CHAPTER XIII: CONSUMER PROTECTION

595. The matter of consumer protection received attention earlier in this report in respect of defective vehicles and recalls. As the primary interest of the Committee is one of vehicle safety, the protection of the consumer in other vehicle matters is not reported on in any detail here. The concept of consumer protection: the purchase of a faulty, below standard product; the victim of misleading information or advertising; unfair practices - the redress of grievances; the right of compensation, etc. will be briefly discussed in relation to vehicle safety matters. There are of course safety considerations in consumer transactions relating to new vehicles, used vehicles, maintenance and repairs.

596. A more philosophical aspect of consumer protection which concerns the Committee is the protection of the occupant in a motor vehicle - the physical protection a consumer should receive in the purchase of a vehicle. It is not, in this case, a matter of redressing grievances, although this is involved if a vehicle is faulty, it is a matter of entitlement to physical protection for the driver and passengers of a vehicle. The Committee sees a responsibility in providing both accident avoidance and occupant protection features in vehicles: eliminating as far as possible vehicle defects (and where defects are identified and recognised, taking steps to recall and remedy those defects); ensuring that advertising is responsible; adopting an approach in vehicle manufacturing consistant with responsible sets of criteria for design, performance, capacity of speed and suitability for Australian conditions (these matters are discussed in detail in other areas of this report). The consumer deserves protection in the first instance in choosing the safest possible vehicle and in the second instance the right to security of that

vehicle continuing to be safe when he drives it onto the road. The Committee considers that the industry has a profound responsibility to ensure that safety is extended onto the road.

597. The greatest number of consumer complaints received by Government authorities is concerned with motor vehicles. Whether these defects are safety related or not, the consumer deserves the remedy of those defects and the Federal Government is giving close attention to ensuring protection in this area. The considerable investment by an individual in the purchase of a motor vehicle entitles him to expect a well finished, soundly manufactured, safe product. Of course, 100 per cent perfection is not possible, but for the bad vehicles he is entitled to have it made good.

598. The Department of Transport informed the Committee that attempts were being made to help the car owner who has a complaint. Because of the many complaints about the quality of vehicles which have been made, the Department of Transport has established what are called "hot lines" between officers of the Department and the major vehicle manufacturers. People or groups who submit legitimate examples of faults receive prompt attention from a departmental liaison officer who contacts his corresponding officer in the company concerned. The operation of these "hot lines" does not appear to be sufficiently effective at present, which could be attributable to a lack of public knowledge of its availability. At present, liaison between the Trade Practices Commission, the Attorney-General's Department, the Department of Science and the Department of Transport is being maintained to ensure that the car consumer is receiving adequate protection.

599. The Sub-committee recommends that the "hot line" concept for dealing with consumer complaints be extended and improved

within the Bureau of Road Safety to ensure protection in the vehicle safety area. It is also recommended that the Bureau of Road Safety regularly publish details of consumer items relating to vehicle safety similar to Consumer Protection Bulletins issued by the United States National Highway Traffic Safety Administration.

600. The Committee was informed that consumer legislation had been established or was in the process of being established in most States and Territories. Consumer Affairs Bureaus provide the consumer with a means of professional help in redressing legitimate grievances for faulty products, warranty problems and faulty repairs. An in some States Motor Dealer's Acts have established standards for second hand car dealers.

601. The N.S.W. Consumer Affairs Bureau indicated a high level of consumer complaints in the motor vehicle area as indicated in Table 10.

602. Faulty new and used vehicles show a steady increase as does the motor vehicle percentage of all complaints. The Consumer Affairs Bureau said that although they have a general interest in consumer product safety their primary interest is not one of motor vehicle safety. The Bureau does not therefore analyse complaints in terms of safety.

603. An analysis of consumer affairs reports of government agencies reveals numerous unsatisfactory practices and the statistics have obvious safety implications. The Committee encourages all government consumer agencies to give specific and priority attention to motor vehicle complaints relating to safety and would suggest improvements in record keeping and publicity campaigns.

TABLE 10

SUMMARY OF CONSUMER COMPLAINTS RECEIVED BY THE NEW SOUTH WALES CONSUMER AFFAIRS BUREAU DEALING WITH MOTOR VEHICLES, 1971-1975.

CATEGORY	1971/72	1972/73	1973/74	1974/75 to 31/5/75
Motor Vehicles:				
General	160	267	409	461
New Vehicles - faulty	136	393	359	218
New Vehicles - hire purchase	17	21	23	7
New Vehicles - insurance	4	6	4	4
Used Vehicles - faulty	192	531	546	557
Used Vehicles - hire purchase	40	134	75	98
Used Vehicles - insurance	4	15	9	20
Deposits	62	152	111	137
Services:				
New Vehicles	35	40	132	277
Used Vehicles	98	202	164	289
% of total complaints	16.94	25.36	22.46	28

Total complaints to 31.5.75 were 8,168.

Source: Evidence p. 4292.

604. SAA is currently producing a quarterly publication relating to consumer matters. Two other publications "Standards and the Consumer" and an "Australian Standards Mark Buyer's Guide" are also produced by SAA. These publications are useful documents in increasing consumer awareness of vehicle safety standards, particularly for such items as child restraints and tyres. Although SAA has no enforcement powers and limited funds the Committee encourages the dissemination of consumer literature on these matters. Consideration should also be given to encouraging manufacturers to adopt SAA marks where the minimum standards proposed are achieved. Assistance in achieving this aim could be done by making illegal products which do not carry SAA marks.

605. Steps have already been taken in this direction under the N.S.W. Consumer Protection Act by way of regulation which prevents the sale of child restraining devices for motor vehicles unless they conform to the Australian standard. This Act has also been amended to provide for the establishment of a product safety committee which makes recommendations to the Minister for the banning from sale of unsafe products. The Minister, by ministerial order, is able to ban unsafe products from sale.

Trade Practices Act

606. Further aspects of consumer protection were investigated by the Committee in relation to the Trade Practices Act 1974-75. The sections of the Act which are relevant are Sections 62 and 63 (standards), 52 to 58 (advertising) and 66 to 74 (warranties). Aspects of these sections also appear in other parts of this report.

607. The Trade Practices Commission informed the Committee that motor vehicles and their accessories constitute the largest category of matters investigated by the Commission, either on its own initiative or in response to consumers' complaints. The Commission's experience of a preponderance of complaints involving motor vehicles and their accessories is similar to that of State and Territorial consumer affairs agencies.

608. Generally, the matters investigated by the Commission which have involved motor vehicles and their accessories do not raise safety issues, certainly not safety issues on such a wide spread scale as would suggest a recall campaign should be initiated in respect of a particular make or model of car. However, one of seven matters involving motor vehicles in respect of which the Commission has directed that, subject to the sufficiency of the evidence, prosecutions be launched, concerns representations that a passenger vehicle had a special safety feature (a braking system) it did not have.

Warranties

609. While vehicle manufacturer's complaint handling procedures investigated by the Committee appear to be quite satisfactory, the Committee is aware of difficulties the consumer faces in the remedy of defects (a number of which relate to safety) under manufacture and dealer warranties.

610. The Trade Practices Commission has issued two Information Circulars dealing with conditions and warranties in consumer contracts. Circular No. 5, issued for the guidance of consumers, explains the provisions of the Act which serve to strengthen the legal position of consumers who find that their immediate suppliers have failed to meet obligations implied by the Act in consumer contracts made since 1 October

1974, the date the Act came into operation. Circular No. 5 also refers to similar State laws which strengthen consumers' contractual rights. The Circular emphasises that the rights given to consumers under the Act cannot be defeated, as was often the case in the past, by exclusion clauses written into contracts or manufacturers' express warranties and that a consumer has a legal remedy against his immediate supplier.

611. Circular No. 6, issued for the guidance of businessmen, explains the Trade Practices Commission's attitudes towards exclusion clauses in consumer contracts and express warranties and guarantees.

612. The Committee is aware of tensions which exist between dealers and manufacturers concerning the performance of warranty service and it is often the case where the dealer and more often the consumer suffer rather than the manufacturer of the vehicle. This view was reinforced by the conclusions reached by Martec Pty Ltd in its white paper on the Australian Retail Automotive Industry[49] that factories should pay the real social costs of defective vehicles.

613. The Committee reasserts its view that better quality control and inspection would reduce warranty claims on safety defective vehicles and that better warranty conditions will achieve more efficient rectification of safety defects.

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49. Martec Pty Ltd, The Australian Retail Automotive Industry, Vol. 1, "The Vehicle Retailing Industry and its Environment", Australian Retail Chambers of Automotive Industries, 1972.

CHAPTER XIV: VEHICLE ACCIDENT DATA

614. In its first report to the House in 1973, the Committee recommended that the proposed national road safety authority should have the function of collecting and disseminating statistics and other data information relating to road safety. The importance of this recommendation was that data collection would be uniform. While some progress in achieving this aim is evident, little advance has occurred in arranging a complete rationalisation of data collection and distribution in Australia. The Committee is of the view that the Federal Minister for Transport should, through ATAC, after receipt of suitable advice from the BRS, decide on Australia's road accident data needs and uses bearing in mind the need for uniform data and the need to avoid unnecessary duplication and expense.

615. The Committee anticipates that ATAC managed to convene meetings to discuss data needs for the users and at a later stage have these needs discussed with the providers of the information. The Committee sees a necessary role initially by the Australian Bureau of Statistics to be involved so that its experience and expertise can assist in establishing a data base and in determining the type of information that is needed and how to identify that information.

616. The Committee therefore considers that ATAC should establish a standing committee involving users and collectors of data to be convened at least annually to discuss data needs and its collection. The Committee envisages that such a committee would contain representatives from State police forces, traffic authorities, research institutions, the Royal College of Surgeons, hospitals, insurance companies and vehicle inspection authorities.

617. The Committee realises that, in the determination of data needs and methods of collection, there will be clashes with many established vested interests and there will need to be much co-operation on behalf of all concerned. At the same time, it believes that the national interest will be best served with a complete rationalisation of collection of data which should in turn provide more benefits in the safety area than at present.

618. The Committee was very concerned by the evidence which indicated that attempts go back as far as 1947 to get various parties together to try to achieve a uniform system but none of these attempts have been successful. It was explained that this was probably due to each State holding the view that it had the best method in the collection of information. The Committee is concerned at the conflicting interests within States and between States which have not been resolved and at the failure of ATAC to resolve these matters.

Type of Data Needed and its Uses

619. The Committee, in the course of the inquiry, received a great deal of evidence which specified areas of need for collection of vehicle accident data. The Committee's principal concern was to establish the availability and usefulness of data with respect to information about the vehicle in particular -

(a) whether some vehicles were proportionately over-involved in accidents than others,

(b) to gauge the effectiveness of the design and performance of safety features, and

(c) the causes of death and injury which can be minimised by prediction of measures to improve accident avoidance and occupant protection.

620. It was brought to the Committee's attention that accidents should be studied so that not just numbers of accidents, but data about accident rates should be available. Typical rates would be accidents per hundred thousand population, per hundred thousand kilometres driven, with different rates for distances driven on roads of different class or speed limit.

621. During the inquiry, the Committee's attention was drawn to a paper prepared by the European Experimental Vehicles Committee (EEVC). The report[50] discussed data needs and recommended the early initiation of two studies -

(a) a study of the conflicting requirements between pedestrian protection, car occupant protection and reduction of vehicle repair costs, and

(b) a study of the various collision types and their speeds in relation to proposed impact tests.

The reason behind this latter study was that information was such that the 50 km/h barrier test conducted by the manufacturers represented only a minority of real world collisions. Whilst these recommendations were set in a European context, the Committee feels that the report generally has considerable application for Australia.

622. Implicit in the assessment of counter-measures is the value to be assigned to an injury. Cost-benefit assessments are considered essential for establishing priorities of counter-measures. The EEVC report considered that more research was required on the cost of accidents and injuries because figures for all types of injuries were inadequate for the assessment of countermeasures which influence certain specific types of

50. European Experimental Vehicles Committee.

injuries.

623. The report also highlighted one aspect of effectiveness studies which will become more important in the future. This involved an examination of non-injury accidents to test the effectiveness of such matters as seat belts.

624. The EEVC stated that one of the most important and immediate problems at the present time was to develop realistic injury criteria for car design. More work was also required on the severity of injury for which a tolerance level was specified. It was unrealistic for example to attempt to prevent all injuries from the minor to the fatal in all circumstances. Certain levels of injury must be accepted and in-depth studies could perhaps provide the necessary injury tolerance data.

625. An important part of the human tolerance question about which there is little known at the present time is how human tolerance varies throughout the population at large because of age, sex and exposure differences.

626. One of the areas where there has been a considerable lack of data has been in the field of injury information. Dr Henderson suggested that the main single lack in statistics is good information on injuries related to crashes. Apart from the College of Surgeons pattern of injury survey, the only other source of injury data brought to the Committee's attention was the Victorian Motor Accident Board. The Committee feels that much benefit could be obtained by matching injury information to other data collected in a crash and possibly to have post mortems conducted on all accident fatalities.

627. The Committee was informed that the ACSVD activities had been hampered by the lack of adequate "fine grain" accident

data on which to base a sound case for making design rules. Industry in turn was reluctant to accept rules without some sort of backing from accident data. The general industry view was that there is a lack of sufficient suitable data in Australia to evaluate benefits to be gained from design rules or to identify trends in vehicle accidents. There is also a lack of data on certain accident types (e.g. rear-end collisions, collisions with utility poles, rollover) and a breakdown of present accidents (e.g. rural or metropolitan).

Methods of Data Collection

628. The most effective methods of data collection suggested in evidence were -

(a) the routine collection of information on road accidents by police forces (i.e. mass data collection), and

(b) special data collection projects by multi-disciplinary teams to obtain essential detailed information (i.e. in-depth studies).

629. The Committee also received evidence that the study of samples of fatal accidents should receive more attention. Professor Cumming suggested that this type of collection was analogous to the system for investigating aircraft crashes, where significant design faults are fed back into the manufacturing or operating system.

630. Mass accident data is collected by police and provides an invaluable source of information for basic research, even though it may be unrealiable concerning causes of accidents. Such data can be used to evaluate the place of road traffic deaths compared to other prevelant causes of death. These statistics, in some instances, form the basis on which

traffic planners and legislators can base their decision for change. Dr McLean stated to the Committee, however, that as no one State has an adequate record of accidents, it is difficult at present to have confidence in research based on mass data. Uniform data collection was a high priority for action.

631. As already mentioned, many witnesses expressed the urgent need for the collection of uniform accident data by the States to enable the compilation of Australian-wide statistics. Some idea of the lack of uniformity can be gauged from the table contained in Appendix J of the Committee's First Report.

632. It was suggested by some witnesses that uniform accident data could best be achieved by each State having a "common core" of data based on accepted definitions rather than having a common form. The Committee was encouraged to see that at last some positive action in this direction has been taken by the Australian Bureau of Statistics. A paper drafted by the Bureau's Working Group on road traffic accidents specifies the following objectives:

(a) to lay down uniform concepts and definitions, and

(b) to suggest common 'core' data items to be collected on road traffic accident report forms in all States and Territories.

633. Relevant information including suggested statistical treatments are outlined in the extract from the paper in Appendix 18. The paper represents the current assessment by the Bureau of data needs and the most effective means of establishing collection methods with a view to reaching consensus between State and Territory data collection authorities. The Bureau's main criticism of using police as a means to collect data was that the collection of data is not their primary role or interest; that they did not have the required training and in most cases there was not sufficient time at the accident

scene to collect it for this purpose (e.g. assisting the injured and directing traffic).

634. The Committee notes the problems facing police in collecting data, but feels that they nevertheless serve an extremely useful and necessary role. The Committee feels that police properly trained in data collection with an awareness of the importance of data collection and the uses data is put to will improve the quality of police reports. In addition, information provided by police should be of a simple, objective and factual nature by way of uncomplicated report forms and the use of coded information, for example, VIN, licence and vehicle particulars together with a system of coding vehicle damage. The Committee feels that to create alternative mass data collection systems would prove too costly. Rather, the existing system should be streamlined and made simpler so that police and ambulance officers are able to attend to their duties whilst at the same time collect worthwhile accident data. (A sample accident report form used by police appears as Appendix 19).

635. Information supplied by ambulance officers is an important addition to accident information collected by the police, particularly in view of the need to match injury information to crash data. The problems concerning police data collection equally apply for ambulance officers with respect to the design of report forms, motivation and conflicting responsibilities at the accident scene. Problems in completing the College of Surgeons Pattern of Injury Survey which arose from difficulties with ambulance drivers and their union representatives indicates the need for early consultation to settle objections to the collection of data. There is a need for full and appropriate guidelines to be prepared and a need to demonstrate to ambulance drivers the importance of such information to road safety research.

636. The Sub-committee recommends that the Bureau of Road Safety should, in conjunction with all State and Territory police, ambulance and traffic authorities, develop simplified reporting formats and the use of coding information to facilitate data collection by police and ambulance officers.

In-depth Studies

637. In-depth accident studies comprise a multi-disciplinary team (e.g. engineer, psychologist, social worker, medical officer) which attends the accidents in order to determine the cause of the accident, the background of the driver, the faults in the car, the effectiveness of safety features and the road features contributing to the accident.

638. In addition to the investigation of specific problems or types of accidents, in-depth studies provide a means of checking on the reliability of the corresponding mass data.

639. The University of Adelaide has recently been awarded a grant to enable a study of injury producing road accidents to commence in early 1976 in metropolitan Adelaide (See Appendix 20).

640. Other types of in-depth studies are also being conducted by the Federal Department of Transport on rural accidents in outer Brisbane and by ROSTA in metropolitan Melbourne. In-depth studies sometimes take the form of teams of experts investigating particular problem areas such as vehicle collisions with poles, motorcycle accidents. About 300 cases of the type of accident under investigation is regarded as necessary to base proper findings and conclusions.

641. The Committee was informed that in the long term further vehicle safety advances are dependent on more accurate data. Dr Vulcan was of the view that the results of in-depth studies

were expected to produce important information, not now available, for improved design consideration. The Committee supports the concept of in-depth studies and urges relevant organisations, particularly manufacturers, to co-operate with accident teams whenever possible.

642. Other sources of data collection noted by the Committee include insurance companies (see Chapter XVI), surveys on motor vehicle usage conducted by the Australian Bureau of Statistics, and registration authorities. Each of these sources have significant value (particularly with regard to exposure) in considering improved vehicle design. Co-operation by these providers of information with road safety authorities is considered by the Committee to be essential.

Data Collection by Manufacturers

643. Evidence from a number of European manufacturers indicated that in-depth/multi-disciplinary accident investigations were carried out by their companies principally around factory sites. These manufacturers were generally of the view that accident investigation was a superior form of research than simulation of accidents under laboratory conditions and this accident information was used for design and development of safer cars and to assess the effectiveness of their safety features.

644. Local manufacturers informed the Committee that they did not collect their own data on crash involvement rates or fatal and serious injury rates among occupants of their vehicles.

645. The industry view was that generally, data collection was necessary but it would be difficult for them to be involved in accident data collection because of the large number of acci-

dents and Australia's geographical nature.

646. Despite the view of manufacturers that data collection was basically a government responsibility, the Committee sees a great deal of merit in the investigation of serious accidents by individual manufacturers, occurring near factory sites. Importers with a large share of the local vehicle market should also consider conducting accident investigations on their own vehicles. Assessment of the safety of their products in a real world situation the Committee considers should lead to the incorporation of better safety design features by both Australian manufacturers and major importers. The claim by local companies that such studies cannot be done in Australia as it is large geographically is not valid when one considers that the companies which do carry out studies near their factory sell vehicles widely throughout the world. In addition, the Committee points out that the majority of Australian accidents are restricted to metropolitan areas.

Vehicle Identification Numbers (VIN)

647. Some witnesses suggested to the Committee that VIN's should be used to facilitate data collection, especially with regard to the extraction of information. The United States has developed a standard for VIN's, FMVSS 115, which came into operation in 1969.

648. A study[51] on VIN's indicates that at the present time in Australia, most police reports provide a description of the vehicles involved in the accident that is rarely adequate for research purposes. By recording the VIN of each vehicle involved in the accident it becomes possible to use these

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51. A.J. McLean, Criteria for a System of Vehicle Identification Numbers, The University of Adelaide Road Research Unit, 6 March 1975.

routine reports as a data base for the evaluation of vehicle safety systems.

649. The following items of information could be included in an Australian VIN system - make, series (model), body style, engine type, model year, assembly plant and sequential production number. The Committee notes that the number should be in a readily accessible place such as the instrument panel.

650. Besides assisting with data collection, the VIN system has the following uses: by manufacturers in the maintenance of production and distribution records; to select the correct service procedure or replacement part; warranty and recall purposes; periodic motor vehicle inspection; registration and insurance purposes; ADR compliance purposes.

651. The Committee feels that many benefits can flow from the use of VIN's at relatively small cost. The Committee, noting that ACSVD and AMVCB are currently investigating the proposal, supports the introduction of a design rule, and would expect the incorporation of VIN's in passenger vehicles as soon as possible.

CHAPTER XV: RESEARCH

Research Needs

652. In addition to the use of vehicle accident data for research, the vehicle itself has been subject to a good deal of research. Throughout this report the Committee has noted various areas where research and development of vehicle design should be conducted.

653. The main priorities for research appear to be in the more difficult areas of accident avoidance, e.g. steering and handling and braking. The improvements made in occupant protection have been easier understood and obtainable but overall crashworthiness is the single most important and demanding research area. Related to crash structure integrity research will need to continue into human tolerance levels, vehicle compatability and the effectiveness of safety design features such as seat belts before significant overall safety is achieved.

654. The most significant world-wide research on vehicle safety was provided by the ESV programs and more recently the RSV project. The ESV program resulted in a far greater understanding of vehicle safety and a number of improvements were incorporated in production vehicles.

655. In the Australian context reliance has generally been on overseas research but a number of institutions have produced effective results which have been used in the formulation of design rules.

Australian Research

- Universities

656. The Committee sees a distinct role for universities conducting research in Australia. Departments such as the Mechanical Engineering faculty of Melbourne University, the Road Accident Research Unit of the University of Adelaide and the Psychology Department of Monash University not only provide highly skilled and experienced researchers but they are in a position to give opinion independent of the Government (the regulator) and industry (the regulated). Professor Cumming informed the Committee that there was perhaps even an expanded role for a tertiary institution to assist the ACSVD in design rule formulation. Universities could also provide training of people in techniques relevant to investigation and evaluation of preventive measures in relation to accidents. The Committee considers that university facilities should be utilised wherever possible.

- Traffic Accident Research Unit (TARU)

657. During the inquiry, the Committee has referred to the valuable research conducted by TARU, particularly in the area of occupant restraints. The Committee sees the Unit's research role as an important contributing factor in reducing fatalities and serious injuries not only in New South Wales but throughout Australia.

- Aeronautical Research Laboratories (ARL)

658. It was suggested that ARL's facilities could be used for vehicle safety research in addition to its basic function as an aeronautical research laboratory. Indications of a scaling

down of defence work suggested that highly trained scientists and engineers and the expensive and elaborate equipment could be effectively used to conduct research into vehicle safety.

659. A submission to the Committee from the Joint Committee of ARL Groups, Staff Associations and Unions, supported this view and stated that although the laboratories are predominately concerned with aeronautics, studies had been conducted directly affecting road safety. These have been in the areas of crash injury research and human engineering research. Particular examples of this research are:

- investigation into the strength of motor vehicle seat belt anchorages;
- an energy absorber for crash protection including dynamic tests, and comparison between behaviour of energy absorbing and of elastic restraint systems;
- study of protective performance of crash helmets; and
- deformation characteristics of motor vehicles, and relationship to pedestrian injury.

660. In the past research staff have conducted crash injury research projects relevant to vehicle safety and have assisted the SAA in the revision of standards. ARL staff have been members of both the SAA and ACSVD committees on seat belts. Automotive aerodynamic work and other research has been conducted on behalf of manufacturers.

661. Main areas suggested by ARL to support road safety research were by way of metallurgical and structural analyses, braking systems, visibility, vehicle structure features, driver-vehicle relationships, road handling characteristics, crash

investigation, and study of ESV programs. This could be achieved by -

(a) providing technological forecasting for long term planning as a competent and impartial inquiry research laboratory,

(b) providing technical underwriting and monitoring effectiveness of measures and recommending future improvements.

(c) establishing inspection procedures for approved testing laboratories on safety standards,

(d) providing research resources to be used by industry, and

(e) assisting development of Australian innovations.

662. Following on inspection of ARL the Committee was able to verify the Staff Association view that there was under-utilisation of a wide range of facilities used for static, fatigue, vibration and impact testing (which are essential for defence work but only used when the need arises).

663. The Committee concludes that ARL has scarce resources both in staff and equipment to offer with regard to road safety research, particularly vehicle safety. However, evidence indicates that impediments to its involvement in non-defence work should be recognised. The Department of Defence indicated that while ARL's resources could conceivably be used for non-defence purposes, the Laboratories still had a defence requirement and resources required for defence science were fully committed to existing and future tasks. Charges for civil work peformed by ARL effectively come out of the defence

vote even though charges are made to outside organisations. The charges are paid into Consolidated Revenue but the costs of the research are borne by the defence vote. However, the Committee considers that if funding was arranged so that non-defence work was not funded by the defence vote and provided defence work was not affected, there should be no reason why this valuable research resource should be wasted when it could be used in the national interest for road safety research.

664. The Sub-committee therefore recommends that the Federal Government remove all administrative impediments so that the Aeronautical Research Laboratories can be utilised for appropriate road safety research whenever defence commitments permit.

- Bureau of Road Safety (BRS)

665. A principal function of the BRS should be to undertake and arrange for research in relation to road safety and road vehicles. As research is such a costly commodity, both in terms of staff and equipment, there is an obvious need for rationalisation and to prevent duplication of research facilities by the States the BRS will need to pursue this objective.

666. Because Australian traffic conditions and types of vehicles are not generally different from those overseas, the Committee feels that most overseas research is an invaluable source for Australian researchers. The BRS should monitor, evaluate and disseminate all available research to interested research organisations throughout Australia. At the same time, however, Australian research should not neglect unique Australian conditions such as weather conditions, types of road and variations in accident modes which can even vary substantially within the country.

667. The Committee sees the role of the BRS as overseeing virtually all research into road safety through liaison with research institutions and State governments with the Commonwealth through ATAC, so that all necessary research is undertaken, duplication of effort is avoided and all available resources can be put to beneficial use.

668. The BRS will have a major role in ensuring that all necessary research is conducted and results fed into the design rule system so that ADR's are soundly based. The BRS will also need to monitor the effectiveness of ADR's by ascertaining how they perform in real world situations.

Experimental Safety Vehicle Program

669. The ESV program begun in the late 1960's is the most important research project ever conducted on a world-wide basis. Initially a domestic exercise in the United States, it was expanded to a worldwide program of automotive safety research and development. The purpose of the original ESV program was:

(a) to demonstrate the feasibility of obtaining a quantum jump in crash protection without degradation of normal vehicle performance characteristics,

(b) to inform the public of the possibility, and advantages, of increased vehicle safety,

(c) to encourage the automotive industry both U.S. and internationally to develop and "think" safety, and

(d) to establish a public technical data base.

670. A quantum jump in crash protection without degradation of vehicle performance (i.e. handling, braking, visibility) was accomplished and in fact, significant advances were made in vehicle performance. Prior to the ESV program it was considered that a quantum step in crash performance, needed to define the limits of achievability, was not feasible. The program however, proved that feasibility and the question was then left as to what degree of protection can be justified. The ESV program has often been criticised as being too esoteric since it did not produce a practical producible vehicle in terms of mass, weight and cost. These criticisms would appear to be unjustified since the program objective was to achieve certain technical objectives, not to produce an economically viable vehicle.

671. It is generally agreed that one effect of the ESV program was that the publicity generated informed the public that vehicle safety should be an important design consideration and that vehicles could be significantly improved. It is reasonable to conclude that concurrent with the ESV program was a general trend in the industry, internationally, to "think" and develop vehicle safety. A number of companies have incorporated design improvements developed for the ESV program into regular production vehicles (if only in response to legislation) and it appears that safety is now a consideration in the design of the majority of vehicles. Another effect of the ESV program was that it lead to unprecedented international co-operation. This exchange of ideas of this publicly sponsored research has also resulted in an immense vehicle data bank (prior to the program relatively little safety work was done and much less was published) which has

been useful to manufacturers, Governments, and the public.

672. Thus, the four primary objectives of the program were all accomplished. In addition, other significant benefits accrued from the program including a large number of safety hardware innovations, a variety of new concepts, and the identification of specific areas requiring more effort. Specific areas requiring more effort were -

(a) the inter-relationship of the entire vehicle system,

(b) methods of reducing or alleviating vehicle aggressiveness,

(c) the study of human tolerances and human response simulation, and

(d) refinement of accident statistics (collecting and analysing).

Further development in these areas is being considered in the RSV project discussed in the following paragraphs.

Research Safety Vehicle Project

673. In accordance with changing world conditions and the results obtained by the ESV program, the present RSV project has objectives which are significantly different from the original ESV program. Basically, both programs study vehicles of the size and weight judged to be in predominance 10 years after the beginning of the programs. For the ESV program this was a 4000 lb (1814 kg) vehicle and for the RSV a 3000 lb (1361 kg) vehicle. However, the ESV program, being experimental, was to meet certain specifications, with weight being a lesser consideration. The new program is not to explore the

limits of feasibility but to study and optimise the overall system in context.

674. The RSV project objectives as stated by NHTSA are as follows:

> The objective of the Research Safety Vehicle Project is to provide research and test data applicable to automobile safety performance requirements for the mid-1980's, and to evaluate the compatibility of these requirements with environmental policies, efficient energy utilisation, and consumer economic considerations. Accordingly, it is recognised that in performing the tasks of this contract the RSV research contractors may introduce considerations and factors not currently utilised or applied in NHTSA standards for Motor Vehicle Safety.

675. The RSV project plan indicates it will be conducted in four phases, the first of which has recently been completed. They are:

Phase I	(a)	Define program
	(b)	Develop performance specification
	(c)	Develop preliminary design
	(d)	Develop and submit proposal for Phase II
Phase II	(a)	Perform systems engineering and integration analyses
	(b)	Develop total vehicle design
	(c)	Develop and submit proposal for Phase III.
Phase III	(a)	Refine and optimise design
	(b)	Fabricate test vehicles.

Phase IV	Test and evaluate vehicles (Anticipate to be competitively awarded to a contractor other than those who may be awarded either Phase I, II or III).

676. RSV contractors "must consider all major societal goals for the automobile, not safety along". Thus the RSV is to develop a vehicle which, if not optimised, is at least compatible with the general usually competing requirements of safety, operational economy, raw material economy and pollution control.

677. Furthermore, this overall performance is to be maximised in a specific sized vehicle for a projected vehicle population environment. Thus the RSV objectives are significantly different from the ESV objectives to meet a specific, somewhat arbitrary, performance regardless of cost. The RSV program considers societal goals in energy, economy, and environment as well as safety - S3E concept.

678. The results of Phase I of the RSV program are summarised in a paper presented to the Fourth International Congress on Automotive Safety.[52] The results are projections for the U.S. but the general trends are probably applicable to Australia.

679. This paper also outlines the S3E concept - Safety, Economy Environment, Energy. Work in these areas has resulted in a development concept of a four dimensional surface indicating how the four variables are related (see Appendixes 21 to 23). The basic relationships between these variables will undoubtedly be extensively utilised in the future at least for Government

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52. G.A. Mannella, "Research and Development in Future Automobile Legislation", Proceedings, Fourth International Congress on Automotive Safety, July 14-16, 1975, U.S. Dept of Transportation, National Highway Traffic Safety Administration, p.p. 455-485.

and industry planning if not for standards.

680. The Committee concludes that according to the evidence the ESV project had a variety of useful spin-offs but it would be totally impractical, given the present state of the art, to legislate that cars should have such performance capabilities. The results of the RSV Phase I program, available to the Committee, indicate significant research is being done which will have directly usable benefits for rule-making authorities, vehicle manufacturers and public safety. The RSV program may result in not only useful technological hardware and concepts (such as determining what areas will provide the largest benefits), but may result in practical vehicles. The S3E concept illustrates what the trade-offs between the four major variables will be. This in itself should allow a much more rational approach to automotive safety.

681. Considering the magnitude of the programs, Australia should not attempt to build their own ESV or RSV. Essentially all evidence confirms this position. However, with all the research effort being expended elsewhere, especially now that it is likely to result in practical application, much of this information can be used to ensure safer future Australian vehicles. The Committee emphasises its view that Australian research should not cease, but rather, with the tremendous research programs elsewhere, Australia may be able to enjoy large scale benefits for relatively little cost merely by reviewing published literature and adapting the results to Australian conditions.

CHAPTER XVI: VEHICLE INSURANCE

682. The Committee received evidence from vehicle insurance companies and others in the desirability of using insurance accident data for research.

683. The College of Surgeons in their pattern of injury survey suggested that insurance information collection for non-injury producing accidents should be investigated and that the offer by nationally based insurance organisations to standardise their claim forms to provide a "core" of safety related information should be fully explored.

684. The Victorian State Motor Car Insurance Office informed the Committee that, although discussions had been held, there was not uniformity of collection of accident statistics between insurance companies in Victoria. The State Insurance Office has no statistical information relative to causes of accidents or of pattern of injury. Collection of this data will be facilitated when a new computer is installed late in 1976. The witness indicated that vehicle insurers would be receptive to amending their report form to include any additional details required in the interest of road safety and to forward this to a control bureau.

685. The Committee was informed that an important source of information is provided by the Victorian Motor Vehicle Accident Board (a no fault insurance scheme) which is able to extract the incidence of certain types of accidents (e.g. motorcycle accidents).

686. The New South Wales Government Insurance Office, stated in its submission that at the national level there should be determined, in consultation with insurers, what statistics are required from such information as could reasonably be furnished

by insurers. It was stated that the make or model of vehicles involved in accidents and associated injuries or fatalities is fairly precisely typed now in the way comprehensive insurance is rated. The categories are a combination of susceptibility to accident and cost of repair.

687. The Australian Bureau of Statistics pointed out to the Committee that in looking at the frequency and extent of property damage, insurance companies were a good source. In looking at the actual claim form, most of the questions obtained from people making claims would be of interest to researchers in road traffic accidents. The problem was that this information tends to be used subjectively by assessors and only a small fraction of the information is computerised. The Sub-committee therefore recommends that the Federal Minister for Transport, in co-operation with the Federal Treasurer, request the Insurance Commissioner to obtain relevant information from insurance companies.

688. The Committee considers that to obtain insurance data, it would be necessary to have the co-operation of the insurance companies to standardise the sort of information that they collect through their claim forms and have their files computerised. As indicated by the Bureau, there seems to be a degree of willingness amongst vehicle insurance companies to provide data upon request.

689. In addition to the use of data, the Committee considers that there is potential for vehicle insurance companies to undertake a more active role in promoting greater vehicle safety. Evidence of this role of insurance companies in road safety can be seen in overseas countries, for example, in the United States where the insurance industry has funded the Insurance Institute for Highway Safety. The Institute besides

concerning itself with vehicle property damage, also aims to reduce death and injury on the roads. The response to the Committee's inquiry from vehicle insurance firms, with a few exceptions, has been one of general disinterest. The Committee however, is aware of the existence of the Motor Insurers Research Committee in Victoria which has as one of its objects the liaison and co-operation with bodies interested in road safety.

690. The Committee was informed that insurance firms or organisations themselves have not supported stronger safety legislation in any specific instances. This is an area which the Committee considers insurance companies with their experience and data could make a worthwhile contribution to accident preventive measures.

691. The information from the insurance companies confirmed that newly licenced drivers (i.e. those with little experience) and those under 25 years, in particular those under 21 years, are involved in an unduly high proportion of accidents compared with those in other age groups. No statistical data to determine whether particular vehicles were accident prone was presently available. Insurance experience had indicated however, that there existed a definite relationship between young drivers, the type of vehicle they favour and the frequency of accidents. Examples of vehicles which had a high claim incidence included:

(a) those with a "sporting" image (e.g. E-type Jaguar, Torana GTR, Stinger, Mini Cooper) and

(b) some small Japanese cars (e.g. Datsun 120Y, Mazda 1300)

692. The Committee was informed that it was very rare for a third party insurer to examine a vehicle involving fatal or

serious injury to discover whether any defect may have been a causative factor in an accident, as reliance was placed on police reports.

693. The insurers told the Committee that they make available to manufacturers any design defects that are detected. One company informed the Committee that the problem areas to be overcome are reinforced side doors to afford greater protection in side impacts, reinforced roof pillars enabling passenger cabin structure to be fortified against roll-over impact, and deformable front and rear ends to reduce collision forces. The companies considered that there was no reason why an insurance company which discovers serious defects should not inform the BRS. With information from these and other sources, the BRS would be in a position to evaluate whether a defect was rare or commonly occurring.

694. The Committee was concerned that the present vehicle insurance system encourages manufacturers to concern themselves more with ensuring that property damage costs are kept low rather than designing vehicles to reduce personal injury. The reason for this is that the personal injury premium (i.e. compulsory third party) is nearly always a set rate for all vehicles, whereas property damage premiums vary according to a vehicle's susceptibility to involvement in an accident and the cost of repairs.

695. The Committee considers that with a variable third party rating system the degree of occupant safety given by certain vehicles, as evidenced from accident statistics, would be taken into account. The effect of such a system would be that vehicles with proven occupant safety would be submitted to lower third party insurance rates than those vehicles with poor occupant protection records. This system could also be used to charge higher rates for high performance vehicles and

lower rates on the smaller, less powerful vehicles. The use of large (aggressive) vehicles could also be discouraged by financing a third party insurance scheme through the application of a fuel tax which would add to the cost of running a large vehicle and assist in the conservation of fuel resources.

696. The Sub-committee therefore recommends that the Federal Government, in consultation with State Governments, should investigate implementing a system of variable rating of third party insurance according to vehicle size and accident record and other matters which encourage occupant safety as well as a system of funding third party insurance by a fuel tax either in whole or in part.

697. The Committee was informed that checks are not conducted by insurance firms on all vehicles following completion of repairs after a collision. However, random checks are conducted to ensure that repair work is up to standard. Complaints by policy holders are investigated by staff assessors in which case repairers are required to sign a clearance certificate which guarantees that all repairs have been carried out in a proper manner in accordance with the assessors view. Most faulty repairs, in fact, do not involve safety related features and were, in any case, extremely hard to detect.

698. The insurance companies expressed a willingness to the Committee to give any assistance to outside research bodies and had, in fact, offered their facilities to TARU and various universities. Inspection of wrecked vehicles in the possession of insurance companies have been undertaken by Government departments for accident information purposes.

699. Evidence from both manufacturers and insurance companies indicates that consultation on vehicle matters varies in degree and frequency and tends to be on isolated occasions

rather than as a regular practice. Most manufacturers have carried out inspections of wrecked vehicles in the possession of insurance companies but there is little evidence to suggest that this was standard practice. The Committee realises that although manufacturers have a legitimate business interest in liaising with insurance companies to keep areas of property damage costs to a minimum and vice versa, they have shown that generally they have not been using the same medium as a means to identify and incorporate safer designs for their vehicles.

700. The Committee is equally concerned that insurance industry initiative to increase safety in relation to vehicle design is negligible, particularly in the area of accident avoidance, an area which the Committee would expect insurers to have much to gain.

701. Although there is some evidence of isolated initiatives the Committee concludes that the vehicle insurance industry is a valuable source of information and assistance in bringing about safer design in vehicles but it has not fully extended its role into the safety field.

702. The Committee considers that closer co-operation between the insurance and vehicle industries jointly extended to road safety authorities is required. The Committee cannot accept the situation that insurance companies will discuss with manufacturers particular types of vehicle construction which are expensive to repair, but show little interest in what types of occupant injury are related to particular vehicle features.

703. The Committee expects that insurance companies will act more responsibly in the future than they have in the past, and look at vehicle accidents not only as something which

costs them money but also as something which causes death and injury to people.

704. The Sub-committee therefore recommends that the Bureau of Road Safety, in conjunction with the Australian Bureau of Statistics, investigate the usefulness of collecting data from insurance companies and formally seek the co-operation of the insurance industry to assist in vehicle safety research.

May 1976

R.C. Katter
Chairman

APPENDIX 1

LIST OF WITNESSES

AASBERG, Dr A.G.	Head, Safety Systems Analysis Section, A.B. Volvo, Sweden.
ACKERMAN, MR H.C.	Engineering Services Section, Department of Transport, Victoria.
ALEXANDER, MR G.H.	Research Engineer, Armidale, New South Wales.
ALFORD, MR J.R.	General Service Manager, General Motors-Holden's Pty Ltd., Victoria
ANDREASSEND, MR D.C.	Chief Engineer, Victorian Road Safety and Traffic Authority, Victoria.
ARNOLD, MR V.H.	Chairman, Victorian Motor Accidents Board, Victoria.
ASKER, MR H.	Group Manager, Manufacturing and Service, Australian Motor Industries Pty Ltd, Victoria.
BAGLEY, Mr F.D.	Assistant Statistician, Australian Bureau of Statistics, Australian Capital Territory.
BARLING, Mr R.J.W.	Chairman, Advisory Committee on Vehicle Performance, Department of Transport, Victoria.
BATES, MR R.N.E.	General Manager - Marketing, Pilkington A.C.I. Ltd, Victoria.
BATTERHAM, MR K.T.	Government Branch, Department of the Capital Territory, Australian Capital Territory.
BEALE, MR J.A.	O.P.O. Australasia Pty Ltd, New South Wales.
BENTLEY, MR J.F.	Chief Engineer Assessor, Victorian State Insurance Office, Victoria.
BERRY, MR J.	Manpower Development Officer, Department of Labour and Industry, South Australia.

BISHOP, MR A.E.	Consulting Engineer, Arthur E. Bishop Pty Ltd, New South Wales.
BORCHARDT, MR H.A.	Engineering Consultant, New South Wales.
BOULTBEE, MR J.	Managing Director, Baby Relax (Aust.) Pty Ltd, New South Wales.
BROWNE, MR J.W.	Executive Officer, Commericial Practices, Consumer Affairs Bureau, Department of the Capital Territory, Australian Capital Territory.
BURGESS, MR F.G.	Manager-Secretary, Institute of Automotive Mechanical Engineers Inc., New South Wales.
BURGHARDT, MR F.	Managing Director, Motor Producers Ltd, Victoria.
BURT, MR R.M.	Manager, Product Assurance and Certification Department, Standards Association of Australia, New South Wales.
CAMERON, MR M.H.	Consultant Statistician, Department of Transport, Victoria.
CAMERON, MR R.B.	Service Operations Manager, Ford Motor Company of Australia Ltd, Victoria.
CAPLYGIN, MR D.	Chief Engineer, Automotive and Girling Pty Ltd, New South Wales
CLARKE, MR A.K.	General Manager, Victorian Motor Accidents Board, Victoria.
COLE, Dr B.L.	Director, Victorian College of Optometry and Chairman, Department of Optometry, University of Melbourne, Victoria.
COOK, MR A.G.	Traffic Law Officer, New South Wales Police Traffic Branch, New South Wales.
CORLESS, MR E.W.	Supervising Engineer, Automotive Plant and Transport Committee, Australian Telecommuncations Commission, Victoria.

COSGROVE, MR K.J.	First Assistant Secretary, Department of Transport, Australian Capital Territory.
CRADDOCK, MR M.	Assistant Supervisor, Transport and Communications Section, Australian Bureau of Statistics, Australian Capital Territory.
CUMMING, Professor R.W.	Member, Advisory Committee on Safety in Vehicle Design, and Professor of Psychology, Monash University, Victoria, and Member of Road Safety and Standards Authority.
CUMPSTON, MR J.R.	Consulting Actuary, Road Trauma Committee, Royal Australasian College of Surgeons, Victoria.
DAVIES, MR R.W.	First Assistant Secretary, Department of Manufacturing Industry, Australian Capital Territory.
DeNEEFE, MR F.X.	Managing Director, Highway Safety Developments, Victoria.
DOOLEY, MR B.J.	Member, Road Trauma Committee, Royal Australasian College of Surgeons, Victoria.
DUNBAR, MR A.G.	Owner Relations Manager, General Motors-Holden's Pty Ltd, Victoria.
DUNCAN, MR J.A.	Registrar of Motor Vehicles in the Australian Capital Territory, and Acting Director of Traffic, Department of the Capital Territory, Australian Capital Territory.
DUNOON, MR D.G.	Executive Engineer, Evaluation, Safety and Liaison Engineering, Ford Motor Company of Australia Ltd, Victoria.
EVANS, MR K.	Deputy Chairman, Technical Standards Board, Society of Automotive Engineers-Australasia, Victoria.

FRENCH, MR R.A.	Member, Advisory Committee on Safety in Vehicle Design, New South Wales.
FRICKER, MR W.N.	Head of Mechanical Engineering, Swinburne College of Technology, Victoria.
GAFFNEY, MR W.S.	Chief Engineer, National Roads and Motorist Association, New South Wales.
GALLAGHER, MR P.H.	New South Wales Commissioner for Consumer Affairs, New South Wales.
GLOVER, MR R.W.	Member, Institute of Automotive Mechanical Engineers Inc., Australian Capital Territory.
GODDARD, MR A.	Managing Director, Automotive and Girling Pty Ltd, New South Wales.
HAMBLEY, Mr J.R.	Director, Transport and Construction Section, Australian Bureau of Statistics, Australian Capital Territory.
HANSSON, MR S.	General Manager, Saab Scania Australia Pty Ltd, Victoria.
HARROP, MR M.	Advertising and Public Relations Manager, Pilkington A.C.I. Ltd, Victoria.
HARTNETT, Sir L.	Private Citizen, Mt Eliza, Victoria.
HATTON, MR D.E.	Member, Joint Committee, Aeronautical Research Laboratories Groups, Staff Associations and Unions, Victoria.
d'HELIN, MR J.E.R.	General Secretary, Society of Automotive Engineers - Australasia, Victoria.
HENDERSON, Dr J.M.	Executive Director, Traffic Safety, Traffic Accident Research Unit, Department of Motor Transport, New South Wales.

HENSHAW, MR J.	Secretary, Joint Committee, Aeronautical Research Laboratories Groups, Staff Associations and Unions, Victoria.
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HOLLOWAY, MR R.M.	Inspector of Police, New South Wales Police Traffic Branch, New South Wales.
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HUGHES, MR E.S.R.	Chairman, Road Trauma Committee, Royal Austrasian College of Surgeons, Victoria.
HUXTABLE, MR E.A.	Public Affairs Executive, National Roads and Motorists Association, New South Wales.
ILEY, MR G.N.	Managing Director, Pilkington A.C.I. Ltd, Victoria.
INGLIS, MR B.S.	Managing Director, Ford Motor Company of Australia Ltd, Victoria.
JACKSON, MR G.H.D.	Acting Director, Technical Stores and Transport Branch, Department of Manufacturing Industry, Australian Capital Territory.
JEFFERYS, MR P.F.	National President, Institute of Automotive Mechanical Engineers Inc., New South Wales.
JESMORE, MR R.A.	General Manager, Assembly Operations, Ford Motor Company of Australia Ltd, Victoria.

JOHINKE, MR R.K.	Chairman, South Australian Road Traffic Board, South Australia.
JONES, MR C.	Member, Road Safety and Standards Authority, Albury-Wodonga.
JORDAN, MR A.K.	Assistant Director, Federation of Automotive Products Manufacturers, Australian Capital Territory.
JOUBERT, Professor P.	Member, Advisory Committee on Safety in Vehicle Design, and Professor of Mechanical Engineering, University of Melbourne, Victoria.
KEANE, MR V.	Chief Engineer, Patons Brake Replacements Pty Ltd, Victoria.
KING, MR C.N.	Member, Joint Committee, Aeronautical Research Laboratories Groups, Staff Associations and Unions, Victoria.
KLINGER, MR F.M.	Manager-Motor, Victorian State Insurance Office, Victoria.
LANE, Dr J.C.	Member, Advisory Committee on Safety in Vehicle Design, Victoria.
LANGER, MR E.W.A.	Member, Society of Automotive Engineers - Australasia, Victoria.
LAYLAND, MR B.	Vice-President, Australian Optometrical Association, New South Wales.
LAYTON, MR E.J.	Honorary Secretary, Society of Automotive Engineers - Australasia, Victoria.
LUNN, MR B.R.	Secretary-General, Australian Automobile Association, Australian Capital Territory.
McCALMAN, MR D.H.	Principal Executive Officer, Apprenticeship and Trade Training Section, Training Development Branch, Department of Labour and Immigration, Victoria.
McDONALD, MR W.J.	Proprietor, Swift's Auto Instrument Services Pty Ltd, Victoria.

McLEAN, Dr A.J.	Senior Research Fellow-in-Charge, Road Accident Research Unit, University of Adelaide, South Australia.
MAIR, MR J.L.	Consultant to Arthur E. Bishop Pty Ltd, New South Wales.
MARSHALL, MR R.J.	Director, Product Development, Ford Motor Company of Australia Ltd, Victoria.
MARTIN, MR D.	Managing Director, General Motors-Holden's Pty Ltd, Victoria.
MASHMAN, MR M.L.	Traffic Data Officer, Victorian Road Safety and Traffic Authority, Victoria.
MILTON, MR E.C.	O.P.O. Australasia Pty Ltd, New South Wales.
MITCHELL, MR K.L.	Secretary, Hospital Employees' Federation, Victoria.
MOLNAR, MR T.	Engineering Manager, Cooldrive Consolidated Industries Pty Ltd, Victoria.
MURRELL, MR W.J.C.	Manager, Service Division, Chrysler Australia Ltd, South Australia.
MYERS, MR N.A.A.	Member, Road Trauma Committee, Royal Australasian College of Surgeons, Victoria.
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NELSON, MR P.G.B.	Director, Pattern of Inquiry Survey, Road Trauma Committee, Royal Australasian College of Surgeons, Victoria.
NEWBORN, MR N.W.	Advertising and Public Relations Manager, Volkswagen Australia Pty Ltd, New South Wales.

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PATERSON, MR J.	President, Car Consumers Association, Victoria.
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SCOTT, MR J.R.	General Manager, Can-am Industries Pty Ltd, New South Wales.
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SHARPE, MR A.	Controller, Research and Development, Department of Defence, Australian Capital Territory.
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STRATTON, MR T.J.	Reliability and Quality Control Manager, General Motors-Holden's Pty Ltd, Victoria.
THOMAS, MR B.	Chief Engineer, Chrysler Australia Ltd, South Australia.
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WHITE, MR W.L.	Manager, Checkmate Auto Controls Pty Ltd, Victoria.
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YOUDS, MR R.L.A.	Member, Advisory Committee on Safety in Vehicle Design, and Vehicle Safety Manager, Chrysler Australia Ltd, South Australia.

"ROAD SAFETY: A NATIONAL AUTHORITY, THE CONSTITUTIONAL POSITION, STATISTICAL NEEDS"

FIRST REPORT, SEPTEMBER 1973

SUMMARY OF LEGISLATIVE AND ADMINISTRATIVE ACTION AS AT NOVEMBER 1975

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
1. The Australian Government take steps to examine the constitutional position in the light of the opinions contained in this report with a view to removing any barrier to the implementation of recommendations of this Committee or of any duly constituted authority.	Department of Transport	(a) The Minister for Transport announced in the House of Representatives on 15 October 1973 that the Government has decided to commission a thorough examination of the constitutional situation so that as far as possible any barriers to effective action can be removed. (Hansard, p.2097) (b) The constitutional position was considered in the drafting of the Road Safety and Standards Authority Act 1975.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
2. The Australian Government legislate for the creation of a National Authority on Road Safety and Standards as a statutory authority with a full-time Commissioner of First Division status.	Department of Transport	The Road Safety and Standards Authority Act 1975 was assented to on 1 May 1975. Under Section 8(2) of this Act, the Chairman shall be a full-time member of the Authority of First Division status.	
3. The Authority have the following functions : (a) advise the Minister for Transport on road safety including proposals for financial assistance to the States for this purpose; (b) formulate, in consultation with the relevant State and Australian authorities, proposals in respect of : - motor vehicle standards;	Department of Transport	The functions of the Road Safety and Standards Authority, set out in Section 4(2) of the Act, reflect the Committee's recommendation and are included as Appendix 3 of this Report.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
- road safety standards in respect of highway engineering, traffic management, roadside furniture and town planning; and - uniform traffic codes; (c) certify compliance of motor vehicles and vehicle components with approved standards; (d) prepare road safety impact statements in respect of transport and urban development programs being financed to a signficant degree out of Australian Government funds;			

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
(e) conduct road safety research on a multi-discipline basis by the use of outside bodies and persons and of its own staff and facilities;			
(f) collect and disseminate road safety research information;			
(g) collect and disseminate, in consultation with the Bureau of Census and Statistics, national statistical information required by workers in the various disciplines relevant to road safety and relating to such topics as drivers, vehicles, accidents, etc. on an Australia-wide basis;			

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
(h) conduct road safety education and publicity campaigns and co-ordinate State and Territory efforts in this field.			
4. There should be a part-time Advisory Committee on Road Safety Research and Information to advise the Minister on major research projects and to assist the Commissioner in facilitating communication with the various bodies associated with road safety.	Department of Transport	(a) Expert Group on Road Safety has existed since 1970 and advises the Minister on Road Safety matters; (b) Section 30 of the R.S.S.A. Act provides for the appointment of advisory committees.	
5. The Advisory Committee include a part-time Chairman and that the Commissioner be an executive member of the Committee.		This recommendation has not been taken up.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
6. A Central Information Service be created within the National Authority on Road Safety and Standards and that this should include a national data base of road safety and related statistics, developed in consultation with the Commonwealth Statistician and charged with the following functions : (a) to explore user requirements and the relevance of statistics and other data to the reduction of traffic accidents and identify, and recommend to collecting agencies, data requirements;	Department of Transport Australian Bureau of Statistics	When the R.S.S.A. commences effective operation the Bureau of Statistics intends to consult with the Authority on this recommendation. (a) the importance of this recommendation is recognised in Section 4 (2)(g) of the R.S.S.A. Act; (b) a Road Safety Information Service has been established within the Road Safety Branch of the Department of Transport which has been transferred to the R.S.S.A.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
(b) to work with relevant authorities towards the development and general use of : (i) uniform definitions and concepts; (ii) uniform data collection forms; (iii) compatible data processing and storage systems; (c) to bring together all relevant data from other agencies, both Australian and foreign, and establish a data base to serve research and statistical purposes; (d) to produce, and integrate when appropriate, data analyses, case studies, etc. for research purposes and public information.			

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
7. The Australian Government make a grant of up to $20,000 to the Royal Australasian College of Surgeons to assist the Road Trauma Committee to complete its survey of road accident injury patterns.	Department of Transport	An amount in excess of $20,000 was made available by the Department of Transport to complete the survey. The Report of the Road Trauma Committee of the Royal Australasian College of Surgeons entitled Pattern of Injury Survey of Victorian Automobile Accidents June 1971-June 1973, was presented to the Standing Committee on 18 October 1974.	

"ROADS AND THEIR ENVIRONMENT", SECOND REPORT, APRIL 1974

SUMMARY OF LEGISLATIVE AND ADMINISTRATIVE ACTION AS AT NOVEMBER 1975

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
1. The Australian Government should encourage State Planning Authorities and Local Government by technical assistance and, if necessary, by financial assistance to adopt safer and more efficient land use principles. Incentives should be introduced to encourage developers and local councils to adopt safer community designs.	Department of Transport Department of Urban and Regional Development (DURD) Commonwealth Bureau of Roads (CBR)	A handbook 'Town Planning Guidelines Derived from Road Safety Principles', is being prepared by the Department of Transport. A summary booklet and film is also being prepared to assist in promoting wide-spread implementation of this recommendation. The C.B.R. has reported to the Minister for Urban and Regional Development on the design of residential streets in existing and new urban areas. D.U.R.D. discussions with State planning authorities have stressed the need for safer and more efficient land use and encouraged alternative forms of laying out sub-divisions.	D.U.R.D. intends to hold seminars on local road design. C.B.R. will submit a second more comprehensive report to the Minister on matters referred to in this recommendation.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
2. A specialist section should be created in the Road Safety and Standards Authority to advise State Planning Authorities and local government on the safety aspects of development proposals.	Department of Transport	Section 4 (2)(b) of the R.S.S.A. Act provides for the Authority to prepare reports on road safety aspects of transport and urban development programs financed to a significant degree by the Australian Government.	
3. The R.S.S.A. should : . formulate safety standards for land use, town planning and road design; and . seek ways of creating greater public acceptance of the desirability of, and necessity for planning and building communities in which the vehicle and pedestrian are separated; for example, by the greater use of Radburn design principles, cluster housing estates.	Department of Transport Department of Urban and Regional Development Commonwealth Bureau of Roads	D.U.R.D. is encouraging councils to plan according to the latest principles.	It is expected that this will be a key function of R.S.S.A. These matters will be covered in the C.B.R.'s second report to the Minister for Urban and Regional Development.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
4. The Australian Government should - . help finance a program for widening shoulders or rural highways, the removal of obstacles and the planting of native shrubs or erection or growing of suitable barriers; . implement a program to replace the current unsatisfactory guide post with a lightweight frangible post according to standards set by the R.S.S.A.; . implement a program to extend the use of reflective paints and road marker discs of uniform colour and standard;	Department of Transport Commonwealth Bureau of Roads Department of Urban and Regional Development	1. The Roads Grants Act 1974 provides a total of $30m for minor traffic engineering and road safety improvements(MITERS), e.g. shoulder-widening. 2. The Department of Transport is conducting research into the installation of frangible poles.	Standards for roadmaking paints are expected to be developed by the R.S.S.A.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
. help finance a program for undergrounding power supplies etc. especially in new developments and of moving poles in other areas. (Para. 78(a))			Available data is insufficient to enable a comprehensive funding program to be initiated but a study by the University of Melbourne has been commissioned to investigate utility pole collisions and possible counter measures.
5. The R.S.S.A. should, in conjunction with other relevant authorities - . examine the feasibility of a program for shifting poles back from the kerbside; . research the benefits of using frangible poles at dangerous locations;	Department of Transport Commonwealth Bureau of Roads	The Department of Transport is conducting research into the installation of frangible poles.	The Minister for Transport is in the process of discussing proposed standards on these matters with the States, preparatory to the issue of

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
. determine and set standards for quality, colour, etc. for road making paint, raised plastic discs and other traffic aids.			notifications under the National Roads Act 1974.
6. The Postmaster-General's Department, wherever possible, should underground its services and should introduce such a program in older areas, especially along major arterials carrying high speed traffic.	Australian Telecommunications Commission (formerly the Postmaster-General's Department)	Departmental policy for undergrounding plant substantially conforms to this recommendation. A special program to accelerate the undergrounding of its services would require financial assistance.	
7. The R.S.S.A. should devote increasing attention to promoting improved and more uniform traffic codes and traffic management. In particular, all signs should have a uniform meaning, their shape and detail uniform with consideration being given to making their symbolism more graphic, and they should	Department of Transport	This recommendation is specially provided for in Section 4 (2)(e) of the R.S.S.A. Act.	The R.S.S.A. is expected to work in close co-operation with State and Territory authorities through ATAC, its advisory committees and other relevant bodies.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
be positioned at distances which would allow motorists the necessary reaction time.			
8. The R.S.S.A. determine what types of traffic lights are the most effective in accident reduction, establish standards in terms of luminescence, colour, sequence of action, etc.	Department of Transport	The Department of Transport is conducting research into the co-ordination of signal systems.	
9. The R.S.S.A., in conjunction with other authorities, seek ways of having types of traffic lights standardised throughout Australia and having them co-ordinated wherever possible.	Department of Transport	See action taken on recommendation No.8 above.	
10. The Australian Government through the R.S.S.A., should arrange for pilot projects in each of the capital cities to test the effectiveness of concrete safety barriers at suitable locations.	Department of Transport Commonwealth Bureau of Roads	Provision for funding this project is made under the MITERS category of the Road Grants Act 1974. Funds for this project were allocated during 1974-75.	Evaluation of this program is to be conducted.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
11. The greater use of clearways	Department of Transport Commonwealth Bureau of Roads	Provision for funding this project is made under the MITERS category of the Road Grants Act 1974. Funds for this project were allocated during 1974-75.	Evaluation of this program is to be conducted.
12. The Australian Government should encourage the creation of pedestrian malls and precincts throughout Australia by providing financial incentives.	Department of Transport Department of Urban and Regional Development Commonwealth Bureau of Roads	This subject is included in the handbook of town planning guidelines referred to in recommendation No.1 above.	This is a type of project eligible for funding under MITERS.
13. The R.S.S.A. should conduct a program aimed at creating a greater community consciousness of the benefits of pedestian malls and, through its advisory role with local councils, should encourage them to introduce pedestrian malls wherever possible.	Department of Urban and Regional Development Department of Transport		This is a type of project eligible for funding under MITERS. D.U.R.D. expects to increase funding for footpaths in the future.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
14. Wherever arterial roads close to the inner city are being considered, limited access ring roads should be encouraged by upgrading existing arterials or sub-arterial routes.	Department of Transport Commonwealth Bureau of Roads	This general principle is part of the strategy of administering the Road Grants Act.	Machinery now exists for the Australian Government through the Minister for Transport to direct in consultation with the States, investigations into particular problems in specific areas.
15. The concept of freeways radiating from inner city areas should be critically assessed by the Commonwealth Bureau of Roads (C.B.R.) and the R.S.S.A. which should compare the benefit-cost advantages of urban freeways with low cost improvements to existing arterials, with a view to having a larger proportion of Australian Government funds allocated to upgrading existing main roads in urbanised areas.	Department of Transport Commonwealth Bureau of Roads	It is existing policy to review critically any proposal for inner-city freeway construction. The C.B.R. Report "Assessment of Freeway Plans - State Capital Cities 1974" considered these matters.	Comparison of cost-benefit advantages of urban freeways over improvements to existing arterials is being made in the administration of Road Grants Act with a view to having a larger proportion of Australian Government

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
			funds allocated to upgrading existing main roads in urbanised areas.
16. The Australian Government should investigate sources of additional resources and resource re-allocation to enable the system of interstate highways and other urgent work to be completed as soon as possible.	Department of Transport Commonwealth Bureau of Roads	The National Roads Act provides the States with grants of $409m until 1977 for the construction of interstate highways.	C.B.R. will be reporting on the allocation of additional resources to improve national highways.
17. The Australian Government should allocate more finance to enable bitumenisation of rural arterials which are at present surfaced with gravel or soil and to assist councils in maintaining such roads.	Department of Transport Commonwealth Bureau of Roads	Grants can be provided to the States for specific projects if proposed by States. The Australian Government cannot direct a State to spend grants on projects a State has not proposed for financial assistance.	C.B.R. is reviewing the situation.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
18. The Australian Government should consider increasing fuel tax to replace annual charges and to encourage more careful usage of the private vehicle and greater usage of public transport. This would require that suitable financial and administrative arrangements be made with the States.	Department of Transport Commonwealth Bureau of Roads	The question of a system of raising road revenue which would be more directly related to road usage than the present combination of registration, licence and road maintenance charges, and petrol excise is being examined.	
19. The R.S.S.A. considers ways of extending the scope of black spot improvements by expanding the supply of special equipment, expertise, especially engineers and other resources necessary to meet the full warranted program of $154m recommended by the C.B.R. together with any additional programs disclosed by further surveys.	Department of Transport Commonwealth Bureau of Roads	The Roads Grants Act provides for black spot improvements in its grants for MITERS.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
20. The C.B.R. examine ways of transferring resources from high cost, longer term, lower safety yielding projects, such as urban freeways, towards spot improvements.	Commonwealth Bureau of Roads	C.B.R. involved in investigations in this area.	
21. Further surveys be carried out by the relevant authorities with whatever assistance is required and possible of being provided by the R.S.S.A. and the C.B.R.	Department of Transport Commonwealth Bureau of Roads	Roads Grants Act 1974 provides funds up to June 1977. Further surveys will be carried out during the planning phase of subsequent roads legislation.	
22. Additional grants should then be considered by the Australian Government for black spot surveys and for financing the required work.	Department of Transport Commonwealth Bureau of Roads	The Road Grants Act provides funds for black spot improvements.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
23. The R.S.S.A. should investigate ways of extending improved lighting in urban areas, and the benefits and costs of extending improved lighting into rural areas.	Department of Transport	Provided for under MITERS. The Department of Transport is studying street lighting and roadway lighting in rural areas.	
24. The Australian Government, through the R.S.S.A., should arrange for the financing of pilot schemes in each capital city, to implement the designs and principles advanced by Mr Jay and Non-Stop Urban Traffic Systems, involving interchanges and vertical grade separation.	Department of Transport Department of Urban and Regional Development Commonwealth Bureau of Roads		A detailed report by C.B.R. on "Non-Stop Urban Traffic Systems" is being prepared.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
25. The Australian Universities Commission and the Australian Commission on Advanced Education investigate the shortage of trained safety engineers in Australia with a view to encouraging new safety or safety-oriented units or courses at tertiary level.	Universities Commission Commission on Advanced Education	Universities Commission has forwarded recommendation to Vice-Chancellors Committee	
26. The Australian Government should - • continue and extend its efforts to have public transport improved; • stimulate research and development towards improving public transport technology being applied to Australia.	Department of Transport	(a) In 1973 a 5 year scheme was approved to provide, through non-repayable grants, two-thirds of the cost of improving urban public transport in major metropolitan centres. Over $138m has been approved in the first 2 years of the program.	

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
		(b) $26m has been allocated under the Transport (Planning and Research) Act 1974 between 1974 and 1977 for transport planning and research by the States into urban public transport and roads.	
27. The Department of Transport should investigate other ways of encouraging motorists to transfer to public transport.	Department of Transport	The Urban Public Transport Improvement Program seeks to encourage transfers from private cars to urban public transport systems by making the latter cheaper, more comfortable and convenient.	
28. The R.S.S.A., together with other relevant authorities - investigate the safety aspects of permitting cyclists to use footpaths and other legislative changes which may be necessary to remove the cyclist from exposure; and	Department of Transport Department of Urban and Regional Development	Roads Grants Act 1974 makes makes cycle paths eligible for funding under roads grants. Such projects must be initiated by State or local governments.	C.B.R. intend to report to the Government on recommendations 26-28.

RECOMMENDATION	RESPONSIBILITY FOR RECOMMENDATION	ACTION TAKEN	PROPOSED ACTION
examine ways of making more facilities available for pedal cyclists to encourage less car usage and create a safer environment for cyclists, especially children.		Cyclist safety considered in town planning guidelines handbook referred to in recommendation No.1 above.	

APPENDIX 3

OBJECTS, AND FUNCTIONS OF THE ROAD SAFETY AND STANDARDS AUTHORITY
(Extract from Road Safety and Standards Authority Act 1975)

The objects for which the Authority is established are -

(a) the promotion of road safety;

(b) the promotion of the means for the control and reduction of noise, fumes and other emissions from road vehicles; and

(c) the protection of the interests of persons who buy or otherwise acquire road vehicles in the design, construction, durability, performance, maintenance and repair of their vehicles,

so far as those matters relate to matters with respect to which the Parliament has power to make laws and, in particular, so far as those matters relate to trade and commerce among the States, purposes in connexion with a Territory or the use of road vehicles by Australia or by an authority of Australia.

The functions of the Authority are to further the objects for which it is established by -

(a) investigating and reporting to the Minister on matters relating to road safety and road vehicles;

(b) undertaking, or arranging for, research in relation to road safety and road vehicles;

(c) fostering the co-ordination of activities in Australia relating to road safety;

(d) advising the Minister in respect of the grant of financial assistance by the Parliament to the States in connexion with road safety;

(e) formulating standards for highways and other roads and proposals in relation to traffic management, traffic laws, road signs and other matters and things relating to road safety;

(f) preparing reports for relevant Departments and authorities of Australia on the road safety aspects of transport and urban development programs that are or are to be, directly or indirectly, financed to a significant degree by Australia.

(g) collecting and disseminating, or arranging for the collection and dissemination of, statistics and other information relating to road safety;

(h) formulating standards for road vehicles; and

(i) testing, or arranging for the testing of, road vehicles for compliance with standards and certifying, or arranging

for the certification of, compliance of road vehicles with those standards, including certification by means of marks affixed to road vehicles.

In the performance of its functions, the Authority shall, where it considers it appropriate to do so, consult with the relevant authorities of Australia, the States and Territories, local governing bodies and other interested bodies.

The Minister may request the Authority to undertake a particular matter, or participate in a particular activity, within the functions of the Authority and the Authority shall comply with the request.

AUSTRALIAN TRANSPORT ADVISORY COUNCIL STRUCTURE

APPENDIX 4

	Railway Group	Road Group	Motor Transport Group	Co-ordinating and General Transport Group
Functions	Railway matters including the transport of passengers and freight by rail	Road matters	Traffic management, road vehicle and driver regulations, training and education matters, Codes of practice	Assisting in the co-ordination of transport policy and general transport matters not covered by other groups
Subsidiary Committees			A.C.V.P. A.C.S.V.D. A.C.R.U.P.T.C. P.A.C.E.R.S. A.C.T.D.G. C.O.M.V.E. Registrars NOTE: The Certification Board has not been listed. The Board has been specially appointed by Ministers	
Possible Membership	Railway authorities	Road authorities	Traffic Management Authorities Vehicle Regulatory Authorities Driver Licensing Authorities Driver Training & Education Authorities	Principal Ministerial Aides Directors of Transport

APPENDIX 5

APPLICATION OF AUSTRALIAN DESIGN RULES BY VEHICLE CATEGORY AND DATE

ADR No.	Australian Design Rule	Passenger Car (Includes station wagons)	Passenger Car Derivative (Includes panel vans, utilities)	Multipurpose Passenger Car	Omnibuses	Other Vehicles less than 4.5 tonne GVW	Other Vehicles exceeding 4.5 tonne GVW	Motor Cycles
1.	REVERSING SIGNAL LAMPS	Jan. 72	Jan. 72	Jan. 73	July 73* July 75Ø	July 73	July 75	
2.	DOOR LATCHES AND HINGES	Jan. 71	Jan. 71	Jan. 73		July 74	July 75	
3.	SEAT ANCHORAGES FOR MOTOR VEHICLES	Jan. 71	Jan. 72	Jan. 73		July 74		
4.	SEAT BELTS Front Seats	Jan. 69	Jan. 69	Jan. 70		Jan. 70		
	Rear Seats	Jan. 71	Jan. 71	Jan. 71		Jan. 71		
4A	SEAT BELTS	Jan. 74	Jan. 74	Jan. 74		July 74		
4B	SEAT BELTS	Jan. 75	Jan. 75	Jan. 75		July 75		
4C	SEAT BELTS	Jan. 76	Jan. 76	Jan. 76		July 76		
5A	SEAT BELT ANCHORAGE POINTS Front Seats	Jan. 69	Jan. 69	Jan. 71		Jan. 71		
	Rear Seats	Jan. 71	Jan. 71	Jan. 71		Jan. 71		
5B	SEAT BELT ANCHORAGES	Jan. 75	Jan. 75	Jan. 75		July 75		
6.	DIRECTION TURN SIGNAL LAMPS	Jan. 73	Jan. 73	Jan. 73	July 73	July 73	July 73	
7.	HYDRAULIC BRAKE HOSES	Jan. 70	Jan. 70	Jan. 70	Jan. 70	Jan. 70	Jan. 70	Jan. 70
8.	SAFETY GLASS	July 71	July 71	July 71	July 71	July 71	July 71	
9.	STANDARD CONTROLS FOR AUTOMATIC TRANSMISSIONS	Jan. 72	Jan. 72	Jan. 72	Jan. 72	Jan. 72	Jan. 72	
10A	STEERING COLUMNS	Jan. 71	Jan. 71					
10B	STEERING COLUMNS	Jan. 73	Jan. 73					
11.	INTERNAL SUNVISORS	Jan. 72	Jan. 72	Jan. 73	July 73	July 73	July 73	
12.	GLARE REDUCTION IN FIELD OF VIEW	Jan. 73	Jan. 73	Jan. 73	July 73	July 73	July 73	
14.	REAR VISION MIRRORS	Jan. 72	Jan. 72	Jan. 73				
15.	DEMISTING OF WINDSCREENS	Jan. 71	Jan. 73	Jan. 73		July 73	July 76	
16.	WINDSCREEN WIPERS AND WASHERS	Jan. 73	Jan. 73	Jan. 74				
17.	FUEL SYSTEMS FOR GOODS VEHICLES						July 75	
18.	LOCATION AND VISIBILITY OF INSTRUMENTS	Jan. 73	Jan. 73					
20.	SAFETY RIMS	July 70	July 70	Jan. 73				
21.	INSTRUMENT PANELS	Jan. 73	Jan. 73					
22.	HEAD RESTRAINTS	Jan. 72	Jan. 72	Jan. 74				
22A	HEAD RESTRAINTS	Jan. 75	Jan. 75	Jan. 75				
23.	NEW PNEUMATIC PASSENGER CAR TYRES	Jan. 74	Jan. 74	Jan. 74				
24.	TYRE SELECTION	Jan. 73	Jan. 73	Jan. 73				
25.	ANTI-THEFT LOCKS	Jan. 72	Jan. 72	Jan. 73				
25A	ANTI-THEFT LOCKS	Jan. 78	Jan. 78	Jan. 78				
29.	SIDE DOOR STRENGTH	Jan. 77						
31.	HYDRAULIC BRAKING SYSTEMS	Jan. 77						
32.	SEAT BELTS FOR OMNIBUSES AND HEAVY VEHICLES				July 77		July 77	
33.	MOTORCYCLE BRAKE SYSTEMS							March 76
34.	CHILD RESTRAINT ANCHORAGES	July 76						
35.	COMMERCIAL VEHICLE BRAKING SYSTEMS			Jan. 75	Jan. 78	Jan. 78	July 79	

NOTES: 1. ADRs Nos. 26, 27 and 30 relate to vehicle emissions and ADR No.28 to Noise and have been omitted.

2. A, B or C represents an upgraded version of the rule.

CODE * less than 4.5 tonne GVW

Ø exceeding 4.5 tonne GVW

AUSTRALIAN DESIGN RULES FOR MOTOR VEHICLE SAFETY

The safety-related Design Rules listed below apply or will apply to passenger cars (including station wagons) from the dates indicated; almost all have been extended to passenger car derivatives (i.e. panel vans and utilities) and a number have been extended to trucks and buses. Several of the Rules have been upgraded after the indicated dates.

DESIGN RULE NO. 1 - REVERSING SIGNAL LAMPS
- *January, 1972*

A car must have rear lights (amber or white) to indicate that it is about to move, or is moving, backwards and which at night will help the driver when reversing.

DESIGN RULE NO. 2 - DOOR LATCHES AND HINGES
- *January, 1971*

Provides strength requirements for side door locks and hinges to lessen the risk of doors opening in a crash and to prevent occupants being ejected.

DESIGN RULE NO. 3 - SEAT ANCHORAGES
- *January, 1971*

Specifies strength requirements for seat installations.

DESIGN RULE NO. 4 - SEAT BELTS
- *Front Seats, January, 1969; Rear Seats, January, 1971*

Specifies requirements for seat belts to restrain occupants under impact conditions and to facilitate fastening and correct adjustment.

DESIGN RULE NO. 5 - SEAT BELT ANCHORAGES
- *Front Seats, January, 1969; Rear Seats, January, 1971*

Specifies seat belt anchorage strength and location requirements for wearer comfort and safety.

DESIGN RULE NO. 6 - DIRECTION TURN SIGNAL LAMPS
- *January, 1973*

Specifies requirements for turning lamps visible from the front, rear and sides.

DESIGN RULE NO. 7 - HYDRAULIC BRAKE HOSES
- *January, 1970*

Specifies requirements for hydraulic brake hoses to minimise risk of failure in use.

DESIGN RULE NO. 8 - SAFETY GLASS
- July, 1971

Specifies performance requirements for windows and windscreens to lessen the risk of serious injury to people coming in contact with broken glass. Windscreens must be made of clear glass to ensure maximum visibility under all lighting conditions and where toughened glass is used, it must retain some transparency when shattered.

DESIGN RULE NO. 9 - STANDARD CONTROLS FOR AUTOMATIC TRANSMISSIONS
- January, 1972

Standardises the layout of the gear selector for automatic transmissions to lessen the chance of engaging the wrong gear, and to ensure some engine braking at speeds below 25 mph.

DESIGN RULE NO. 10 - STEERING COLUMNS
- January, 1971

Provides for energy absorption by the steering assembly to reduce the severity of injuries to drivers and limits penetration into the passenger compartment in the event of a crash.

DESIGN RULE NO. 11 - INTERNAL SUN VISORS
- January, 1972

Internal sun visors must be energy absorbing to reduce injuries.

DESIGN RULE NO. 12 - GLARE REDUCTION IN FIELD OF VIEW
- January, 1973

To minimise glare from metal surfaces in the driver's field of view.

DESIGN RULE NO. 14 - REAR VISION MIRRORS
- January, 1972

Both an internal and a right hand external rear vision mirror must be fitted to provide a driver with a clear and reasonably unobstructed view to the rear. The mountings of internal mirrors must deflect or break away on impact to minimise the risk of injury and external mirrors must be free of any sharp edges which could injure pedestrians.

DESIGN RULE NO. 15 - DEMISTING OF WINDSCREENS
- January, 1971

Cars must be equipped with efficient demisters to keep windscreens free of mist so that driver's vision is not obscured.

DESIGN RULE NO. 16 - WINDSCREEN WIPERS AND WASHERS
- January, 1973

Specifies requirements for windscreen wipers and washers.

DESIGN RULE No. 18 - LOCATION AND VISIBILITY OF INSTRUMENTS
- January, 1973

Ensures that the speedometer and other essential indicators are positioned for easy viewing by the driver.

DESIGN RULE NO. 20 - SAFETY RIMS
- *July, 1970*

Specifies requirements for wheel rims that will retain a deflated tyre in the event of a blowout.

DESIGN RULE NO. 21 - INSTRUMENT PANELS
- *January, 1973*

Provides for energy absorbing instrument panels to reduce injuries.

DESIGN RULE NO. 22 - HEAD RESTRAINTS
- *January, 1972*

Each outer front seat position must be fitted with head restraints to lessen the risk of whip-lash injuries in rear-end impacts.

DESIGN RULE NO. 23 - NEW PNEUMATIC PASSENGER CAR TYRES
- *January, 1974*

Specifies strength and construction standards.

DESIGN RULE NO. 24 - TYRE SELECTION
- *January, 1973*

Provides for tyres to be fitted appropriate to the car's load capacity, rim size and speed characteristics.

DESIGN RULE NO. 25 - ANTI-THEFT LOCKS
- *January, 1972*

A special lock must be fitted to limit car thefts and the involvement of stolen cars in accidents.

DESIGN RULE NO. 29 - SIDE DOOR STRENGTH
- *January, 1977*

Specifies crush requirements for side doors of passenger cars to protect occupants in side impacts.

DESIGN RULE NO. 31 - HYDRAULIC BRAKING SYSTEMS
- *January, 1977*

Specifies requirements to ensure safe braking under normal and emegency conditions.

DESIGN RULE NO. 34 - CHILD RESTRAINT ANCHORAGES
- *July, 1976*

Requires upper anchorages in rear seats to facilitate restraint installation.

APPENDIX 7

FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS) AND ECONOMIC COMMISSION FOR EUROPE (ECE) REGULATIONS NOT INCLUDED IN DESIGN RULES

ITEM	PURPOSE	FMVSS	ECE	COMMENT
A. ACCIDENT AVOIDANCE				
1. Control location, identification and illumination.	Ensure accessibility of vehicle controls and facilitate their selection to reduce diversion of driver's attention.	101	-	To be investigated by ACSVD. ECE preparing regulation for identification of controls and their location.
2. Lamps, reflective devices and associated equipment.	Includes requirements for signal lamps (other than reversing and turn signal indicators), head lamps, rear lamps, brake lamps, reflectors.	108	1, 2, 3, 4, 5, 7, 8, 19, 20.	Preparation of ADR awaiting results of a lighting research project. ECE preparing regulation on installation of lighting and signalling devices.
3. Headlamp concealment devices.	As title indicates.	112	-	Australian requirement not considered necessary at this time.
4. Hood latch systems.	Requires hood latch with primary and secondary latch facilities.	113	-	An equivalent Draft Regulation has been endorsed.
5. Retreaded pneumatic tyres.	Sets safety criteria for retreaded tyres similar to those for new tyres.	117	Draft Regulation exists.	At the request of ACVP, the SAA is preparing a standard on retreaded tyres for passenger cars.
6. Power operated window systems.	Prevent operation of windows when keys returned.	118	-	Essential requirements are covered by Draft Regulations.
7. New pneumatic tyres for vehicles other than passenger cars.	To ensure safe performance level and adequately identify essential characteristics.	119	Regulation agreed but not yet in force.	To be investigated by ACSVD.
8. Air brake systems.	Sets braking performance limits for vehicles with air brakes.	121	-	A proposed ADR on truck braking will include air brake systems. FMVSS covers braking for all vehicles.
9. Motorcycle brake systems.	Sets braking performance limits under normal and emergency conditions.	122	-	An ADR on motorcycle braking is being prepared.
10. Motorcycle controls and displays.	Sets standards for location, identification and use of controls.	123	-	Partly covered by Draft Regulations, which are under review by ACVR to include additional requirements.
11. Accelerator control systems.	Reduce possibility of engine overspeed due to malfunction.	124	-	Australian requirement is not considered necessary at this stage.
12. Portable Warning devices.	To be carried on vehicles to warn traffic approaching stationary vehicle.	125	Reg. 27	To be investigated by ACSVD.
13. Truck camper loading.	Reduce over loading of camper vehicles.	126	-	Australian requirement is not considered necessary at this stage.
14. Audible warning devices and signals.	Sets performance requirements for vehicle horns, etc. used to warn of the presence of the vehicle.	-	28	Australian requirement is not considered necessary at this stage.
15. Arrangement of foot controls.		-	Regulation agreed but not yet in force.	To be investigated by ACSVD.
B. INJURY REDUCTION				
1. Occupant protection in interior.	Reduce forces in impact with instrument panels, seat-backs, arm rests and other interior fittings.	201	21	ADR's 11 and 21 cover sun visors and instrument panels. Australian requirement for other fittings to be investigated.
2. Occupant crash protection.	Provide occupant protection through seat belts and/or active restraint systems.	208	-	Seat belt requirements are covered in ADR's 4A, 4B, 4C. Passive restraint systems are not considered necessary for Australia.
3. Wheel nuts, wheel discs and hub caps.	Eliminate wingedprojection from wheels.	211	-	Australian requirement is not considered necessary at this stage.

ITEM	PURPOSE	FMVSS	ECE	COMMENT
4. Windscreen mounting.	Retention of windscreen in frontal crash.	212	-	Australian requirement is not considered necessary at this stage.
5. Child seating systems.	To provide protection for children similar to that provided for adults by seat belts and other systems.	213	Study proceeding	AS E46 specifies requirements for child restraints. A Draft Regulation requires child restraints to comply with this standard. Design rule for mountings for child restraints is being prepared.
6. Roof crush resistance.	To reduce crushing of roof in roll-over accidents.	216	Regulation agreed but not yet in force.	To be investigated by ACSVD.
7. Bus window retention and release.	Minimize occupant ejections and provide emergency egress.	217	-	To be investigated by ACSVD.
8. Motorcycle safety helmets.	Sets performance requirements for helmets.	218	22	Upgraded Australian Standard has just been published - AS 1698.
9. External projectors.	Reduce bodily injuries caused by contact with vehicle exterior.	-	26	To be investigated by ACSVD.
10. Protection of occupants of cab of commercial vehicles.	Reduce injuries to vehicle occupants in collisions.	-	29	To be investigated by ACSVD.
11. Behaviour of structure of impacted vehicle in head-on collision.	Ensure adequate survival space in vehicles in collision.	-	Regulation agreed but not yet in force.	ADR 10B and ADR 29 partly cover this field.
12. Behaviour of structure of impacted vehicle in rear-end collision.	Ensure adequate survival space in vehicles in collisions.	-	Regulation agreed but not yet in force.	ADR 10B and ADR 29 partly cover this field.
C. POST CRASH				
1. Fuel system integrity	Minimize fuel spillage in frontal impacts.	301	Regulation agreed but not yet in force.	To be investigated by ACSVD.
2. Flammability of interior material	Minimize flammability of materials used in vehicle interiors.	302	Study commenced in 1974	To be investigated by ACSVD.
D. COMMUNITY PROTECTION				
1. Low speed damage reduction.	To prevent low-speed collisions from damaging vehicle signalling and other systems.	215	Study commenced in 1974	Effectiveness of the FMVSS and latest European work being assessed before recommendation is made on ADR.
E. OTHER				
1. Radio interference suppression.	Prevention of interference with radio and television receivers external to vehicle.	-	10	Australian requirement is not considered necessary at this stage.
2. Vehicle Identification Number.	To provide visible specific identification to minimize illegal usage.	115	-	To be investigated by ACSVD.

APPENDIX 8

PROPOSED FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS) AND PROPOSED ECONOMIC COMMISSION FOR EUROPE (ECE) REGULATIONS NOT INCLUDED IN DESIGN RULES

	ITEM	PURPOSE	FMVSS	ECE	COMMENT
A.	Accident Avoidance				
1.	Tyre and Rim Selection and performance-vehicles other than passenger cars.	As in title.	120(proposed standard published)	Study proceeding	To be investigated by ACSVD.
2.	Vehicle power requirements - trucks and buses.	To ensure adequate ability to accelerate and negotiate grades without disrupting traffic flow.	Proposed standard published.	Study proceeding	A Draft Regulation specifies power/weight for double trailer combinations.
3.	Spray protectors	Fitting of mudflaps	Proposed standard published	-	Draft Regulations currently specify requirements for mudguards.
4.	High speed warning and Control	To provide high speed warning to other traffic and to limit excessive speed.	Proposed standard published	-	ACSVD maintaining a watching brief on the progress of this standard.
5.	Vehicle seating reference.	To limit variation between manufacturer's design, seating reference point and drivers' actual hip point.	Proposed standard published	Regulations have a requirement of this nature.	To be investigated by ACSVD.
6.	Rollover resistance	To specify minimum resistance to rollover situations encountered in attempting to avoid accidents	Advance notice of proposed standard issued.	-	To be investigated by ACSVD.
7.	Directional control	To set performance requirements for directional control during braking in a turn.	Advance notice of proposed standard issued.	-	To be investigated by ACSVD.
8.	Compatibility between driving vehicles and trailers or semi-trailers.	-	-	Regulation agreed but not yet in force	SAA has standard for small trailer couplings and is preparing one for semi-trailers. ACVP is preparing Draft Regulations.
9.	Headlamp cleaners.	-	-	Regulation being prepared	Australian requirement not considered necessary at this time.
10.	Warning lights for motor vehicles.	-	-	Regulation being prepared	Australian requirement not considered necessary at this time.
11.	Lateral position lights.	-	All lighting regulations are in FMVSS 108	Regulation being prepared	To be investigated by ACSVD.
B.	Injury Reduction				
1.	Bus passenger and crash Protection	To improve occupant retention capabilities of seats.	Proposed standard published.	Study proceeding	This item is currently being investigated by ACSVD.
2.	School bus body integrity.	To set requirements for strength of joints in school bus structures.	Proposed rule published	-	To be investigated by ACSVD.

NOTES

1. E.C.E. sponsors a continuing series of study programs covering subjects in the following general areas which may lead to new regulations:- General vehicle requirements, including signalling devices, measurement of engine power, fuel systems, physiological and bio-chemical aspects of vehicle design; Vehicle noise, both external and internal; Seat belts; Braking; Air pollution; Pneumatic Tyres; Impact resistance; Coaches and buses; General safety provisions.
NHTSA are currently sponsoring research programs for subjects included in the general headings listed below. These may lead to new FMVSS standards:- General vehicle requirements, including spray protection, gaseous fuel systems, anthropometric reference systems; Occupant protection, including internal impact resistance, infant restraint, head restraints, vehicle structures; Tyres and wheels, including retreaded tyres; Braking and braking equipment; Vehicle handling; Physiological and bio-chemical features, including alcohol detection and interlock, control requirements, gaseous intrusions; Lighting systems; Visibility requirements.

INDUSTRIAL RESEARCH AND DEVELOPMENT GRANTS TO VEHICLE AND COMPONENT MANUFACTURERS 1969-1974

APPENDIX 9

Grant Recipient	Payments by Financial Years				
				$	
	1969/70	1970/71	1971/72	1972/73	1973/74
ACL Manufacturing Pty Ltd	-	-	-	1,307	-
J.E. Allen Pty Ltd	-	-	-	682	-
Associated Power Seals Pty Ltd	-	1,745	-	-	-
Athol Hedges Pty Ltd	1,805	-	-	-	-
Automotive & Girling (Mfg) Pty Ltd	-	-	-	13,073	48,000
Baby Relax (Aust) Pty Ltd	-	-	-	-	1,684
Bendix Mintex Pty Ltd	20,216*	43,900	3,256	73,200	28,679
Blaxland Rae Pty Ltd	7,993	10,556	6,264	1,296	-
Bolwell Cars Pty Ltd	-	1,784	-	-	8,096
Borg-Warner (Aust) Pty Ltd	-	-	-	32,900	49,300
Robert Bosch (Aust) Pty Ltd	-	-	-	-	20,000
Chrysler Aust Ltd	161,034	562,957	269,300	261,100	179,160
Cooldrive Consolidated Industries Pty Ltd	-	-	-	-	14,180
De Neefe Signs Pty Ltd	-	5,127	8,168	-	8,016
Ford Motor Corp. of Aust Ltd	25,000	127,500	319,800	380,844	725,000
G.A.W. Design & Construction Pty Ltd	-	-	-	-	13,352
Geheral Motors-Holden's Pty Ltd	469,646	534,853	471,800	426,200	691,400
Hardie-Ferodo Pty Ltd	-	24,676	-	34,242	-
Hella-Australia Pty Ltd	-	4,939	-	-	-
R. Hickman Pty Ltd	-	-	-	-	9,044
Leyland Motor Corp of Aust Ltd	25,000**	161,900	222,200	269,000	236,100
Lorimier Contacts Pty Ltd	-	5,273	8,083	13,150	30,800
Joseph Lucas (Aust) Pty Ltd	-	116,574	24,000	18,200	65,200
Mackay Mfg Co. Pty Ltd	-	-	-	-	282
Mackay Rubber Industries Pty Ltd	-	-	-	-	1,810
Mackay Rubber Mills Pty Ltd	-	-	-	-	755
Marbut Forge & Engineering Pty Ltd	-	-	-	-	23,178
G.H. Olding & Sons Pty Ltd	-	6,995	2,141	2,934	-
Olims Engineering Pty Ltd	-	-	3,521	2,080	-
Patons Brake Replacements Pty Ltd	27,805	39,800	48,000	40,100	33,300
Repco Bearing Co. Pty Ltd	8,804	13,164	7,837	69,263	51,300
Repco Dynamics Pty Ltd	-	-	25,100	146,100	128,100
Repco Engine Parts Pty Ltd	-	-	6,300	65,100	37,100
Repco Exchange Services Pty Ltd	1,948	-	-	-	-
Repco Power Pty Ltd	37,855	32,028	49,100	26,300	38,800
Repco Transmission Co. Pty Ltd	32,611	37,946	50,000	70,300	55,600
Repco (W.B.) Pty Ltd	-	-	-	-	6,475

Grant Recipient	Payments by Financial Years $				
A.T. Richardson & Sons Pty Ltd	8,480	17,978	5,857	660	1,380
Rockwell Standard of Aust Ltd	-	-	-	-	3,948
RVB Engineering Products Pty Ltd	2,595	4,876	-	-	9,752
Sonnerdale Richardson David Brown (Vic.) Pty Ltd	13,192	11,801	7,602	8,751	3,283
'Smiths' Industries Pty Ltd	16,522	59,032	24,700	-	8,184
Tecalemit (A'asia) Pty Ltd	-	-	-	4,320	10,368
Transpec Ltd	-	-	885	2,531	-
TRW Australia Ltd	15,697	25,000	89,600	-	50,497
WestinghouseBrake & Signal Co. (Aust) Pty Ltd	17,487***	3,568	-	6,948	14,560
Wibroc Engineering Pty Ltd	2,375	4,613	2,303	6,201	-
Zenford Pty Ltd	-	-	45,300	65,200	5,553

* As the Bendix Corporation Australia (Automotive) Pty Ltd
** As the British Leyland Motor Corporation (Australia) Pty Ltd
*** As Westinghouse Brake (A'asia) Pty Ltd

HJ ALPHABETICAL OPTION CHART

NOT FOR ORDERING PURPOSES

CODE	OPTION
A02	Tinted Windshield Glass (Laminated-Shaded Upper)
A04	Tinted Glass - Side Windows
A05	Tinted Glass - Rear Window
A09	Fixed Side Windows
A22	Laminated Windshield Glass
A31	Power Operated Side Windows
A33	Power Operated End Gate Window
A52	Front Bench Seat
A75	Heavy Duty Front Seat
A76	Heavy Duty Rear Seat
A88	Front Seat Lap & Shoulder Belts (with Retractor)
B06	Ambulance Pack
B02	Taxi Equipment
B03	Taxi Instrument Panel Modification
B26	Door Pull-To Handle (Front Door)
B29	Door Pull-To Handle (Rear Doors)
B30	Carpet Floor Covering
B84	Exterior Ornamentation - Body side Mouldings
C03	Roof - Steel Sliding Sun, Manual
C08	Exterior Soft Trim Roof Covering - Gazelle
C27	Exterior Soft Trim Roof Covering - Black
C32	Delete Upper and Lower End Gates
C49	Heater-Rear Window-Electric
C97	Ventilator - Forced Air
C60	Airconditioner - Manual Control
CB1	Exterior Soft Trim Roof Covering - Dove Grey
CB3	Exterior Soft Trim Roof Covering - Chamois
D31	Anti-Glare Rear Vision Mirror
D33	Remote Control Outside Rear View Mirror Drivers Side
D55	Seat Separator
D71	Rear Fender Mud Deflector
D99	Two Tone Paint
E93	Lash on Tonneau Cover (PVC covered)
F72	Gross Load Package
G66	Superlift Rear Shock Absorbers
G80	Limited Slip Differential
GM9	Axle Ratio - Rear 4.44:1
GU4	Axle Ratio - Rear 3.08:1
GU7	Axle Ratio - Rear 2.78:1
GU8	Axle Ratio - Rear 3.90:1
GV4	Axle Ratio - Rear 3.36:1
GV7	Axle Ratio - Rear 3.55:1
JL2	Front Wheel Disc Brakes - Single Piston
K45	Heavy Duty Air Cleaner
K96	Alternator with Built-in Voltage Regulator(55amp)
L20	Engine - L6 High Compression 202 cu.in.(3310 cc)
L21	Engine - L6 Low Compression 173 cu.in.(2834 cc)
L31	Engine - 308 cu.in.(5047 cc)
L32	Engine - High Compression 253 cu.in.(4145 cc)
LD1	Engine - L6 High Compression 173 cu.in.(2834cc)
M01	Heavy Duty Clutch
M11	Console Floorshift
M15	Manual Transmission-3 Speed 3.07:1 First Gear
M20	Manual Transmission-4 Speed Floorshift 3.05:1-1st
M21	Manual Transmission-4 Speed Floorshift 2.54:1-1st
M22	Manual Transmission-4 Speed Floorshift 3.74:1-1st
M40	Automatic Transmission - Trimatic
M41	Automatic Transmission - Turbo Hydra-Matic 400
N10	Dual Exhaust System
N40	Power Steering
N44	Fast Ratio Steering 16.7:1 Ratio
N66	Wheel - Rally Type (6.0JJx14)
P06	Wheel Trim Ring
PC1	Wheel - 6.0JJx14
PE1	Wheel - 7.0JJx14 Polycast (Honeycomb)
QCA	Tyre & Tube-C78L14 4 P/R Bias Ply B/Wall
QCB	Tyre-C78L14 4 P/R Bias Ply B/Wall Tubeless
QCM	Tyre-C78S14 4 P/R Bias Ply B/Wall Tubeless
QDW	Tyre-FR78S14 Radial Ply Whiteband Tubeless
QEF	Tyre-E78S14 4 P/R Bias Ply Blackwall Tubeless
QEP	Tyre-ER70H14 Radial Ply Red Band Tubeless
QEQ	Tyre-E78L14 4 P/R Bias Ply B/Wall Tubeless
QER	Tyre-E78S14 4 P/R Bias Ply W/Band Tubeless
QEV	Tyre-ER70H14 Radial Ply B/Wall Tubeless
QEY	Tyre & Tube - E78L14 4 P/R Bias Ply B/Wall
QFA	Tyre & Tube - F78L14 4 P/R Bias Ply B/Wall
QFF	Tyre-F78L14 4 P/R Bias Ply B/Wall Tubeless
QFK	Tyre-F78S14 4 P/R Bias Ply B/Wall Tubeless
QFS	Tyre & Tube - F78-1410 P/R Bias Ply B/Wall
QFU	Tyre-F78L14 4 P/R Bias Ply B/Wall Tubeless
QFV	Tyre & Tube - F78L14 6 P/R Bias B/Wall
QFZ	Tyre-F78S14 4 P/R Bias Ply B/Wall Tubeless
QHF	Tyre-6.95S14 4 P/R Bias Ply B/Wall Tubeless
QKG	Tyre & Tube 6.95L14 4 P/R Bias Ply B/Wall
QMV	Tyre-6.95L14 4 P/R Bias Ply B/Wall Tubeless
QRA	Tyre & Tube 185SR14 Radial Ply B/Wall Load Range HL
QRR	Tyre & Tube 185SR14 Radial Ply B/Wall Load Range ML
QRQ	Tyre-185SR14 Rad.Ply B/Wall Tubeless L/R NL
QRS	Tyre-185SR14 Rad.Ply (Pirelli)B/W Tubeless L/R NL.
QRU	Tyre-195SR14 Rad.Ply B/Wall Tubeless L/R NL.
QTS	Tyre-185HR14 Rad.Ply B/Wall Tubeless L/R NL
QTX	Tyre-185SR14 Rad.Ply B/Wall Tubeless L/R ML
QZM	Tyre-205/70HR4 Rad.Ply B/Wall Tubeless
T57	Front Fender Mud Flaps
T60	Battery-60 A H (Deep Cycling) Dry Charge
U17	Cluster Assembly - Instrument
U57	Cartridge Tape Player-4 Speaker Quadraphonic
U60	Manual Radio (11 Transistors)
U63	Push Button Radio (11 Transistors)
U75	Antenna - Power Rear (Separate Control)
U80	Rear Seat Speaker
U91	Roof Sign Lead (Taxi)
UA1	Battery - 60 AH (Deep Cycling) Wet Charge
UD1	Cluster Assembly Instrument (Oil and Water)
UL5	Delete Radio
V01	Heavy Duty Radiator
VE5	Front and Rear Bumper Bar Rub Strip
VF8	Front Bumper Bar Rub Strip
XS4	Front End Air Dam & Deck Lid Spoiler
XS6	Front Bucket Seat Reclining
X89	Vinyl and Nylon Cloth Trim
XW5	Outback Equipment Package
XW6	Paint Special Finish - Metallic - Group 1
XX1	Paint Special Finish - Metallic - Group 2
XX7	Special Vehicle Package - Sports Option
XY5	Decal Package - 'SANDMAN' White
XY7	Special Appearance Feature Items
XY9	Headlining Trim (Neutral Colour)
XEQ	Tyre-E78L14 4 P/R Bias Ply B/Wall T/Less Fr.Wheel
XFF	Tyre-F78L14 4 P/R Bias Ply B/Wall T/Less Fr.Wheel
XV8	Special Exterior Colour-White Cab with Grey Parts
XV6	Comfort & Appearance Package
YDQ	Tyre-E78L14 P/R Winter Tread Bias Ply B/W T/Less
YFX	Tyre-F78-14 4 P/R Winter Tread Bias Ply B/W T/Less
ZDQ	Tyre-E78L14 4 P/R Winter Tread Bias Ply Spare Wheel
ZFX	Tyre-F78-14 4 P/R Winter Tread Bias Ply Spare Wheel
ZEQ	Tyre-E78L14 4 P/R Bias Ply B/Wall T/Less Spare Wheel
ZFF	Tyre-F78L14 4 P/R Bias Ply B/Wall T/Less Spare Wheel

FOR ORDERING DETAILS PLEASE REFER TO MODEL CHARTS

GENERAL MOTORS-HOLDEN'S PTY. LIMITED

AUSTRALIAN DESIGN RULES

EFFECTIVE JANUARY, 1975

No.	Title	Retail Price Increment	Average Net Sale	Estimated Total Cost
1.	Reversing signal lamps - complete system	3.00	2.00	1.99
2.	Door latches & hinges - penalty	2.50	1.67	1.66
3.	Seat anchorages for motor vehicles - incorporated in basic vehicle design	-	-	-
4C/5B	Seat belts and anchorages - complete system	79.00	61.29	45.66
6.	Direction turn signal lamps - complete system	13.50	8.99	8.95
7.	Hydraulic brake hoses-standard used in original vehicle	-	-	-
8.	Safety glass - standard used in original vehicle	-	-	-
9.	Standard controls for automatic transmissions	-	-	-
10B	Steering columns - penalty for E.A.S.	14.00	9.32	9.28
11	Internal sun visors - complete system	8.50	5.66	5.63
12	Glare reduction in field of view-incorporated in basic vehicle design	-	-	-
14	Rear vision mirrors - interior and exterior	6.50	4.33	4.31
15	Demisting of windscreens - complete system	36.50	24.30	24.19
16	Windscreen wipers & washers - complete system	32.75	21.81	21.71
18	Location & visibility of instruments-incorporated in basic vehicle design	-	-	-
20	Safety rims - penalty	.50	.34	.34
21	Instrument panels - instrument panel pad	19.00	12.64	12.58
22A	Head restraints - complete system	13.00	8.65	8.61
23	New pneumatic passenger car tyres - incorporated in basic vehicle design	-	-	-
24	Tyre selection - placard	.10	.07	.07
25	Anti-theft locks - penalty	4.90	3.27	3.25
26/27	Vehicle engine emission control (CO & HC)	24.50	16.32	16.24
28	Motor vehicle noise - incorporated in basic vehicle design	-	-	-
-	Compliance plate	1.75	1.17	1.16
	Total A.D.R. Requirements to January, 1975	$260.00	$181.83	$165.63

Total costs by item not available from cost records and figures shown are estimates.

Retail prices where not specifically established have been developed on an imputed price basis.

The level of Sales Tax applicable to these calculations is 27½ per cent and normal dealer commission is also included.

APRIL 24, 1975.

FORD MOTOR COMPANY OF AUSTRALIA LIMITED

INCREMENTAL COST/PRICE EFFECT OF ADR'S

TYPICAL PASSENGER VEHICLE

ADR NO.	IMPL-DATE	DESCRIPTION	INCREMENT - $ PER UNIT COST	INCREMENT - $ PER UNIT RETAIL PRICE	COMMENTS
Implemented Prior to 1973					
1	72	Reversing Signal Lamp	0.76	1.06	
2	71	Door Latches and Hinges	0.50	0.70	
3	71	Seat Anchorages	-	-	Included in Rule 5B.
4	69	S/B Front Lap/Sash and Centre	-	-	Replaced by Inertia Reels
4	71	Belt Rear Lap/Sash and Centre Lap	7.84	10.97	
5A	69	S/B Front Anchorages	-	-	Included in Rule 5B.
5A	71	Belt Rear Anchorages	-	-	Included in Rule 5B.
7	70	Hydraulic Brake Hoses	-	-	Original Spec complied. No added cost.
8	71	Safety Glass	0.32	0.44	
9	72	Standard Controls - Auto Trans.	-	-	Original Spec complied. No added cost.
10A	71	Steering Column	11.64	16.26	
11	72	Internal Sun Visor	0.25	0.35	
14	72	Rear Vision Mirror	1.69	2.36	
15	71	Demisting of Windscreen	22.92	32.06	
20	70	Safety Rims	0.40	0.56	
22	72	Head Restraint	6.53	9.13	
25	72	Anti-Theft Lock	4.26	5.95	
26	72	Engine Emission Control	-	-	Original Spec complied. No added cost.
		Sub-Total	57.11	79.84	
Implemented 1973-75					
4B	75	S/B Front Inertia Reel	15.87	22.17	
5B	75	S/B Anchorages Front	.78	1.09	
5B	75	S/B Anchorages Rear	.91	1.33	
6	73	Direction Turn Signal	3.25	4.54	
10B	73	Steering Column Intrusion	3.78	5.28	
12	73	Glare Reduction Field of View	.71	.99	
16	73	W/shield Wipers and Washers	.68	.95	
18	73	Location and Visibility of Instruments	-	-	Original Spec complied. No added cost.
21	73	Instrument Panels	9.16	12.80	
23	74	Pneumatic Pass. Car Tyres	-	-	Cannot be Identified.
24	73	Tyre Selection (Decal)	.25	.35	
27	74	Emission Control	5.16	7.21	
27A	75	Evap. Emission Control	16.46	23.00	
28	74	Motor Vehicle Noise	-	-	Original Spec met ADR.
-	74	Metric Speedo	.10	.14	
		Sub-Total	57.11	79.85	
		TOTAL IMPLEMENTED	114.22	159.69	

ADR NO.	IMPL-DATE	DESCRIPTION	INCREMENT - $ PER UNIT		COMMENTS
			COST	RETAIL PRICE	
Future ADR'S					
27A	76	Exhaust Emission Control	103.41	144.50	
29	77	Side Door Strength	16.47	23.01	
31	77	Hydraulic Braking System	12.32	17.22	
-	78	2½ MPH Bumpers	11.87	16.59	
		TOTAL - FUTURE ADR'S	144.07	201.32	

MANUFACTURING COSTS & COST TO CONSUMER OF CURRENT SAFETY RELATED AUSTRALIAN DESIGN RULES AS THEY AFFECT VALIANT MEDIUM LINE FOUR DOOR SEDAN WITH AUTOMATIC TRANSMISSION

A.D.R. NO.	TITLE	COST TO CONSUMER (DOLLARS)				
		MANUFACTURING COST/VEHICLE (INCL. TOOLING AMORTISATION)	PROFIT		FED. GOV'T. SALES TAX	RETAIL PRICE
			C.A.L.	DEALER		
-	COMPLIANCE PLATE	1.15*	0.00	0.28	0.32	1.75
1	REVERSING SIGNAL LAMPS	0.00	0.00	0.00	0.00	0.00
2	DOOR LATCHES & HINGES	0.03	0.00	0.01	0.01	0.05
3	SEATS AND SEAT ANCHORAGES	0.00	0.00	0.00	0.00	0.00
4B	SEAT BELTS	41.26	0.00	10.32	0.00	51.58
5B	SEAT BELT ANCHORAGES	3.29	0.00	0.82	1.13	5.24
6	DIRECTION TURN SIGNAL LAMPS	2.08	0.00	0.52	0.57	3.17
7	HYDRAULIC BRAKE HOSES	0.00	0.00	0.00	0.00	0.00
8	SAFETY GLASS	0.00	0.00	0.00	0.00	0.00
9	STANDARD CONTROLS AUTOMATIC TRANS.	0.00	0.00	0.00	0.00	0.00
10B	STEERING COLUMN	0.00	0.00	0.00	0.00	0.00
11	INTERNAL SUN VISOR	2.46	0.00	0.62	0.67	3.75
12	GLARE REDUCTION IN THE FIELD OF VIEW	0.04	0.00	0.01	0.01	0.06
14	REAR VIEW MIRROR	7.28	0.00	1.82	2.00	11.10
15	DEMISTING OF WINDSCREENS	23.50	0.00	5.88	6.46	35.84
16	WINDSCREEN WIPERS & WASHERS	0.10	0.00	0.02	0.03	0.15
18	LOCATION & VISIBILITY OF INSTRUMENTS	0.00	0.00	0.00	0.00	0.00
20	SAFETY RIMS	0.00	0.00	0.00	0.00	0.00
21	INSTRUMENT PANEL	0.00	0.00	0.00	0.00	0.00
22A	HEAD RESTRAINTS - BENCH SEAT	5.21	0.00	1.30	1.44	7.95
23	NEW PNEUMATIC PASSENGER CAR TYRES	0.00	0.00	0.00	0.00	0.00
24	TYRE SELECTION	1.00	0.00	0.25	0.28	1.53
25	ANTI-THEFT LOCKS	5.42	0.00	1.36	1.49	8.27
	TOTAL	92.82	0.00	23.21	14.41	130.44

* CERTIFICATION CHARGE OF $1.05 (LESS 5c REBATE) PER VEHICLE BY FEDERAL DEPT. OF TRANSPORT (D.O.T.)

DIRECTORATE OF ARMY QUALITY ASSURANCE

Summary of Faults Found In Vehicles Presented for Acceptance
Period December 1974 to May 1975 Inclusive

	F O R D						C H R Y S L E R				TOTALS
		Falcon						Valiant			
	Bus	Ute	S/W	Fairmont	Amb	LTD	Chrysler	Sed	S/W	Ute	
Total Number of Vehicles	16	319	68	11	6	24	60	175	5	41	725

Group											
Engine	10	119	13	4	-	2	77	86	4	31	346
Fuel System	2	-	12	-	1	-	-	2	-	3	20
Transmission	6	38	5	7	-	7	9	33	-	2	107
Steering	5	96	30	5	-	7	30	37	-	2	212
Brakes	4	121	4	2	1	3	12	23	1	5	176
Instruments	-	1	-	1	-	2	5	1	-	-	10
Body	78	1788	363	94	46	349	148	379	12	92	3349
Electrical	15	374	89	19	14	64	34	85	3	24	721
Miscellaneous	80	421	356	80	74	224	24	46	-	-	1305
Total	200	2958	872	212	136	658	339	692	20	159	6246
Faults per Vehicle	12.5	9.3	12.8	19.2	22.6	27.4	5.6	4.0	4.0	3.9	8.6

SAFETY RELATED DEFECT CAMPAIGN

1. Definition

1.1 Campaign

A programme instituted by a Manufacturer to call in vehicles and/or components from in service for the purpose of examining and/or rectifying components or assemblies which the Manufacturer believes are possibly defective in design, manufacture and/or assembly and the continued use could or would affect the safe operation of vehicles.

1.2 Safety Related

A Safety Related component or assembly is one on which the vehicle depends for its safe condition.

1.3 Design Defect

An incorrect, defective or insufficient specification of a component or assembly which could or would cause the vehicle to be in an unsafe condition.

1.4 Manufacturing Defect

A defect in a component or assembly caused by an incorrect or faulty material or process which could or would cause the vehicle to be in an unsafe condition.

1.5 Manufacturer

Means for the purpose of this document the organisation in Australia—

- which manufactures and/or assembles vehicles and/or parts for distribution in Australia.
- which is the accredited representative in Australia of an overseas manufacturer and which is responsible for the distribution of the overseas manufacturer's vehicles and/or parts in Australia.

1.6 Dealer

For the purpose of this document is the accredited agent or representative of the Manufacturer who is responsible for offering the Manufacturer's vehicles and/or parts for retail sale.

1.7 Owner

Means for the purpose of this document the party or parties in whose name the vehicle is registered.

2. Decision to Conduct a Campaign

2.1 Where the Manufacturer believes that a Safety related defect exists he will conduct a campaign.

2.2 The decision to conduct a campaign shall be the responsibility of the Manufacturer.

2.3 This decision shall be based upon information or advice provided by one or more of the following areas within the Manufacturer's organization:—

- Product Engineering
- Quality Control
- Manufacturing or Process Engineering
- Service Department
- Purchase Department

or by a Manufacturer's overseas Parent or Affiliate Company.

NOTE: The Service Department is that department which is responsible for the collation of all external reports of possible defects received by the Manufacturer.

The sources of these reports can be from Government Departments, Registering Authorities, Owners, Dealers, Automobile Associations, Fleetowners, etc.

2.4 Scope

The Manufacturer will stipulate the vehicles and/or parts which are to be the subject of the Campaign on the basis of the information which he has with respect to the alleged defects and shall expand or curtail the scope of the Campaign should data

developed during the Campaign warrant it and documentation shall be maintained to substantiate such action.

3. **Implementation**

3.1 Publication of Campaign

3.1.1 Federal Minister of Transport to be given "Confidential" advice of campaign details at the time of notification to dealers and provided with copies of relevant service documentation prior to media publication of campaign.

3.1.2 Appropriate media publicity such as press advertisements, press statements etc., will be made to notify owners of the recall campaign.

3.2 Notification to Owner

Attempts shall be made to notify the owner by one or more of the following ways and dependent upon the nature of the Campaign:

- Telephone
- Telegram
- Personal Visit
- Mail
- Certified Mail

Where the Owner has not responded to the first attempted notification, an attempt by certified mail shall be made. Each attempt to notify shall be recorded in the Campaign File.

3.3 Owner's Refusal or Neglect

If the owner subsequently refuses or neglects to agree to present his vehicle to the Dealer for rectification within 90 days after final certified mail contact, the Manufacturer's obligation shall be considered to be discharged and appropriate notation shall be entered in the Campaign File.

3.4 Rectification of Defect

3.4.1 On presentation of the vehicle the Dealer shall carry out the rectification in accordance with the Manufacturer's written instruction, mark the vehicle for subsequent identification and report completion to the Manufacturer who will record same in the Campaign File.

3.4.2 The Manufacturer will ensure that all defective parts be effectively withdrawn from service.

3.5 Manufacturer's Audit

The Manufacturer shall conduct audits in extent and frequency as appropriate of the work carried out by the Dealer and the Dealer's records.

3.6 Implementation and Operation of Campaign

3.6.1 The Manufacturer shall establish a record of the implementation and operation of the Camapign which shall depend upon the circumstances giving rise to the Campaign, the number of vehicles involved and parts availability etc.

3.6.2 An owner who has been contacted and agreed to present his vehicle for rectification but repeatedly neglects to do so may be transferred to the unco-operative owner category and so advised by certified mail.

3.6.3 The Manufacturer shall not close the Campaign File until "reachable" vehicles and/or parts which have been identified as being defective have been rectified.

3.6.4 The Campaign shall be conducted as rapidly as possible having regard to the Manufacturer's and Dealer's capabilities.

3.7 Closing of File on Unreachable Products

Where a product is classified as "unreachable" the Dealer may consider the File inactive and advise the Manufacturer accordingly.

Categories of products considered unreachable:

3.7.1 **Unco-operative Owner**
An owner who refuses to respond to notification or accept modification of his vehicle after the appropriate notification steps described above have been taken.

3.7.2 **Product Scrapped**
Vehicles which are known to be permanently out of operation (i.e. collision, fire, flood, etc.) and are not available for inspection.

NOTE: This does not apply to vehicles temporarily out of operation for repairs, etc.

3.7.3 **Cannot locate Owner**
If after all reasonable efforts have been made to locate owner have failed and a certified letter has been returned as undeliverable the owner file can be closed.

3.7.4 **Present Owner Unknown**
If a search of records fails to reveal present owner due to incomplete or incorrect address or vehicle traded in, etc.

3.7.5 **Vehicles Stolen and Not Recovered**
If information indicates that the vehicle has been stolen and not recovered.

3.7.6 **Other**
This category is to be used when some other circumstance is considered to justify closing the File.

3.8 **Replacement Parts**

3.8.1 The Manufacturer shall rectify or replace or arrange for rectification or replacement of all stocks of affected replacement parts held at distributors and dealers under the control of the Manufacturer, and will ensure that all defective parts will be effectively withdrawn from service.

3.8.2 Suppliers of proprietary parts used in vehicles who also market such parts independently of the Manufacturer shall be responsible for arranging a Campaign in respect of its independent outlets for such parts on advice of the Manufacturer and also shall ensure that records are kept of such Campaigns, and will ensure that all defective parts are all effectively withdrawn from service.

3.8.3 The Manufacturer is not responsible for proprietary parts and/or replacement parts which are not specified by the Manufacturer for use in its product.

3.9 **Imported Vehicles**
A Manufacturer shall not be responsible for the rectification of vehicles which have not been imported and distributed by it except to the extent of any arrangements made by the overseas Manufacturer.

3.10 **Recordkeeping Summary**
A complete record will be maintained in the form of a Campaign File.

3.10.1 Individual Owner's File

3.10.2 Campaign and Campaign Number.

3.10.3 Reason for Campaign.

3.10.4 Potentially affected Vehicles.

3.10.5 All contacts and attempted contacts with Owners including failures and refusals to present vehicles and/or parts for rectification.

3.10.6 Work carried out on vehicles.

3.10.7 Rectification or replacement of Replacement Parts.

3.10.8 Audits of Dealer's performance.

3.10.9 Statement of closure of Campaign including reasons for closure.

3.10.10 Statement of vehicles which have been classified as unreachable.

ATTACHMENT TO CAMPAIGN CODE

Responsibilities of parties involved in Safety Related Campaigns

Manufacturer:

To initiate Campaign.

To determine extent of Campaign.

To publicize Campaign.

To issue instructions to dealer organization explaining reason for and rectification of defective vehicles.

To audit work of dealers in carrying out these instructions.

To maintain records of all his activities associated with conduct of Campaign. This record plus that of the dealer, should be a complete record of its conduct of the Campaign.

To instruct the dealer that all defective parts are to be effectively withdrawn from service.

To notify appropriate Registering Authorities of vehicles which were not rectified and were classified as unreachable.

Dealer:

Where appropriate:–

To locate and contact owners of all vehicles nominated by Manufacturer as affected by Campaign.

To arrange timetable to process vehicles as rapidly as practicable.

To report to Manufacturer, on regular basis, the progress of Campaign.

To carry out all work necessary to rectify the defective vehicle.

To maintain comprehensive file of his activities in respect of Campaign, including all attempts to locate and contact owners even where such attempts are unsuccessful.

Request assistance of State Registering Authorities in locating owners not listed on his records.

Owner:

1. Acknowledge receipt of "notification" to Dealer.
2. To present his vehicle to the Dealer at the time requested, or at another time mutually acceptable, for rectification.

APPENDIX 14

STATISTICAL SUMMARY OF SAFETY RELATED DEFECT CAMPAIGNS
September 1972 - June 1975

Company	Number of vehicles affected	Number of campaigns	Number of days Between: First defect report/ Campaign decision		Campaign decision/ Advice to owners (or dealers)		Campaign decision/ Press report		Campaign Length (months)		Percentage of vehicles affected presented to dealers: 4 months after start of campaign		to date (completed campaigns only)		Proportion of Vehicles Unreachable	
			Average	Shortest/ Longest	Average	Shortest/ Longest	Average	Shortest/ Longest	Average	Shortest/ Longest	Average	Lowest/ Highest	Average	Lowest/ Highest	Average	Lowest/ Highest
1	2	3	4	5/6	7	8/9	10	11/12	13	14/15	16	17/18	19	20/21	22	23/24
Aust Mot Ind	15,616	5	17	4/30	6	0/19			13	12/14	62	45/75	79	74/76	25	
Chrysler	9,107	10	16	1/41	23	3/83	9	1/17	15	3/25	76	60/100	96	87/100	5	0/13
Ford	185,193	40	13	0/121	(30)	0/102	45	1/90	11	1/27	69	7/100	84	57/100	13	0/43
GMH	76,050	13	39	0/124	32	5/150	42	2/162	19	16/21	30	10/68	92	91/93	3	0/9
Kenworth	80	1	13		0				1		100		100		0	0
Leyland	25,115	7	45	0/201	26	1/77	38	8/77	2	1/3	56	22/100	67	100/100	0	0/0
Mazda	750	1	14		30		30				61		n.a.	n.a.	0	
Mercedes	1,097	3	16	0/24	27	21/36			14	12/16	65	64/67	97	89/94	9	6/11
Motor Prod	1,222	1	0		10				4		100		100		0	0
Nissan	56,229	3	12	12/22	20	10/30	5	3/8			36		94		1	0/3
Renault	6,511	2	17	6/28	21	16/26			24		28		89		6	0/11
Volvo	3,084	2	28	10/46	7	3/10					0			n.a.	0	0
Westco	674	1	2		24		24						n.a.	n.a.	0	
Industry	380,708	89	23	0/201	27	0/150	30	1/162	12	1/22	55	7/100	86	57/100	8	0/43

APPENDIX 15

PERCENTAGE OF VEHICLE SALES OF LOCAL MANUFACTURERS BY COLOUR

BROAD CATEGORY OF COLOUR	FORD	CHRYSLER		GMH	
		VJ	GC	Torana	Other Holden Passenger
White	16.3	21.2	15.7	11.5	11.5
Yellow	11.0	8.7	10.8	7.5	4.3
Light Blue	9.8	4.4	7.3	-	-
Red	4.1	2.2	5.8	6.9	4.2
Light Green	4.8	21.1	26.9	3.5	2.7
Beige	5.9	5.0	5.3	7.9	8.4
Silver	3.0	3.2	2.9	4.7	4.3
Gold	9.2	8.8	9.4	7.8	8.6
Copper-Orange	15.0	11.3	-	-	-
Brown	4.8	4.3	8.2	14.0	17.2
Dark Blue	3.6	4.7	4.9	11.6	11.8
Dark Green	5.6	-	-	6.3	5.7
Purple	4.8	4.6	2.6	5.7	6.5
Black	0.5	0.3	-	1.4	2.2

APPENDIX 16

SAMPLE SURVEY OVER ONE WEEK IN THE AUSTRALIAN CAPITAL TERRITORY OF DEFECTS RESULTING IN VEHICLE REJECTION AND NON SAFETY RELATED DEFECTS WHICH DID NOT RESULT IN VEHICLE REJECTION, 1975:

SUMMARY

Make	Number Tested	Proportion of Total Sample (%)	Average Age of Vehicles Manufactured From 1966 (Years)	Proportion of Vehicles Manufactured Before 1966 (%)	No. of Vehicles Passed Test	Pass Rate (%)	Total Number of Defects Detected	Average Number of Defects Detected Per 100 Vehicles
Holden	573	24.5	4.0	29.0	342	60	605	105.6
Ford	332	14.2	3.7	13.0	219	66	265	79.8
Chrysler	194	8.3	4.4	12.4	124	64	138	71.1
Volkswagon	162	6.9	4.6	42.6	85	52	193	119.1
Toyota	141	6.0	3.9	5.0	100	71	97	68.8
Datsun	127	5.4	3.6	9.4	90	71	69	54.3
Morris	78	3.3	5.6	41.0	37	47	119	152.6
Mazda	72	3.1	2.8	2.8	50	69	50	69.4
Leyland *	69	2.9	4.1	13.0	39	51	75	108.7
Other **	319	13.6	2.4	22.2	185	58	380	119.1
Sub Total	2067	88.2	3.8 yrs	20.0	1271	62	1991	96.3
Trailer	234	10.0	Not recorded	Not recorded	173	74	116	49.6
Motor Cycles	42	1.8	2.1 yrs	7.5	28	71	19	45.2
TOTAL	2343	100	3.8	20.0	1472	63	2126	90.7

* 'Leyland' refers to Austin/Leyland vehicles.

** 'Other' consists of a total of 31 makes of vehicles varying in number from 38 to 1.

Evidence p. 3297

SAMPLE SURVEY OVER ONE WEEK IN THE AUSTRALIAN CAPITAL TERRITORY OF DEFECTS RESULTING IN VEHICLE REJECTION AND NON SAFETY RELATED DEFECTS WHICH DID NOT RESULT IN VEHICLE REJECTION, 1975:

APPENDIX 17

TYPE OF DEFECT

Defect	Number of Defects Causing Failure	Number of Advised Defects	Total Number of Defects	Proportion of Vehicles Having Defect (%)
Tyres	219	76	295	12.6
Suspension	201		201	8.6
Handbrake	194	17	211	10.0
Headlights	188	7	195	9.2
Exhaust Smoke	165	17	182	8.6
Steering	153	27	180	8.5
Footbrake	107	9	116	5.3
Tail/Stop Lamps	59	6	65	2.8
Miscellaneous	56	15	71	3.0
Turn Signal Devices	51	5	56	2.4
Oil Leaks	42	19	61	2.9
Parking Lamps	42	11	53	2.4
Exhaust Noise	38	7	45	2.1
Wheels	32	5	37	1.6
Windscreen Wipers	29	2	31	1.5
Corrosion	27	7	34	1.3
Horn	25		25	1.2
Body Damage	23	5	28	1.2
Transmissions	22	3	25	1.2
Reflectors	21	8	29	1.2
Number Plate Light	18	7	25	1.1
Comply with Design Rules	17	1	18	0.9
Additional Lamps	18	1	19	0.9
Structural Defects	17	4	21	0.9
Breather Fumes	14	6	20	0.9
Rear Vision Mirror	14	2	16	0.8
Fuel System	13	2	15	0.7
Safety Glass	10	2	12	0.6
Coupling	9	2	11	0.5
Doors and locks	2	20	22	1.0
Wiring	2		2	
TOTAL	1828	293	2121	

An analysis of average age of vehicles and defects shows that the number of defects per vehicle increases with age.

APPENDIX 18

AUSTRALIAN BUREAU OF STATISTICS

WORKING GROUP PAPER ON ROAD TRAFFIC ACCIDENTS

OBJECTIVES AND TERMS OF REFERENCE

3.1 The objectives of the Working Group were:

(i) To lay down uniform concepts and definitions;

(ii) To suggest common 'core' data items to be collected on road traffic accident report forms in all States and Territories.

3.2 In both cases, the Group operated under terms of reference requiring it to:

(i) Give precedence to achieving solutions to long-standing conceptual and definitional problems which have prevented or impeded the production of national aggregates, or the drawing of valid comparisons between States and Territories;

(ii) Take cognizance of State and Territory legalisation but not to regard conflicts in present laws as necessarily inhibiting the presentation of uniform concepts and definitions;

(iii) Be aware of the present incompatability of official data systems, but to take a hopeful and forward-looking view of moves now in progress which are intended to improve the co-ordination of systems and the accessibility of data;

(iv) Prepare a paper which, whilst essentially reflecting the Bureau's own view of the basic requirements of a uniform traffic accident data system, could be expected to go some way towards satisfying the primary needs of specialist users;

(v) Keep in mind the necessity to avoid over-loading traffic staff with excessive detail.

EXPLANATORY NOTES

3.3 The principles enumerated above account for certain features of the Group's report, on which some explanatory comment may be helpful.

3.4 Item 3.2(i) of the Objectives and Terms of Reference accounts for the fact that the Group's proposals for core items and definitions are not exhaustive. In a field where progress towards compatability of concepts, definitions and data items has been extremely difficult to achieve, it will be a notable step forward if the present limited and modest proposal wins general acceptance and implementation. The way is open for individual authorities to include 'non-core' items if desired.

3.5 Item 3.2(v) of the Objectives and Terms of Reference is partly responsible for the recommended adoption of data items which are not immediately obtainable or usable, but which, in accordance with the philosophy contained in 3.2(iii) of the Objectives and Terms of Reference, will provide an important statistical improvement and ultimately reduce the workload involved in the preparation of accident reports. For example, the recording of a single Vehicle Identification Number (VIN) or a single driver's licence serial number and the later retrieval of data from computer files will relieve reporting officers of some of the detail work presently associated with the preparation of statistical sheets.

3.6 In sifting through the voluminous and sometimes conflicting material proposed for inclusion in its draft proposal, the Group found it necessary to rationalise. However, the non-appearance of some suggested classifications and variables is not entirely due to this cause. The Group took the view in this particular case that some suggestions could best be dealt with in the course of further discussions with informed users and the reporting authorities prior to form design, a matter not presently within its purview. These discussions could for example determine what hues should be included in the data item "colour". Others were regarded as requiring the attention of experts professionally qualified in the relevant scientific disciplines e.g. road engineers might be needed to suggest a classification of items to be included under "surface of carriageway".

3.7 Initially the Group considered that trams should be classified as motor vehicles. The fact that they are powered by electric motors and often operate within the road as defined led to the conclusion that trams could justifiably be regarded as motor vehicles. However, as trains, in certain circumstances, also operate within the road as defined, can also be powered by an electric or diesel motor and are in many cases similar to trams, it could be argued that trains also should be regarded as motor vehicles for the purposes of road traffic accident statistics.

3.8 To overcome this difficulty a 'road motor vehicle' was defined as being a motor vehicle whose manoeuvering ability to avoid a temporary object within a road was not determined by external means (such as rails). Thus buses (and trolley buses) would be regarded as road motor vehicles, but trams and trains could be regarded as 'other road vehicles'. Published statistics of accidents involving road motor vehicles as an aggregate would therefore exclude accidents in which trams and trains are involved. The Group suggests that specific provisions should be made in accident report forms to identify buses, trams and trains as separate classes of road vehicles. The identification of accidents involving these classes would enable results to be published separately and allow for valid comparisons to be made directly between the various classes.

3.9 Further attention will be necessary to determine which vehicles should be identified as buses.

DATA ITEMS OF PARTICULAR RELEVANCE TO ROAD TRAFFIC ACCIDENTS

3.10 During its deliberations the Group considered a wide range of data items of relevance to the study of road traffic accidents, and from these selected a group which it considered to be the more important items for detailed consideration. This took the form of assessing the statistical treatment that should be afforded to each item under consideration and relating this to the degree to which this was currently being realised.

3.11 Four suggested statistical treatments were discussed:

(i) Data Items Which Would Be Available On A National Basis
These items are sufficiently fundamental to legislators and researchers to warrant publication at a macro level nationally.

(ii) Data Items Which Would Be Available On A State Basis
These items are not necessarily available for all States but are sufficiently important to warrant publication in particular States for which the items are available.

(iii) Statistical Data Items Which Would Be Available On A Limited Basis
These items also may not be available for all States and are not sufficiently important to warrant publication, but the item would be collected, processed, stored and made available to satisfy requests from users.

(iv) Non Statistical Processing Items
These items are not likely to be used directly for statistical purposes.

3.12 A classification of the current status of each of these items was made according to the following categories:

(i) standard - items uniformly defined, collected and published

(ii) non-standard (requires standardisation) - items not uniformly defined, collected or published for which standardisation is desirable.

A.B.S. SUGGESTED STATISTICAL TREATMENT AND CURRENT STATUS OF ROAD TRAFFIC ACCIDENT DATA ITEMS - MAY 1975

DATA ITEM	SUGGESTED STATISTICAL TREATMENT	CURRENT STATUS
Result of casualty accidents	National	Standard
Day, date (used to derive month and year) and time of accident	National	Standard
Type of road user killed or injured	National	Standard
Age and sex of road user killed or injured	National	Standard
Number of vehicles involved and body type of first two vehicles involved	National	Standardization Required
Nature of Accident	National	Standard (but uniformity could be improved)
Age and sex of driver/rider involved in casualty accidents	National	Standardization Required
Extent of Injury	National	Standardization Required
Features of Road	State	Standardization Required
Surface of Carriageway	State	Standardization Required
Type of driver/rider licence and state of issue	State	Non-Standard
Weather Conditions	State	Non-Standard
Light Conditions	State	Standardization Required
Vehicle movement	Limited availability	Standardization Required
Pedestrian movement	Limited availability	Standardization Required
Colour of vehicle	Limited availability	Non-Standard
Precise location	Limited availability	Processing Item
Registration number and state of issue	Non-Statistical	Processing Item
Vehicle Identification number	Non-Statistical	Processing Item
Driver-rider licence - number	Non-Statistical	Processing Item

(iii) non-standard (standardisation not required)

(iv) non statistical processing item.

3.13 It is envisaged that this latter classification could be used in discussions between users of road traffic accident statistics, providers of source data and other appropriate bodies (such as the Bureau). This is seen as an on-going process at which the classification of items would be changed as a result of decisions made and progress achieved. While the Bureau would want to be a party to work of this nature it would not see itself as the most appropriate body to control this process.

3.14 In using the above classifications on the items shown below it should be emphasised that the items and the classifications shown should not be regarded as the unchangeable view of the Bureau. What is represented is the current assessment of the Bureau as a basis for discussion and comment.

Revised 1.7.74

Form No. 513

VICTORIA POLICE

ACCIDENT REPORT FORM

Traffic Dept.
File No.
Station Acc. Book No.
Form 513A Fwd. to
Ro.S.T.A. on / /
File Recd. Traffic
Department on / /

Date of Accident..... *Time*..... *h'rs Day of Week*.....
(24 h'rs clock system)

Nature of Accident.....

PLACE OF ACCIDENT.....

TYPE OF STREET LIGHTING AT SCENE—White ☐ Orange ☐ Blue ☐ No Street Lights ☐

IS STREET LIGHTING ADEQUATE?..... **WHAT SPEED LIMITS, IF ANY, APPLY**.....

PARTICULARS OF PERSONS INJURED (including Drivers or Riders)

Name	Address	Age	Sex	Details and Description of Injuries

What became of injured persons?.....

If removed to hospital were they admitted and friends informed?.....

Personal Effects: If unconscious, how disposed of?.....

PARTICULARS OF DRIVERS OR RIDERS (not Passengers)

Type of Vehicle	Reg'd No.	Name	Address	Licence No.	Date of Expiry	Age	Sex	Driving Experience

PARTICULARS OF VEHICLES

Reg'd No.	Car	Name of Owner	Address of Owner	Expiry Date of Registration	Direction Travelling	Damaged	$200 Over	$200 Under
	A						☐	☐
	B						☐	☐
	C						☐	☐
	D						☐	☐
	E						☐	☐
	F						☐	☐

WITNESSES (Other than Drivers or Riders, but including Passengers)

Name	Address	Viewed Accident From	Was written statement made?

WEATHER CONDITIONS—Clear ☐ Heavy Rain ☐ Light Rain ☐ Hail ☐ Fog ☐ Other Conditions.....

ROAD—Width..... Type..... **STATE OF ROAD**—Dry ☐ Wet ☐

ROAD CONDITIONS—Normal ☐ Too Narrow ☐ Bottle Neck ☐ Steep Grade ☐ Under Repair ☐

Bad Surface ☐ State any Other Conditions.....

FEATURES OF ROAD—Straight Road ☐ Junction—good view ☐ Junction—bad view ☐ Fork ☐ Any other

Road Features which may have contributed to accident.....

State if scene of accident was controlled or not. Automatic Signal Light ☐ Police Controlled ☐

TRAFFIC CONDITIONS—Heavy ☐ Medium ☐ Light ☐

State if accident witnessed by police.....
(If not, state source of information)

3118/74—Z.2

Where applicable mark appropriate squares thus ☒

Police action taken or proposed

DO NOT WRITE IN HERE

OPINION OF POLICE—Accidental or negligence of drivers or others

Opinion must be expressed if possible

State if any of the above Drivers Suffer any Physical Defects

SOBRIETY OF PERSONS INVOLVED (Sober, smelt of liquor, under the influence of liquor or drugs)

GENERAL DESCRIPTION OF ACCIDENT (EXCLUDING ANY VERBAL STATEMENT OR ADMISSION MADE BY PERSONS CONNECTED)

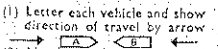
(These particulars must be furnished in all cases. Brief to be attached when any breach of law committed)

SKETCH OF LOCALITY—To be shown hereon in all cases—**MUST BE IN INK**
(Skid marks and width of road to be indicated)

North

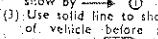
INSTRUCTIONS.

(1) Letter each vehicle and show direction of travel by arrow

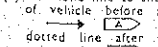


(2) Number each pedestrian and show by

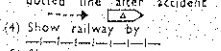
(3) Use solid line to show path of vehicle before accident



dotted line after accident



(4) Show railway by



(5) Show distance and direction to landmarks, identify by name.

Additional Particulars marked* entered by :—

Signature

Print Initials and Surname ( )

Rank No.

Station Date

Form 512 to Traffic Department / /

Member of Force Reporting Accident :—

Signature

Print Initials and Surname ( )

Rank No.

Station Date

NOTE—Members of the Force in charge of Station are held responsible that these reports are made out as fully and intelligently as possible before forwarding them to Officers in Charge of Districts or Divisions

Cross appropriate squares thus [X] — detach from Form No. 513

Revised 1.7.74

Road Safety and Traffic Authority
801 Glenferrie-road, Hawthorn 3122 — V.P. Form No. 513A

ROAD TRAFFIC ACCIDENT STATISTICS SHEET

Members of the Force in Charge of Stations are held responsible that these Reports are made out as fully and intelligently as possible before forwarding to the above Authority

FOR OFFICE USE ONLY — 74 M

Date

1. F 1 P 2 PD 3

2. Acc. File No.

3. L.G.A.

4. Location code

5. RUM

6. O.H.

PART A: PARTICULARS OF TIME, DAY, DATE AND LOCATION OF ACCIDENT

7. Time— hours 8. Day of Week 9. Date ../../..

10. Location—
Municipality of
Occurred on
(Give name of street, road or highway)
At / Near intersection with
(Give name of street, road or highway)
If not at Intersection ... metres / kilometres North / South / East / West of intersection

11. ALSO FOR COUNTRY
In/Between Town/s of
And ... (kilometres) North / South / East / West of
(Show exact distance)
(Show nearest identifiable feature such as bridge, rail crossing, or mile post)

PART B: PARTICULARS OF LOCALITY

12. Zone Speed Limit. (Cross one)
1 60 km/h
2 75 km/h
3 80 km/h
4 90 km/h
5 100 km/h
6 110 km/h
7 Other, Specify

13. Atmospheric Conditions. (Cross those applicable)
1 Clear
2 Raining or Snowing
3 Fog
4 Smoke or Dust in air
5 Strong wind

14. Road Condition. (Cross one)
1 Dry
2 Wet
3 Muddy
4 Snowy or Icy

15. Light Condition. (Cross one)
1 Daylight
2 Dusk or Dawn
3 Dark

16. Road Character. (Cross one)
1 Cross intersection
2 "T" intersection
3 "Y" intersection
4 Multiple intersection
5 Straight
6 Curve

(Cross those applicable)
7 Divided Highway
8 Median Opening
9 Bridge, culvert or causeway
10 Railway level crossing
11 Gravel road or unmade road

17. Traffic Control. (Cross those applicable)
Automatic Signals—
1 Stop-go signals at intersection
2 Flashing red and/or amber at intersection
3 Stop-go ped. sig's not controlling intersect'n
4 Pedestrian crossing with flashing lights
5 Railway level crossing with gates, booms or automatic signals
6 Signals marked above not operating
Other Control—
7 Police
8 Stop sign
9 Give way sign
10 School crossing with flags
11 School crossing site but no flags out
12 No control

PART C: TYPE OF ACCIDENT (Initial Event)

18. Vehicle to Vehicle Collision. (Cross one)
1 Angle
2 Rear end
3 Head-on
4 Sideswipe—same direction
5 Sideswipe—opposite direction

Single Vehicle Accidents
6 Struck Pedestrian
7 Struck Animal (incl. ridden horse)
8 Fall from moving vehicle
9 Overturned on roadway
10 Ran off roadway and struck fixed object
Specify object
11 Ran off roadway, no object struck
12 Struck object on roadway
Specify object
13 Other accident

19. Hit/Run Accident
YES 1 NO 2

PART D: PARTICULARS OF UNITS INVOLVED IN INITIAL EVENT

20. Total No. of Vehicles in Accident

21. First two Units Involved in Accident. (Cross one for each unit)

	A	B	
1			Car or Station Wagon
2			Taxi or Hire Car
3			Utility or Panel Van
4			Articulated Vehicle
5			Truck, other
6			Bus
7			Motor Cycle or Motor Scooter
8			Bicycle
9			Horse-Drawn Vehicle or ridden horse
10			Tram
11			Railway Train, Trolley, etc.
12			Other, Specify

22. Motor Vehicle Details

	A	B
Make (e.g., Ford)		
Year of Manufacture		
Reg. No.		

23. Speed
Police estimate of speed (km/h)

24. Vehicle Movements. (Cross one for each vehicle)

	A	B	
1			Overtaking
2			Going straight ahead
3			Turning right at inters. or into driveway
4			Turning left at inters. or into driveway
5			"U" turning
6			Stopped in line of traffic
7			Stationary after being in an accident
8			Parked
9			Parking or Unparking
10			Backing along roadway
11			Leaving private driveway

25. (Cross one if applicable)
1 Skidding on roadway
2 Skidding on gravel shoulder
3 Swerving to avoid pedestrian, animal, etc.
4 Driverless moving vehicle

26. Vehicle Defects Contributing to Accident. (Cross one)
1 None
2 Not known
3 Yes, Specify

27. Were Prescribed Lamps Alight? (Cross one)

	A	B	
1			Not Applicable
2			No
3			Yes
4			Not known

28. Was Vehicle Engaged in Towing? (Cross one)

	A	B	
1			Not towing
2			Not known
			Towing—
3			Caravan
4			Trailer
5			Other, Specify

PART E: PARTICULARS OF DRIVERS (INCL. RIDERS) INVOLVED IN INITIAL EVENT

	Driver of A	Driver of B
29. Sex	Male 1 / Female 2	Male 1 / Female 2
30. Age.	... Y'rs	... Y'rs
31. Time since obtaining first licence?	... Y'rs ... M'ths	... Y'rs ... M'ths

32. Driver's Licence Details.

	A	B
No.		
State		
(Cross if applicable)		
Probationary 1		1
Conditional 2		2

33. Police Opinion of Sobriety. (Cross one or more for driver of each vehicle)

	A	B
Had not been drinking		
Not known whether drinking	1	2
Had been drinking—		
Obviously affected	3	3
Not obviously affected	4	4
Breath or Blood test taken	5	5
% alcohol in blood (if known)	6	

34. Seat Belts. (Cross one or more for each Seating Position whether occupied or not)

FITTING DETAILS:

	Vehicle A Front Dvr.	Vehicle A Front left cent.	Vehicle A Rear right	Vehicle A Rear left	Vehicle A Rear cent.		Vehicle B Front Dvr.	Vehicle B Front left cent.	Vehicle B Rear right	Vehicle B Rear left	Vehicle B Rear cent.
None fitted						1					
Not known if fitted						2					
Type of seat belt fitted—											
Lap belt only						3					
Diagonal only						4					
Lap-sash or full harness						5					
Type not known						6					
Child restraint						7					
Child restraint make:							make:				
model:							model:				

WEARING DETAILS: COMPLETE ONLY IF SEATING POSITION IS OCCUPIED

	Vehicle A Front Dvr.	Vehicle A Front left cent.	Vehicle A Rear right	Vehicle A Rear left	Vehicle A Rear cent.		Vehicle B Front Dvr.	Vehicle B Front left cent.	Vehicle B Rear right	Vehicle B Rear left	Vehicle B Rear cent.
Was seat belt being worn?											
No						8					
Not known						9					
Yes						10					

CONFIDENTIAL AND PRIVILEGED DOCUMENT

PART F : PARTICULARS OF PERSONS INVOLVED IN VEHICLES A, B AND C **ONLY** AND ALL PEDESTRIANS

35. (Cross one column for each person in all questions)

Person Involved	Person No. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	
Vehicle A. Driver or Rider											1
Left-hand front passenger											2
Other front passengers											3
Right-hand Rear Passenger											4
Left-hand rear passenger											5
Other rear passengers											6
Vehicle B. Driver or Rider											7
Left-hand front passenger											8
Other front passengers											9
Right-hand rear passenger											10
Left-hand rear passenger											11
Other rear passengers											12
Vehicle C. Specify Type.....											
Driver or Rider											
Left-hand front passenger											
Other front passengers											
Rear passenger											
Pedestrian											13

Extent of Injury :

Killed or Died within 30 days	
Injured, admitted to hospital	
Other injured requiring medical treatment	
Other injured not requiring medical treatment	
Not injured	

Sex Male 1 / Female 2

Age (years)

PART G : *SUMMARY OF ALL PERSONS INVOLVED*

36. Number

- Killed or Died within 30 Days
- Injured, Admitted to Hospital
- Other Injured requiring medical treatment
- *Other Injured not requiring medical treatment*
- Not Injured
- Total Persons

PART H : PARTICULARS OF **FIRST** PEDESTRIAN TO BE HIT

37. Pedestrian's Movements. (Cross one)

1 Crossing road
2 Working on roadway
3 Playing on roadway
4 Lying on roadway
5 Standing on roadway
6 Walking along roadway—With traffic
7 Walking along roadway—Against traffic
8 Pushing or working on vehicle
9 Walking to, from or boarding tram
10 Walking to, from (or boarding) other vehicle
Specify veh. (e.g., Bus, Ice Cream Van, etc.).....
11 Not on roadway

38. If crossing road at Police or lights signal did pedestrian comply with it?

1 No
2 Yes (Cross one if applicable)
3 Not known

39. Did pedestrian emerge from behind parked car?

1 No
2 Yes (Cross one)
3 Not known

40. Was pedestrian on monitored crossing?

1 No
2 Yes (Cross one)
3 Not known

41. Sex 1 Male 2 Female **42. Age**..... (Years)

43. Police Opinion of Pedestrian's Sobriety. (Cross one)

1 Not known whether drinking
2 Had not been drinking
Had been drinking—
3 Obviously affected
4 Not obviously affected

North

INSTRUCTIONS

(1) Letter each vehicle and show direction of travel by arrow → [A] [B] ←
(2) Number each pedestrian and show by → ①
(3) Use solid line to show path of vehicle before accident → [A]
dotted line after accident ⇢ [A]
(4) Show railway by —|—|—|—|—|—
(5) Show distance and direction to landmarks, identify by name.

SKETCH OF LOCALITY—To be shown hereon in all cases

(Give outline sketch of locality showing road boundaries and movements of ALL vehicles, etc., concerned, and stop/giveway signs)

Describe briefly what happened. Refer to vehicles and pedestrians by the same letters and numbers as in body of form and on sketch

District..... Station..... Rank..... No..... Signature..... Date.../.../.....

C. H. Rixon, Government Printer, Melbourne.

THE UNIVERSITY OF ADELAIDE

PRESS RELEASE

ROAD ACCIDENT RESEARCH CONTRACT

The University of Adelaide has been awarded a $345,000 research contract to study injury-producing road accidents in metropolitan Adelaide – the biggest grant of its kind to be awarded in Australia.
The study will evaluate the effectiveness of many existing safety measures and direct attention to other factors that may cause accidents or injuries.
The Australian Minister for Transport, Mr. C. Jones, has announced the project will be two-thirds financed by the Department of Transport and one-third by the Australian Road Research Board.
The project director will be an engineer, Dr. A.J. (Jack) McLean (39), the Senior Research Fellow in charge of the University's Road Accident Research Unit.
He will lead two teams, each comprising an engineer, a behavioural scientist and a doctor, which will investigate accidents at the scene and conduct whatever follow-up investigations are necessary to provide a comprehensive and detailed description of each accident. An engineering technicain will assist with most of the time-consuming detailed investigations of damaged motor vehicles.
Dr. McLean said that, in concept, the study was similar to a previous Adelaide study in which he was involved, but that it would cover, in greater detail, a wider range of characteristics or road users, vehicles, and the road and traffic environment.
The previous study was directed by Professor J.S. Robertson, of the University's Department of Pathology, and was the first of its kind in Australia and the first in the world to aim at – and partly achieve – a representative sample of crashes. Several subsequent similar projects were largely modelled on it.
A major deficiency in the earlier project was that there was no psychologist or sociologist in the team. The sociological aspects of persons involved in accidents were very important, as had been shown in a project in Brisbane.
Since 1962–65, when the Adelaide study was conducted, there had been some significant changes in the S.A. road transport system, notably in the area of legislation. The introduction of the compulsory use of seat belts and crash helmets for motor cyclists, had had a marked effect on the rate of fatalities resulting from road accidents.
The Australian Design Rules for motor vehicles had eliminated many recognised hazardous features from cars, but the effectiveness of many of these changes had yet to be fully evaluated. The fact that the Australian Design Rules were largely derived from similar American legislation had proven to be of little benefit in this respect as adequate evaluation was also lacking in the United States.
Dr. McLean said that the particular emphasis on the vehicle over the past decade had tended to draw attention away from the critical role of the road user. Attempts to detect intoxicated drivers had been intensified, but the role of alcohol in causing traffic accidents had yet to be fully quantified in Australia.
Educational programmes aimed at drivers and other road users were likely to be more effective if they dealt with those accident situations that were likely to be experienced by the particular group for whom the programme had been developed.
Similarly, information on the attitudes of drivers involved in accidents to the traffic rules, and associated penalties for infringements which were relevant to their accident, might be of value in the further development of such legislation and also of licensing criteria.
Over the past ten years the wider implementation of established traffic control measures had reduced the demands made on the driver, but this had in part been countered by increases in traffic volumes. Until recently, the give-way-to-the-right rule remained the sole indicator of priority at most intersections, despite some evidence which suggested that alternative measures might be safer. Roadside obstacles had been modified in places by the provision of crash barriers, and break-away poles were now commonly used.

COLLECTION OF DATA

The proposed study would permit an investigation of the relative costs and benefits of the various methods of collecting information on road traffic accidents, such as police reports, follow-up investigations by research teams, and in-depth studies at the scene of the accident.
The two research teams, after an initial training period, would collect data on a representative sample of accidents during the following 12 months. A further 18 months would be allocated to the processing and analysis of this information and to the preparation of a series of reports.
Dr. McLean said that the two teams, working on alternate days, would attend a sample of 400 accidents to which an ambulance was called. The type of accident obviously could not be specified in advance, and the researchers had to take accidents as they happened. This meant that scientific methods developed for use in controlled experiments were not applicable, a problem that was common in studies of diseases such as cancer and heart disease. The teams would operate mainly during periods when accidents were most common, including nights and weekends.

During the data collection phase, one team would be assigned to conduct a follow-up investigation of a number of accidents which had been investigated at the scene by the other team on the previous day. This would enable them to evaluate the amount of information that was lost by delaying the start of the investigation for up to 24 hours. Should this loss not be significant, future in-depth studies would operate far more efficiently on a follow-up basis.

A large amount of information would be collected and prepared for computers. The teams would examine a total of about 3,000 individual items, each with several sub-items, so that there would be a total of over 10,000 factors when all types of accidents were taken into account.

The information sought would cover such aspects as the driver and/or injured person and their background, the vehicle, the weather and lighting and the road layout and conditions.

The information would be recorded so as to ensure that the definitions and classifications used would be compatible with those adopted by other in-depth study teams. This would facilitate the pooling of data from these studies to enable a wider range of analyses to be performed on certain factors.

The extent of alcohol used by the drivers, riders and pedestrians involved in accidents would be determined. The significance of the information obtained on alcohol use would be assessed by attempting to obtain similar data from suitably-selected groups of road users not involved in accidents.

SPECIFIC AIMS

Specific aims of the project are:

- To evaluate those Australian Design Rules for motor vehicle safety that are directly related to accident or injury causation (excluding those which refer to vehicle emissions and noise).
- To identify aspects of vehicle design that are related to injury causation but are not presently covered by an Australian Design Rule.
- To identify aspects of vehicle design, construction and maintenance that are related to the causation of road accidents.
- To evaluate the effectiveness of standard traffic engineering practices aimed at reducing the frequency or severity of road accidents.
- To identify aspects of the design and construction of urban traffic routes and residential streets that are related to the causation of road accidents.
- To evaluate the effectiveness of measures intended to minimise the risk of injury to occupants of vehicles which strike roadside objects.
- To assess the extent and the significance of the use of alcohol by the drivers, riders and pedestrians involved in accidents.

Dr. McLean is an engineering graduate of Adelaide, gaining his Bachelor's degree in 1961 and Master's degree in 1968. He has a Master of Science in Hygiene in the field of Environmental Health from Harvard (1968) and a Doctor of Science in the fields of Epidemiology and Biostatistics from Harvard (1972).

Since his graduation he has worked mainly in the fields of transport and road accident research in Australia, the United Kingdom and the United States.

While at Harvard, he conducted an investigation into pedestrian accidents in New York State, with particular emphasis on the relationship between the shape of the front of the striking car and the severity of the pedestrian's injuries. His final year in the United States was spent at the Highway Safety Research Center of the University of North Carolina, where he was in charge of an evaluation of the effectiveness of energy-absorbing steering columns, head restraints and side door beams.

S 3 E

SAFETY:

- CRASHWORTHINESS
- CRASH AVOIDANCE
- PEDESTRIANS
- AGGRESSIVENESS

ENVIRONMENT:

- EXHAUST EMISSION CONTROL
- RESOURCE CONSERVATION

ENERGY:

- FUEL ECONOMY

ECONOMY:

- LIFE CYCLE COSTS
- MATERIALS
- MANUFACTURABILITY

Source: Paper presented at Fourth International Congress on Automotive Safety by Dr G.G. Manella, July 1975.

RELATIONSHIP OF THREE VARIABLES

This three dimensional surface represents the points that are societally acceptable combinations of energy, safety and emissions. The point marked RSV represents a vehicle design with very high levels of safety and moderately high goals in terms of emissions and energy. Point A represents a vehicle design with very high energy savings at the cost of compromise on safety and emission performance. Such a vehicle design might be for urban use where high levels of crashworthiness might not be so appropriate.

Point B represents a design approach which stresses *minimum* emission levels with corresponding sacrifices in terms of safety and energy performances.

APPENDIX 23

S3E CONCEPT, RELATIONSHIP BETWEEN SAFETY AND ENERGY AND ENERGY AND ENVIRONMENT