Wollongong and Newcastle urban areas.

A total of 685 intersections are now connected to the SCAT System and a further 150 sites in the Sydney C.B.D. are under computer control. The system includes a central supervisory computer at the Emergency Centre, Oxford St, Sydney, 12 regional computers at key locations in the metropolitan area and over 1,000 micro computers controlling the traffic signals at intersections.

It has been shown that on arterial roads, SCATS, when compared to isolated traffic signal control, reduced journey time by 23%, stops by 46% and fuel consumption by 12%. If the whole of Sydney was controlled by SCATS, the 12% reduction in fuel consumption would represent a saving of approximately 60 million litres of petrol each year.

The value of the SCATS system in these energy-conscious times was recognised during 1981/82 when the Department of Main Roads' Traffic Systems Manager, Mr. A.G. Sims, received the prestigious ANZAAS - ESSO Energy Award for the role he has played in the development of the SCAT system.

Intersection Improvements. A total of 58 intersections were reconstructed with permanent channelisation during the year.

Securing of Loads on Motor Vehicles. The Traffic Authority established a Working Party, comprising representatives from the various regulatory authorities responsible for administration and enforcement of the various regulations and ordinances, the Transport Workers' Union and the transport industry, to consider better safety arrangements for loads on motor lorries.

The Working Party's investigation, which had regard to the "Code of Safe Loading Practice", endorsed by the Australian Transport Advisory Council, indicated that more stringent requirements to ensure security of loads were necessary in the interest of road safety.



In consequence, the Traffic Authority recommended a number of amendments to the Motor Traffic Regulations which will require, amongst other things, that all loads must be properly restrained by use of restraining devices compatible with the loading being transported, including twist locks for securing certain types of containers. The amendments are expected to come into effect on 30th July 1982 and will supplement existing regulatory provisions, some of which were very general, in respect of the securing of loads.

The review of the "Code of Safe Loading Practice" is continuing, to ascertain whether it is desirable that any specific matter raised in the Code should be included in the Motor Traffic Regulations to further improve the present situation.

Policy Research and Development

Clearways. Clearways are implemented to maximise available roadspace for moving vehicles. Vehicles other than buses, taxi-cabs and private hire cars actually picking up or setting down a passenger, are not permitted to stop on clearways. These restrictions are in force on most of the major traffic routes through the Metropolitan area and generally apply on weekdays from 6.30am to 9.30am and 3.30pm to 6.30pm, on one or both sides of such routes as necessary where traffic volumes would otherwise exceed the capacity of the roads concerned. Two short lengths of additional clearway were established during the year.

While existing clearways specifically assist week-day peak hour traffic movement, studies indicate that the demands of industrial, commercial and, in some areas, recreational traffic, warrant the use of the maximum capacity of arterial roads at other times. Draft policies for the future implementations of off-peak clearways are therefore, being developed. However, undertakings have been given to Councils and Chambers of Commerce that such clearways would not be introduced without the full consultation with those bodies. This has been initiated during the report year in the case of Parramatta Road between Concord and the City.

Intersection Controls on Main Traffic Routes. Traffic congestion problems and attendant accidents at individual locations have called for specific controls such as "give-way" signs and traffic signals. Simultaneously, traffic has spread from the crowded main roads network and filtered through large areas of the minor street system, disrupting the amenity of otherwise quiet residential areas and generating a multitude of small, difficult and dangerous trouble spots.

There has been a need to bring efficiency back to the main road system and amenity back to residential and recreational areas.

A major technique employed to reduce traffic problems has been the introduction of a Major/Minor road system under which all side streets are controlled by either "give-way" signs, "stop" signs or traffic signals. Under this system all side street traffic (except where traffic signals are installed) has to give way to traffic already on the Major road whether on its right or left.

Following the introduction on 1st March, 1981 of the T-Junction rule and extensions of sign control to cross intersections on local street, 80% of the total road network in New South Wales now operates as a Major/Minor road system thus bringing closer realisation of a full intersection control system.

It is expected that all intersections on sealed roads throughout New South Wales will be fully controlled during 1982/83.



Left Turn on Red Signal. Research has been conducted to ascertain the feasibility of permitting traffic to turn left when facing a red signal (LTOR) at particular intersections.

This practice is common in the form of right-turn-on-red (RTOR) in North America.

Following studies of thirty intersections in the metropolitan area it was concluded that the concept has value in particular applications but could not be applied universally. Guidelines have, however, been developed to allow the restricted extension of this facility at locations where the turn will not create special difficulties in conflict with other vehicles and pedestrians.

Resident Parking Schemes. All-day parking of vehicles on residential streets surrounding major public institutions, industrial and sporting areas and recreational and shopping centres continues to disadvantage residents whose premises front those streets and who cannot make reasonable provision for off-street parking.

To assist residents in this situation Councils may, with the Traffic Authority's consent, introduce resident parking schemes. During the year under review the Authority considered the desirability of delegating to Councils the authority to implement such schemes having regard to local requirements and the Authority's published guidelines on the subject. At the close of the report year work was progressing toward this end.

Development and Land Use Control. Land use development causes a re-distribution in the movement of people and goods and accurate predictions of the traffic generating potential of proposed developments are necessary in order that suitable provision can be made both within the site boundary and on the adjacent road network.

Research undertaken in conjunction with the New South Wales Department of Environment and Planning was aimed at developing predictive models for estimating the traffic generating potential of a variety of important urban land uses. Models have been developed which are more reliable than existing techniques.

These models have been used as a basis for revising the Authority's "Policy and Guidelines for Traffic Generating Developments" which were issued to all councils in May, 1982 together with new procedures for consultation with the Authority.

Road Trains. The Commission of Enquiry into the New South Wales Road Freight Industry in its findings concluded that there could be some justification for extending the limits of operation of road trains and recommended that such a proposal be examined in detail by existing Authorities.

Following upon this the Minister for Transport directed that a joint examination at Senior Officer level by the Department of Motor Transport, Department of Main Roads, State Rail Authority and Police be co-ordinated by the Traffic Authority.

Recognising the need for industry input an approach was made to the Road Freight Industry council to participate.

The Working Party has recommended proposals for the future operation of road trains in New South Wales which were being considered by the Authority at the close of the year.



Future Planning

Traffic Management

Local Area Traffic Management. Due to increasing congestion on the major road system and intrusion of traffic in residential areas, the Authority has seen a need to rationalise Sydney's road system based on land use criteria of mobility, accessibility and environmental standards. Thus, a road hierarchy plan identifying roads by function, such as arterial, sub-arterial, collector and local roads, and also indicating preferred truck routes is currently being prepared for the entire Sydney metropolitan area.

The development of this plan is progressing in stages. The Traffic Authority is co-ordinating the preparation of a plan designating arterial and sub-arterial roads by Councils. Once this plan is finalised and adopted, councils will be encouraged to prepare local plans establishing collector and local roads, using the arterial and sub-arterial plan adopted by the Traffic Authority as a framework.

In order to assist Councils in their planning for traffic and environmental management, the Authority has also been involved in the following:

- Preparation of guidelines for the functional classification of roads.
- Conduct of a study to determine what is perceived by residents as the environmental capacity of various streets.
- Research is continuing to test the applicability of speed control devices available for reducing speed in the residential environment e.g. lowering of the speed limit, introduction of road humps etc.
- A manual is being prepared to detail the various devices available for traffic control and their conditions for use in urban areas.

Cycleway Planning. Planning for the encouragement of bicycle use by the provision of bikeways continued throughout the State. A number of councils initiated studies to prepare bikeway plans.

The N.S.W. Government has provided \$350,000 per year during the last three years to assist councils (on a dollar for dollar basis) in the conduct of studies and construction of bikeway facilities.

The State Bicycle Advisory Committee makes recommendations to the Minister on specific projects suitable for this financial assistance. The Authority is directly represented on the Committee along with several other member departments.

In December 1980 the Authority engaged a Specialist Bicycle Planner to represent it on the Committee and to work full-time on bicycle projects. An ongoing part of the Authority's activity in cycleway planning has been the Newcastle Bike Plan Study and subsequent report. This report outlines the engineering measures necessary to implement an effective bicycle network in the Newcastle area.

It also details programmes in the areas of education, enforcement and encouragement.

Advice has been given to many local government authorities which have prepared proposals for construction of bicycle routes or bicycle studies, which are funded by the State Bicycle Advisory Committee. The locations of Cycleways put in service during the year are shown in appendix 5.



Traffic Safety

A publication that will provide useful information and advice to local government authorities for planning bicycle systems was in production at the close of the report year. A further publication covering engineering design and construction will be issued later.

Collision with Roadside Objects. Traffic crashes involving fixed roadside objects, including utility poles and trees, contribute significantly to the New South Wales crash statistics each year.

A research project was previously undertaken to identify salient factors in the problem of vehicle crashes involving roadside objects. Its aim was to develop guidelines for the investigation and evaluation of methods of crash reduction for accidents involving roadside objects.

The project was completed using a sample study area and resulted in:

- formulation of procedures for the identification of hazardous poles.
- proposals for remedial measures.
- assessment of costs/benefits of a remedial programme.

Following this study the Electricity Development Act, 1980 was amended to empower the Energy Authority, acting on the advice of the Traffic Authority, to direct the removal or relocation of hazardous roadside electricity poles. Action is in hand to identify and relocate offending hazardous utility poles as part of the ongoing activities in this area.

Discussions have also been commenced with the electricity authorities with a view to developing a firm policy to guide Councils and other Authorities in the safe location of poles away from the kerb on new roads or when roads are being widened and when poles are otherwise being replaced.

Driver Observance of Traffic Signals. An experimental study involving the Traffic Authority, the Police Department and the Department of Main Roads was initiated to assess the effect of changing the signal timings on driver observance of traffic signals. The study was conducted in the relatively compact Newcastle Urban Area, involving experimental changes being made to the signal cycle length and the duration of the amber signals at various locations. To assess the safety aspects of these changes a before and after accident analyses was carried out. Generally the results show an initial reduction in the incidence of "running" red signals but an increase in "running" amber signals. The implications of the study will be included in a final report which is under preparation. Meanwhile, the Police Department is using special techniques involving automatic photography of offenders as an additional enforcement measure.

Traffic Accident Research Unit. At the close of the report year research surveys were being formulated for implementation later in the year. The surveys will determine current beliefs and attitudes towards drink/driving, seat belt and child restraint wearing. Results of the surveys will assist in the planning of remedial measures. Other research projects are planned in the areas of car crash-worthiness and truck/car frontal crashes. A study to improve the system for recording crash location data is near implementation and negotiations are underway with the Australian Quadriplegic Association to undertake coding associated with accident data recording. Research studies are also planned in the driver and rider licensing area.



Finances

Finance for the provision of traffic control facilities and related works is controlled through the Traffic Facilities Fund established as a Special Deposits Account at the Treasury.

Other than recommending to the Minister the provision of appropriate funds to cover particular programmes and allocating priorities for their expenditure, the Authority has no direct control over the availability of its funds.

The principal sources of funds for this purpose are contributions from —

- Road Transport and Traffic Fund – amounts collected from motor registration fees and drivers' licence fees;
- Main Roads Fund – amounts collected from vehicle weight tax and tax levy;
- Main Roads Funds – Tolls collected at Sydney Harbour Bridge, Berowra to Calga and Waterfall to Bulli tollways for works on those facilities;
- Public Vehicles Fund – amounts collected from motor tax on public vehicles other than omnibuses;
- The Commonwealth Government – Road Grants Act in respect of Traffic Facilities works on National Roads;
- Contributions by Private organisations.

In addition, for the first time in 1981/82, the Traffic Authority was authorised to raise loan funds under the Public Authorities (Financial Accommodation) Act, 1981.

Minor inputs from other sources make up the total sum available for allocation in terms of priorities accorded to immediate objectives and individual programmes.

The 1980/81 figures have been adjusted to incorporate and reflect activities consequent on integration of the former Department of Motor Transport's Traffic Accident Research Unit with the Authority on 1st September, 1981.



Statement of receipts and payments

RECEIPTS

1981		1982
\$		\$
	Contributions from State Sources	
18,307,000	Road Transport and Traffic Fund	20,138,000
420,000	Public Vehicles Fund	525,000
11,755,135	Motor Vehicles Taxation	13,825,000
2,367,967	Road Tolls — Sydney Harbour Bridge	2,227,182
170,000	Berowra/Calga Tollway	240,709
200,000	Waterfall/Bulli Tollway	200,000
415,000	Consolidated Revenue Fund - Contribution towards bicycle transport project	350,000
1,390,997	Number Plate Sales	1,218,795
	Contributions by Commonwealth Government	
280,796	Planning and Research	—
2,438,697	Construction and Maintenance	1,949,139
37,500	Traffic Safety Education	37,500
—	Long Term Loan	1,200,000
	Miscellaneous	
13,320	Sundry receipts	10,450
	Department of Main Roads income from Services provided for Councils and other Bodies	763,279
<u>1,226,863</u>		<u>42,685,054</u>
<u>39,023,275</u>		<u>1,007,807</u>
<u>2,152,013</u>		<u>43,692,861</u>
<u>41,175,288</u>	Balance Forward - July 1st	

for the year ended 30th June, 1982



PAYMENTS

1981		1982
\$		\$
	Department of Main Roads, Traffic Facilities Programme. Maintenance and Operations (less costs recovered);	
13,707,144	Pavement Marking and Signposting	13,986,216
9,056,974	Traffic Signals	10,401,719
1,882,768	Driver Aid Schemes	2,070,131
1,875,818	Engineering Administration Construction	1,992,487
	Traffic Signals, Intersection Improvements and Railway Level Crossing Modifications	5,483,705
5,139,631	Special Pedestrian Facilities	324,038
350,774	Traffic Management and Safety Projects	553,855
892,375	Driver Aid Schemes	724,188
1,047,603	Cycleways	160,325
63,927	Engineering Administration	1,342,777
1,023,229	Administrative Expenses	2,090,293
1,699,282	Acquisition of Sites and Construction of premises for Works Operations	—
337,759	Total — Department of Main Roads	39,129,734
37,077,284		
	Traffic Authority	
2,453,109	Administration	3,070,135
272,355	Transport Planning and Research	144,040
260,585	Traffic Safety Education	587,954
49,008	Contribution TRANSAC	—
	Commonwealth Grants for Planning and Research Transferred towards Expenditure met from Road Transport and Traffic Fund (Chief Engineer D.M.T. projects)	21,055
—	Miscellaneous	5,145
47,200	Total — Traffic Authority	3,828,329
3,082,257	Total Payments	42,958,063
40,159,541	Balance Carried forward 30th June	734,798
1,015,747		43,692,861
41,175,288		

APPENDICES

Appendix 1

The Traffic Authority's Operating Legislation

Traffic Authority Act — 1976 — the Authority has, subject to the control and direction of the Minister for Transport, the responsibility of:

- reviewing traffic arrangements in the State and formulating or adopting plans and proposals for the improvement of those arrangements;
- establishing general standards and principles in connection with the design and provision of traffic control facilities, and priorities for carrying out activities, works or services that are items of approved expenditure;
- promoting traffic safety;
- co-ordinating the activities of public authorities when they are directly involved in matters connected with the Authority's functions.

The Traffic Authority may also direct other public authorities to implement its plans, general principles and decisions.

Motor Traffic Act, — 1909 — confers upon the Traffic Authority responsibility for the administration of the provisions of the Act and its Regulations relating to the regulation and control of traffic, motor vehicles and their drivers upon public streets, the provision of traffic control facilities and the determination of speed limits.

Metropolitan Traffic Act — 1900 — confers upon the Traffic Authority responsibility for the administration of the Act and its Regulations relating to the control of animal-drawn, pedestrian, bicycle and other non-motorised traffic in the Metropolitan, Newcastle and Wollongong Traffic Areas.

Local Government Act — 1919 — requires the Traffic Authority to determine application by Councils for consent to the closure of a public road to through traffic or the opening of a road which had been closed. Also provides that, subject to certain limited exceptions, a Council may control or regulate the use by traffic of public roads in accordance with the consent of the Traffic Authority or on approval or direction of the Minister.

Traffic Safety (Lights and Hoardings) Act - 1951 - confers on the Traffic Authority responsibility to direct the removal of any light, sign, hoarding, awning or structure which obscures or could be mistaken for any light, sign or device for the controlling of traffic.

Appendix 2

Composition of the Authority's Permanent Committees as at 30th June, 1982.

Principal Advisory Committee

Mr. H.L. Camkin, Director, Traffic Authority.

Mr. B.H. Butcher, Chief Engineer (Traffic Design) Department of Main Roads.

Mr. J.R. Caldwell, Manager Transportation Branch, Department of Environment and Planning.

Superintendent G.D. Shaw, Superintendent of Traffic, Police Department.

Mr. R.F. Morris, Operations Manager, Bus, Urban Transit Authority.

(12 meetings were held during the report year.)

Traffic Safety Committee

Mr. H.L. Camkin, Director, Traffic Authority.

Mr. D.C. Herbert, Superintendent, Traffic Accident Research Unit, Traffic Authority.

Superintendent G.D. Shaw, Superintendent of Traffic, Police Department.

Mr. M. Price, S.M., Department of the Attorney General and Justice.

Mr. R.W. Cobbin, Chief Curriculum Officer, Department of Education.

Mr. G. Mulheron, Acting Director, Division of Drug and Alcohol Services, Health Commission.

Mr. F. Hawes, Assistant Traffic Engineer, Department of Main Roads.

Mr. B. Searles, Chief Traffic Engineer, National Roads and Motorists Association.

Mr. L.G. Apolony, Administrative Officer, Department of Motor Transport.

(9 meetings were held during the report year.)

Technical Committee.

Mr. B. Hazel, Principal Assistant Director, Traffic Authority.

Mr. A. Wesley, Supervising Engineer, Traffic Service Section, Department of Main Roads.

Mr. A. Winney, Development Manager, Urban Transit Authority.

Mr. Z. Michniewicz, Transportation Specialist, Department of Environment and Planning.

Inspector N. Walden, Police Traffic Branch, Police Department.

Mr. E. Edwards, Official Organiser, Transport Workers' Union of Australia (N.S.W. Branch)

(13 meetings were held during the report year.)

Development Technical Committee

Mr. M. Rao, Engineer (Traffic) Traffic Authority.

Sergeant M. Lane, Traffic Planning Section, Traffic Branch, Police Department.

Mr. R. Lloyd, Engineer, Traffic Section, Department of Main Roads.

Ms. S. Simko, Town Planner, Department of Environment and Planning.

(33 meeting were held during the report year.)

Appendix 3

Location of Roundabouts

During 1981/82, roundabouts have been installed permanently at the following locations –

Fiddens Wharf Road and Lady Game Drive, Killara.

Belmont Road/Bardwell Road, Mosman.

Trunk Road No. 54 (Goldsmith Street)/Bourke Street, Goulburn.

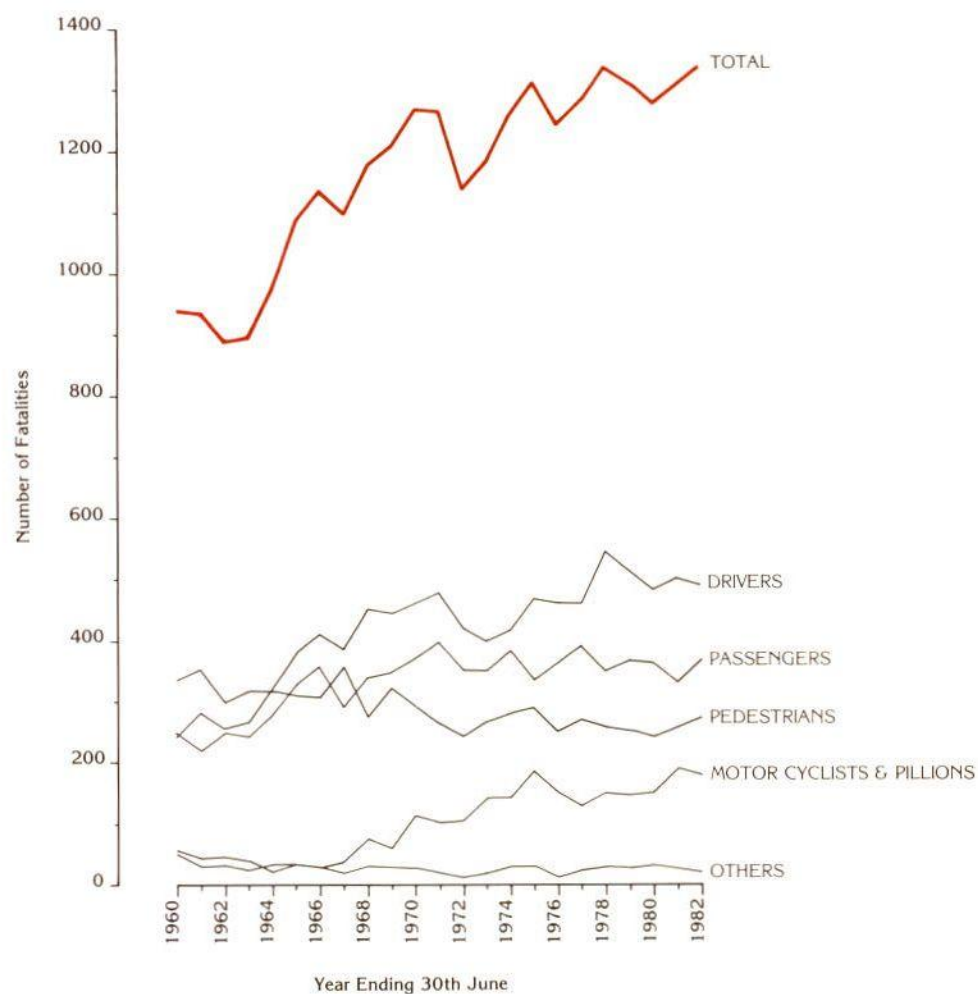
King Road/Hamilton Road, Fairfield West.

Banna Avenue/Ulong Street, Griffith.

Leumeah Road/O'Sullivan Road, Leumeah.

Appendix 4

TRENDS IN FATALITIES FOR DIFFERENT CLASSES OF ROAD USERS



Appendix 4 (Cont'd)

TABLE 1. Fatal traffic crashes in NSW for the year ended 30th June.
Time and day of week. 1/7/81 - 30/6/82

Day of Week	TIME OF DAY									Total
	12-3 am	3-6 am	6-9 am	9-12 noon	12-3 pm	3-6 pm	6-9 pm	9-12 mid- night	Not stated	
Sunday	51	16	14	18	21	38	41	16	1	216
Monday	12	6	13	18	22	32	16	13	1	133
Tuesday	8	5	12	17	17	21	17	18	0	115
Wednesday	9	6	16	10	10	26	25	27	0	129
Thursday	11	13	15	16	28	22	36	26	1	168
Friday	25	14	19	15	13	29	48	39	1	203
Saturday	38	9	10	16	16	44	38	35	1	207
Unknown	0	0	0	0	0	0	0	0	0	0
TOTAL	154	69	99	110	127	212	221	174	5	1171

TABLE 2; Deaths from traffic crashes in NSW for the year ended 30th June.
Age and class of road user killed.

Class of Road User	AGE													Total
	0-2	3-7	8-12	13-16	17-20	21-24	25-29	30-39	40-49	50-59	60-69	70	Unknown	
Driver	0	0	0	5	109	64	56	87	62	45	33	25	6	492
Passenger	21	11	13	41	76	43	29	24	16	27	16	28	20	365
Motor Cyclist	0	0	0	5	48	56	31	13	2	1	0	1	3	160
Pillion Passenger	0	0	0	2	8	6	0	2	1	0	0	0	1	20
Pedestrian	6	32	11	7	7	11	11	22	19	31	47	60	8	272
Pedal Cyclist	0	1	6	2	3	2	0	1	1	0	1	2	2	21
Other	0	0	0	0	2	0	0	0	1	0	1	0	1	5
TOTAL	27	44	30	62	253	182	127	149	102	104	98	116	41	1335

Works Completed by Department of Main Roads, New South Wales

CONSTRUCTION

Traffic Signals

Table 1 compares the number of sets of traffic signals in the state in the 1981/82 financial year to the previous financial year:

Table 1

Traffic Signals	1980/81	1981/82
Existing	1652	1751
New Sets	102	64
Removed	3	4
Total	1751*	1811**

* 69 sets reconstructed and 5 temporary sets installed.

** 54 sets reconstructed and 5 temporary sets installed.

Table 2 shows the breakdown of the foregoing totals by location and type. Figures for 1980/81 financial year are shown in brackets:

Location	Types			
	Vehicle Actuated	Pedestrian Actuated	Inner City	Total
Sydney	1180 (1148)	226 (222)	119 (116)	1525 (1486)
Newcastle	91 (81)	22 (22)	-	113 (103)
Wollongong	74 (69)	12 (12)	-	86 (81)
Country areas	71 (65)	16 (16)	-	87 (81)
Total	1416 (1363)	276 (272)	119 (116)	1811 (1751)

In the Sydney Metropolitan, Wollongong and Newcastle urban areas, a further 44 intersections were connected to the Sydney Co-ordinated Adaptive Traffic (SCAT) System during 1981/82.

Intersection Improvements.

A total of 58 intersections were reconstructed with permanent channelisation during 1981/82, compared with 113 in the previous financial year.

Roundabouts: - 6 permanently installed
7 under construction
25 designs completed

Appendix 5 (Cont'd)

Cycleways

The Department continued to administer cycleway grants to local Councils on behalf of the Minister for Transport. Cycleways were completed and put into service during 1981/82 at:-

Newcastle

Tamworth

Deniliquin

Wingecaribee

Manly

Wollongong — Cycle racks installed.

Other Traffic Management and Safety Schemes

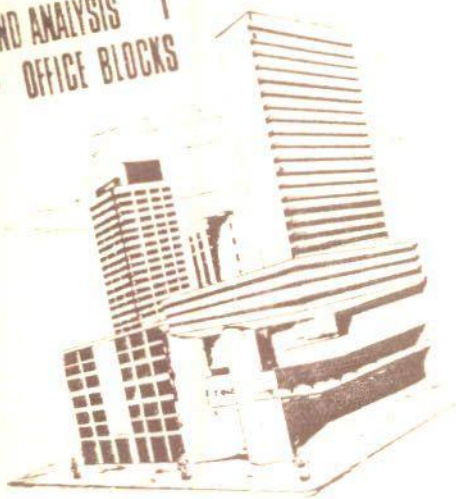
Approximately 46 miscellaneous traffic management and safety projects were completed during 1981/82. The different types of projects are shown below:-

Guardrail installations	2
Skid resistance improvements	17
Intersection improvements	9
Additional lanes	1
Bus bays	4
Median adjustments	13

TRAFFIC
AUTHORITY OF
NEW SOUTH WALES

LAND USE TRAFFIC GENERATION

DATA AND ANALYSIS 1
— OFFICE BLOCKS



A SIMPLE GUIDE TO CHILD RESTRAINT USE

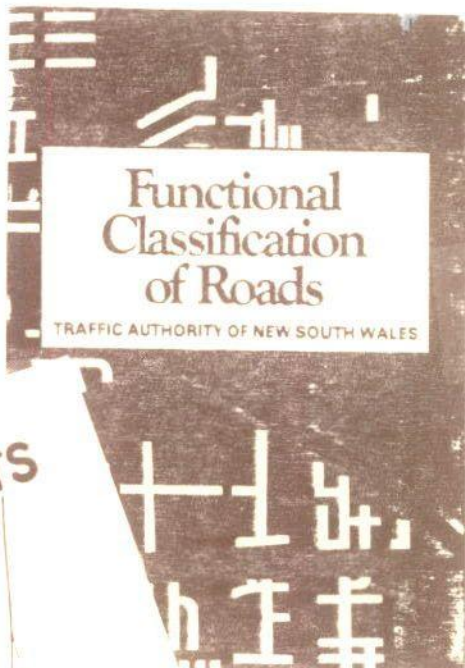


PROVISIONAL GUIDELINES FOR TREE PLANTING ON URBAN ROADS

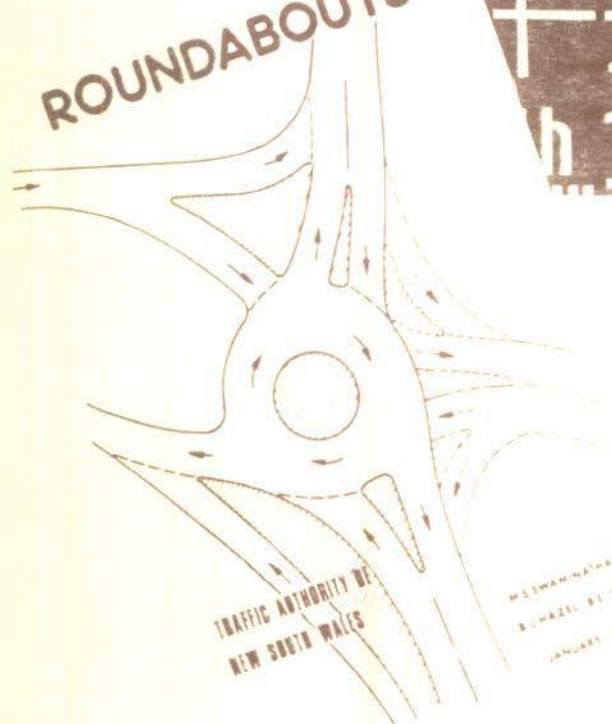


Functional Classification of Roads

TRAFFIC AUTHORITY OF NEW SOUTH WALES



ROUNDBABOUTS



TRAFFIC AUTHORITY OF
NEW SOUTH WALES

MSWAMINATHAN ET
AL
BUNAZEL ET AL
JANUARY 1981

TRAFFIC AUTHORITY OF NEW SOUTH WALES

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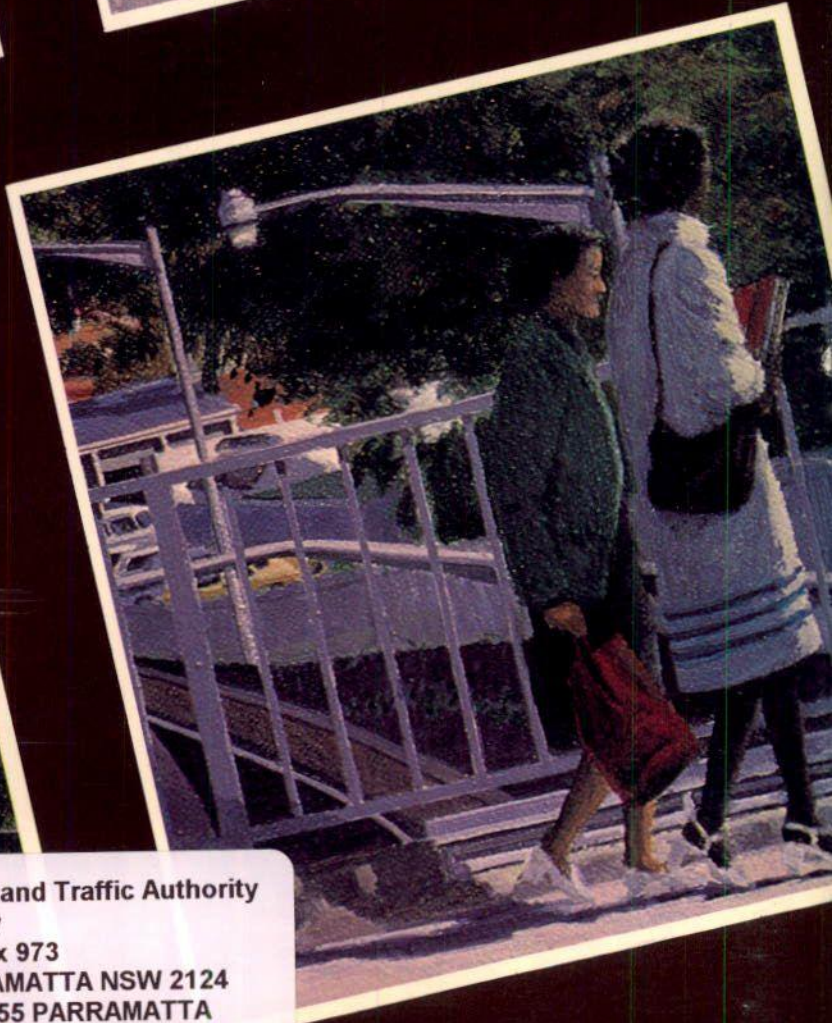
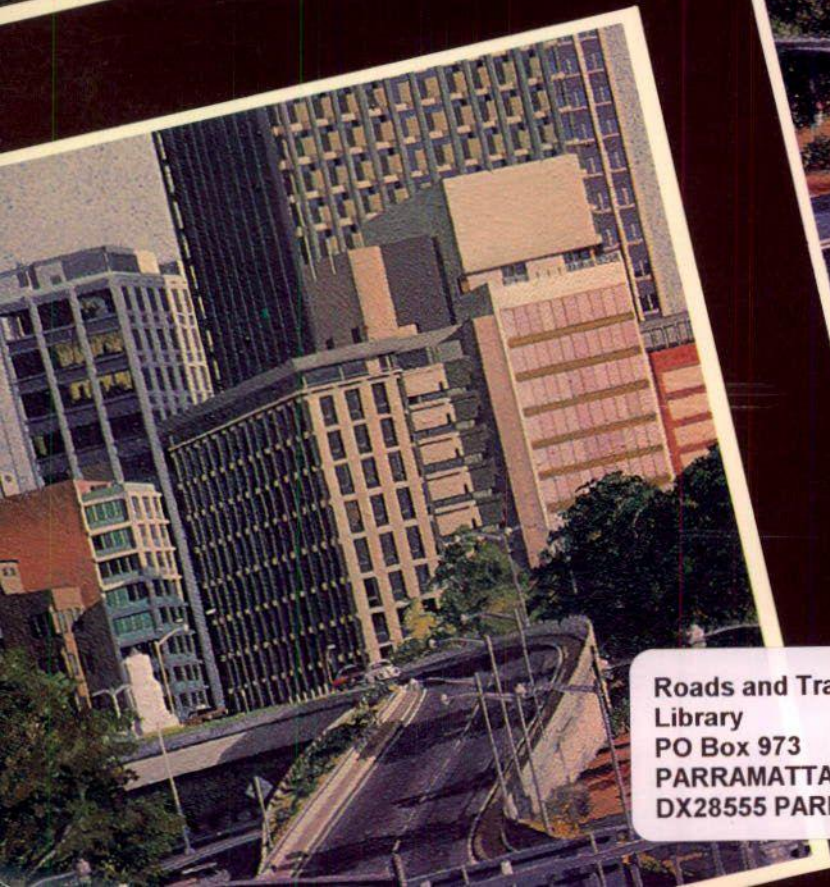


GUIDELINES FOR RESIDENT PARKING SCHEMES

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