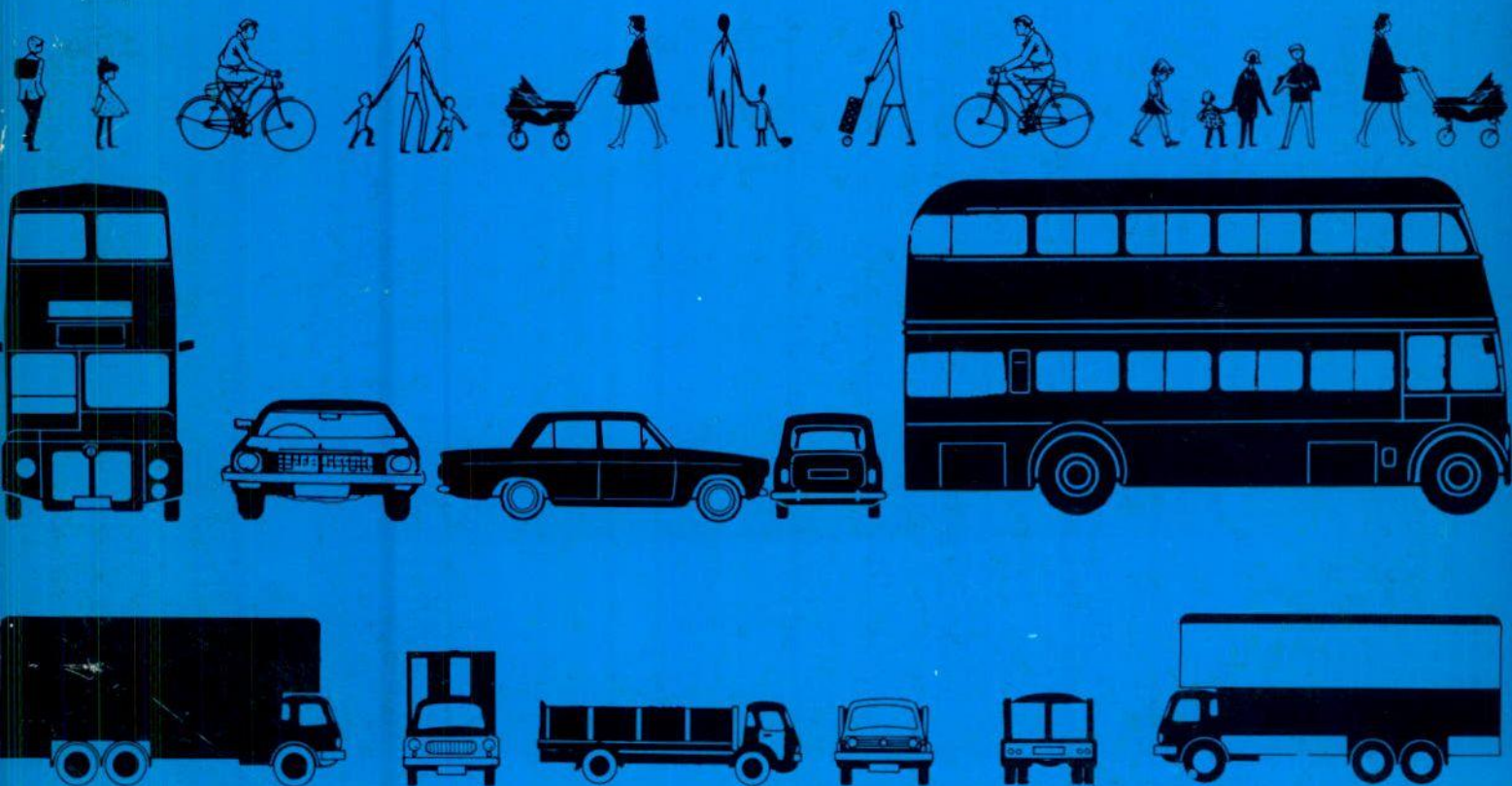


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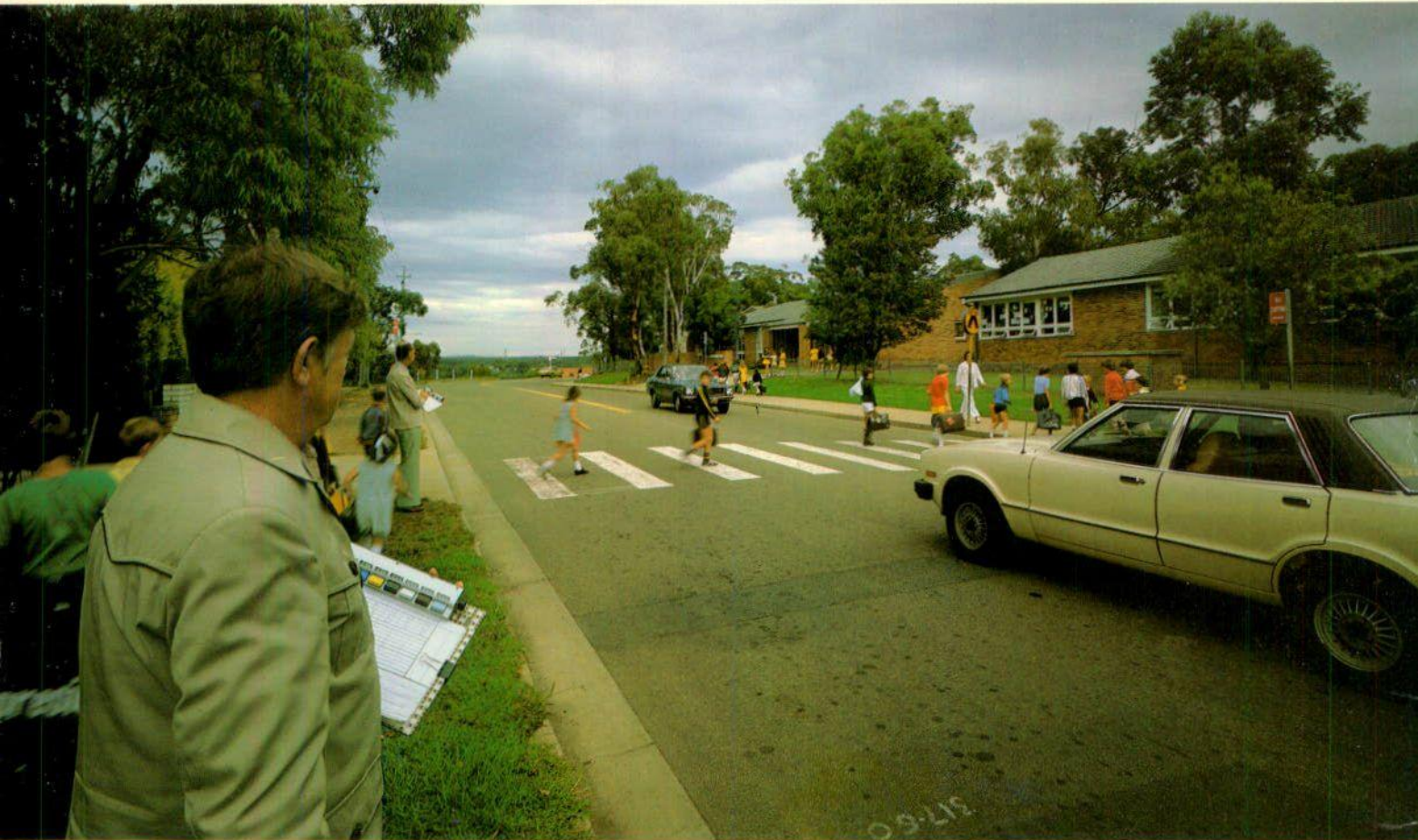
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TRAFFIC AUTHORITY OF NEW SOUTH WALES

ANNUAL REPORT 1977-1978



A survey of pedestrian/vehicle movements to assist in assessing the need for additional pedestrian safety devices.



Pedestrian actuated traffic control signals located near schools improve the level of safety for schoolchildren and other pedestrians.

ANNUAL REPORT 1977-1978

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TRAFFIC AUTHORITY OF NEW SOUTH WALES

Chairman, W. Butler

The Hon. P.F. Cox, M.P.
Minister for Transport,
SYDNEY. NSW. 2000

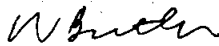
Dear Mr. Cox,

I have pleasure in submitting to you the Annual Report of the Traffic Authority of New South Wales for presentation to Parliament.

This report, for the year ended 30 June 1978, is similar in format to that used in the previous year and discusses developments in traffic management techniques as well as schemes which are being researched by the Authority, and of course, statistical data relating to traffic facilities provided.

Information about the Authority's administrative organisation, its perceived role, objectives and policies, is also included, as are comparative financial statements for the year, and the previous year.

Yours faithfully,



Chairman.

Members of the Traffic Authority

Official Members

- W. R. BUTLER, F.C.I.T.,
Commissioner for Motor Transport, N.S.W.,
Chairman.
- M. T. WOOD, M.B.E., Q.P.M.,
Commissioner of Police, N.S.W.
- B. J. SEXTON, B.E., F.I.E.(Aust.), F.C.I.T.,
Commissioner for Main Roads, N.S.W.
- G. P. WEBBER, M.S., M.T. & C.P., B.Arch., F.R.A.I.A., A.R.I.B.A.,
Commissioner, N.S.W. Planning and Environment Commission.

Appointed Members

- A. BRIGER, A.M.
Alderman, Council of the City of Sydney.
- H. G. GOLLAND,
Councillor, Council of the Shire of Tamarang.

Assisting the Authority

- A. S. REIHER, B.C.E., F.I.E.(Aust.), F.A.I.M., F.C.I.T.,
Chief Commissioner, Public Transport Commission, N.S.W.
- H. F. QUINN,
Secretary, Sydney Sub-Branch, Transport Workers' Union of Australia.
- The list shows membership at 30 June 1978.

Mr. A. F. Schmidt, B.E., F.I.E.(Aust.), F.C.I.T., F.R.I.P.A., ceased to be a member of the Traffic Authority upon his retirement from the position of Commissioner for Main Roads. Mr. B. J. Sexton was appointed with effect from 16 December, 1977.

Mr. A. D. Bishop, B.A., LL.B., ceased to be a member of the Traffic Authority upon his retirement from the position of Alderman, Council of the city of Sydney. Mr. A. Briger was appointed with effect from 8 December, 1977.

Principal Officers of the Secretariat

- | | |
|--------------------|---|
| DIRECTOR | H. L. CAMKIN, B.E., Dip. T. & C.P., M.I.E.(Aust.), F.C.I.T. |
| ASSISTANT DIRECTOR | C. TINSLAY, A.S.T.C.(Hons.), M.I.E.(Aust.), M.C.I.T. |
| SECRETARY | A. J. PERCIVAL |
-

Functions and Responsibilities

Traffic Authority Act, 1976

The Traffic Authority of New South Wales is constituted as a statutory corporation representing the Crown.

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

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

The Traffic Authority may engage in the promotion of traffic safety measures, publish advice and information and report or recommend to the Minister and others on control of traffic, traffic planning, safety, parking, traffic facilities, and related matters. It may also report and recommend to the Minister proposals for amending the law in relation to matters connected with the Authority's functions.

In this field the Traffic Authority has over-riding power and, in the exercise or performance of its functions, may direct other public authorities to implement its plans, general standards or principles established, or decisions made.

The Authority may delegate the performance of any of its functions to a member, a public authority, an officer of a Government Department or an officer appointed by the Authority and may determine principles and conditions under which a delegate may perform a delegated function.

Other Legislation

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

The Metropolitan Traffic Act, 1900, and Regulations for General and Pedestrian Traffic require the Authority to administer provisions for the control of animal-drawn, pedestrian, bicycle and other non-motorised traffic in the Metropolitan, Newcastle and District, and Wollongong Transport Districts.

Determination of applications by councils for consent to the closure of a public road to through traffic or the opening of a road previously closed is a responsibility under the Local Government Act, 1919.

Also under the Local Government Act, the Chairman of the Traffic Authority, or a person nominated by him, is appointed as a member of a Parking Advisory Committee.

A further function is the determination of the need for removal of any light, sign, hoarding, awning or structure which obscures or could be mistaken for a light, sign, or device provided for controlling or aiding traffic on a railway, road or waterway as provided for in the Traffic Safety (Lights and Hoardings) Act.

Policies and Objectives

The Traffic Authority's general objectives are —

- to promote safety and efficiency in the use of the State's road system, having regard to traffic, social and environmental interests;
- to provide an administrative system for the management of road traffic responsive to community needs, and to changes in social attitudes and values, as well as innovations in technology;
- to continually review the stated role, functions, membership, financial structure and objectives of the Traffic Authority itself to ensure that it keeps pace with future developments in community needs, social attitudes and technology and, as necessary, to recommend appropriate changes either in the legislation or the Authority's administration.

In pursuing these objectives the Traffic Authority has adopted a policy of delegating decision-making on operational details of purely local significance as far as possible to Local Government Authorities and, on those of regional significance, to the Divisional Offices of the Department of Main Roads. It has provided safeguards in the instruments of delegation to ensure maintenance of high and proper standards and consistency of application of traffic control facilities and requires Councils to seek the concurrence of local representatives of the Police Department so far as safety and enforcement aspects of a proposal are concerned, and of the Department of Main Roads in respect of both safety and traffic operations.

Legislative Constraints Experienced

Under the Traffic Authority Act, as presently drafted, there are certain limitations on the efficient discharge of the Authority's responsibilities, in particular —

- The Local Government Act and certain Ordinances still recognise various other Departments, but not the Traffic Authority itself, as "traffic authorities" in respect of matters such as planning schemes and development applications. Thus in development matters, for example, Councils are frequently required to seek the views of several Government Departments and are free to implement or approve proposals which impose additional traffic problems on the Traffic Authority without it having been consulted. In this regard, action has been taken to seek the necessary amendments to the Local Government Act.
- The Authority has powers to direct a public authority to implement its plans, or standards or principles established, or decisions made in the course of its normal functions, but there is no provision in the Traffic Authority Act to enable the Authority to enforce such a direction.
- The representative of the Transport Workers' Union and the Chief Commissioner of the Public Transport Commission are at a disadvantage in not possessing the statutory authority of Official and Appointed Members. A recommendation with the aim of resolving this constraint has been made to the Minister.

Organisation and Management

The Minister for Transport and Highways

The Traffic Authority is subject to the control and direction of the Minister who appoints the Members of the Authority other than the four official Members, and who may remove any such appointed member. The Minister has control over the funds expended by or for the Authority, as discussed in the Section, "Financial Results".

The Traffic Authority

Throughout the State many decisions affecting traffic operations have to be made every day. The Traffic Authority has delegated much of this responsibility to local representatives who are far more familiar with local problems than are Authority members. Details of such delegations are included in the Section, "Other Instrumentalities". The Authority has, however, retained to itself the role of determining —

- Policies
- Priorities
- Programmes

Proposals in this regard are normally submitted by its committees or member organisations and regular meetings are held to discuss these matters, ten official meetings being held during the year.

The Traffic Authority has available to it the facilities and officers of its member Departments and other public authorities where necessary. In consequence, it has no need to directly employ a large number of technical experts to deal with day to day problems.

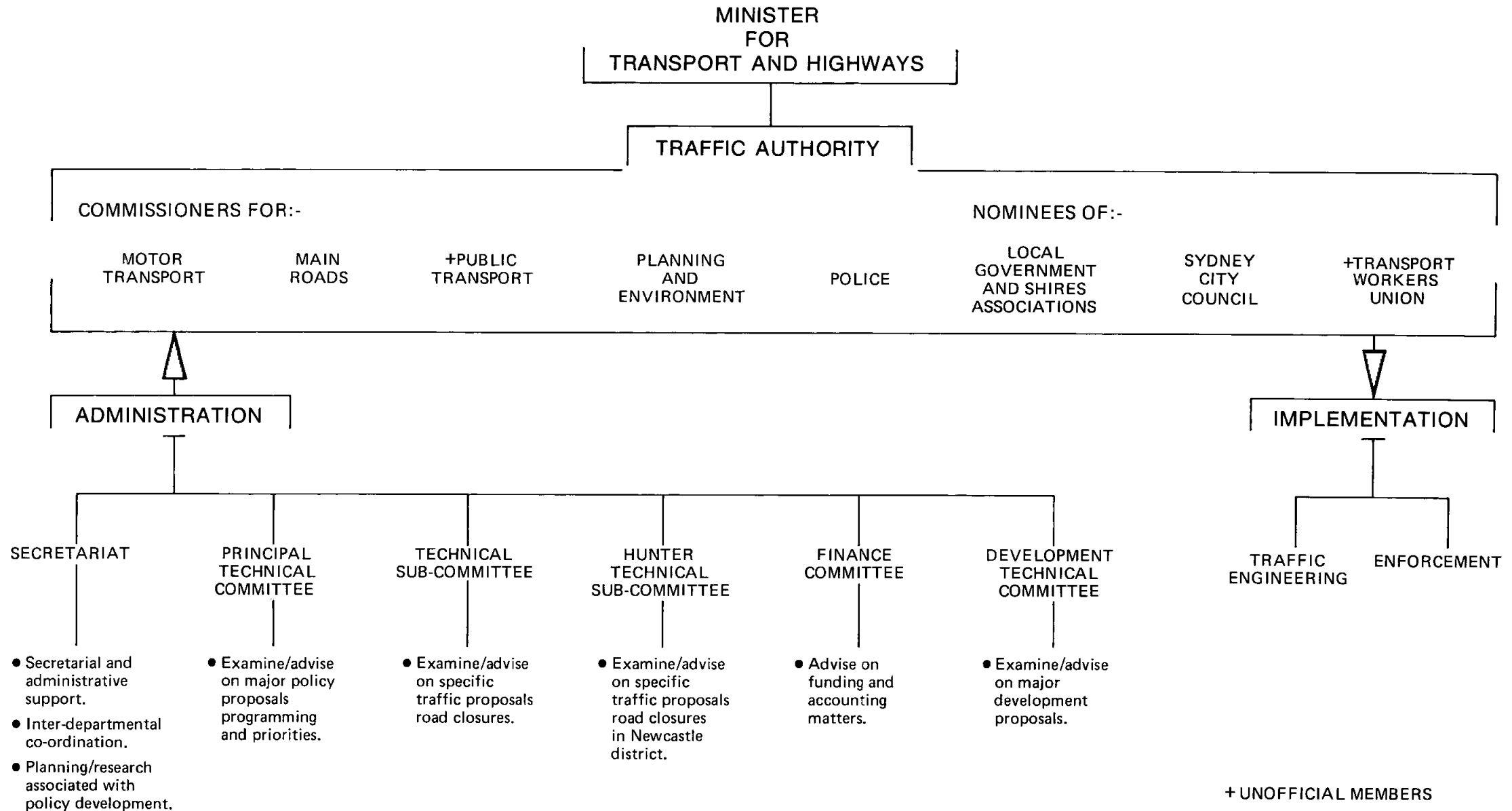
Deputy Members

Mr L. T. Williams, Assistant Commissioner, Department of Motor Transport; Mr D. C. Jacob, Acting Deputy Commissioner, Department of Main Roads; Mr R. C. Hyde, Assistant Commissioner of Police (Traffic); Mr P. Standen, Chief Planner, N.S.W. Planning and Environment Commission; Mr J. Calpis, Alderman of the Council of the City of Sydney; Mr R. T. Gosling, Nominee of the Local Government and Shires Association of N.S.W.

The Secretariat

The Secretariat is provided by the Chairman as a Branch of the Department of Motor Transport and comprises administrative and technical officers with wide experience in traffic planning and administration.

ORGANISATIONAL CHART



Committees

Principal Technical Committee

Senior officers nominated by the Departments represented on the Traffic Authority comprise the Principal Technical Committee appointed by the Authority to advise and assist it on major policy matters. The Committee meets regularly and matters discussed during the year included:

- Special lanes for bicycles.
- Preferential parking schemes for residents.
- Preparation of guidelines for road closures.
- Parking of vehicles on footpaths.
- Sydney western region transport study.
- Extension of peak hour clearways.
- Commercial travellers' parking concessions.
- Annual works programme and priorities for traffic-signals and other traffic facilities.
- Location criteria and siting requirements for container depots.
- Development of a metropolitan parking policy.
- Policy and standards for traffic generating development.
- Review of traffic law observance and enforcement measures.
- Vehicles allowed to turn left on red signals in certain instances.
- Use of transit lanes by heavy commercial vehicles.
- Parking of heavy vehicles on streets.

Technical Sub-Committee

Senior officers nominated by the organisations represented on the Traffic Authority comprise the Technical Sub-Committee appointed by the Authority to advise and assist it in the implementation of major traffic management schemes in particular areas, and in relation to other matters referred to the Sub-Committee. This committee meets regularly and among the matters considered during the year were —

- Road closures — applications submitted by various Councils for consent under the Local Government Act.
- Introduction of particular transit lanes and bus lanes.
- Action Plans and redevelopment schemes by Councils.
- Introduction of tidal-flow traffic movements.
- Implementation of preferential resident-parking schemes.
- Provision of grade separation for pedestrians.
- Signposting of light traffic thoroughfares.

Development Technical Committee

The Development Technical Committee comprises senior officers of the New South Wales Planning and Environment Commission, the Police Department, Department of Main Roads and the Traffic Authority Secretariat. Its function is to advise the Authority in relation to land and building development proposals of a traffic-generating nature. This Committee is serviced by the Planning and Environment Commission and performs substantially the role of that Commission's former Ribbon Development Sub-Committee now disbanded.

Hunter Technical Sub-Committee

To more effectively cater for the needs of the Newcastle and Hunter Region, a Hunter Technical Sub-Committee was established during the latter part of the year under review. This Committee comprises senior representatives based at Hunter Regional offices of the Departments and organisations represented on the Traffic Authority. It will advise and assist in the implementation of major traffic management schemes in the Hunter Region. Matters initially considered by this Committee were —

- Peak-hour clearways.
- Problems caused by "give-way" signs on bus routes.

Finance Committee

A committee of officers comprising the Chief Accountants of the Department of Main Roads and the Department of Motor Transport and the Secretary of the Traffic Authority constitute the Finance Committee appointed by the Authority to advise and assist it in matters relating to the provision of funds for carrying into effect the Authority's objectives and works programmes.

The Finance Committee reported on Budget estimates for 1977-78, and for 1978-79, and monthly reviews of expenditure from the Traffic Facilities Fund during the year to 30 June, 1978.

Other Instrumentalities

The establishment of the Traffic Authority in 1976 brought about substantial changes in the administration of traffic control throughout the State. The responsibility for traffic control previously vested in the Commissioner of Police was transferred to the Authority and traffic engineering activities previously undertaken by the Department of Motor Transport (traffic signals, regulatory signs and roadmarkings) were transferred to the Department of Main Roads.

Apart from the formal links with other instrumentalities derived from its membership, the Traffic Authority and its administrative staff continued association with a number of standing, and 'ad hoc' committees during the course of the year. These included —

- Urban Transport Advisory Committee (URTAC),
- Major Airport Needs of Sydney Study (MANS),
- Various Parking Advisory Committees,
- Australian Road Research Board (ARRB) Technical Committees,
- Bondi Junction Committee,
- Woolloomooloo Re-Development Technical Committee,
- Botany Bay Sub-Region Study,
- Centennial Park — Moore Park Interdepartmental Committee,
- MacArthur Development Board — Technical Committee,
- Standards Association Technical Committees.

During the year the Authority was represented by its administrative staff at conferences and seminars on topics directly related to its functions, thus —

- The Institution of Engineers, Australia — "Energy"
- The Chartered Institute of Transport — "Resolving Conflicts in Transport"
- The "Geelong Bikeplan" seminar
- The Institution of Engineers, Australia — "Transportation"
- The Institution of Engineers, Australia — "Engineers: Developing a Better World"
- The Institute of Public Administration — Annual Conference
- The 4th Australian Transport Research Forum

Department of Main Roads

Under the Traffic Authority Act the Department of Main Roads is the Authority's principal operations and construction agency and has been vested with authority to install traffic facilities on all public roads within New South Wales.

In addition, the Authority has delegated to the Commissioner for Main Roads the power to authorise traffic facility devices on any public road throughout the State, subject only to the policies, priorities and programmes adopted by the Traffic Authority. These powers are exercised by the Department's Divisional Engineers located throughout the State.

Department of Main Roads staff undertook all routine operation, maintenance and emergency repair work of traffic facilities, including traffic signals, in the Sydney and Newcastle areas. In other areas signal maintenance was carried out under contract by the local electricity supply authority, while maintenance of other traffic facilities was undertaken by the Department of Main Roads or by the local Council, as mutually convenient.

Details of the traffic facilities installed or maintained by the Department of Main Roads for the Traffic Authority are given in the Section of the report, "Traffic Engineering Works".

Traffic Accident Research Unit

In keeping with its statutory responsibility for promoting traffic safety the Traffic Authority's operations, policies and objectives are orientated to safety, as well as efficiency in the regulation and management of traffic on public roads.

The Traffic Accident Research Unit of the Department of Motor Transport has, since 1969, provided an advisory service on all matters relating to traffic safety-based research both in New South Wales and elsewhere. The Unit's own research covers aspects of human factors, environmental factors and vehicle factors involved in motor vehicle operations and crashes.

The Research Unit's staff, resources and equipment, are available to the Traffic Authority as required and details of the Unit's activities and research programmes during the year are included in the Annual Report of the Commissioner for Motor Transport.

Local Government Authorities

Delegation and decentralisation of decision-making to a local level for the provision of traffic control facilities required to solve or avoid a local problem is an essential component of the Traffic Authority's overall strategy. It has therefore arranged for the Councils to authorise minor traffic facilities on roads other than main and secondary roads.

To ensure consistency of standards and treatment throughout the State, guidelines as to good and proper practice are issued to Councils to assist them in the exercise of these powers. Additionally, prior to implementing any approval, they are required to obtain the agreement of regional representatives of the Police Department so far as safety and enforcement aspects of a proposal are concerned, and of Department of Main Roads in respect of both safety and traffic operations.

Local Traffic Committees, comprising representatives of Council, Police and Main Roads, and the local Members of State Parliament, serve as a means of expediting decision-making in this area.

Enforcement

All decisions on traffic control must have regard to both the need for, and the practicality of law enforcement. In this regard the Commissioner of Police has responsibility for the enforcement of traffic laws and regulations relating to decisions taken by the Traffic Authority or its delegates. Senior officers of the Police Department are members of the Technical Committees mentioned in the Section, "Committees".

Local Involvement

Traffic Authority delegations have continued to operate through the Department of Main Roads and Councils in the case of traffic facility devices on main roads and local roads respectively. The Council Traffic Committees have allowed these delegations to operate with the minimum of delay in the case of local roads and have provided a useful forum for discussions of other traffic matters.

The Department of Main Roads has continued to convene or to be represented on a number of standing and 'ad hoc' working parties at local level for the Traffic Authority. These working parties have dealt with matters ranging from road closures to light traffic thoroughfares, local traffic management schemes to regional traffic management schemes, commuter transport routes to public transport routes, individual development applications to town centre development proposals and have reported to the Authority recommending appropriate action.

Traffic management schemes

Three-year programme

Recommendations were made by the Urban Transport Advisory Committee (URTAC) in February, 1976, for an accelerated programme of traffic engineering works and traffic management schemes to be introduced over a three year period commencing in July, 1976. The Committee nominated specific matters for the Authority to undertake as a complementary part of the recommended traffic management programme.

With the provision of additional funds for this purpose in the years 1976/77 and 1977/78, substantial progress has been made in the implementation of that works programme. Details of achievements during the past year are given in the section, "Traffic Engineering Works".

Priority to High-Occupancy Vehicles

The Traffic Authority has the task of undertaking a continued examination of possible benefits and costs, both public and private, from the allocation of road priority, including transit lanes, to high-occupancy vehicles such as buses, and to taxis and car pools.

Bus Lanes

In areas where there is a high density of bus traffic associated with generally heavy traffic congestion causing significant delays to buses and disruption to schedules it has been a practice to provide special "buses only" lanes, or alternatively, "transit lanes".

Bus lanes may be provided on either the left kerbside lane or the right kerbside lane (in a one-way flow system) and are validated by the Motor Traffic Regulations which prohibit the driving in a bus lane of any vehicle except a bus, a taxi-cab, a private hire car or a motor cycle, or a vehicle which is about to turn left (or right, in a one-way street) at the next intersection.

No new bus lanes were introduced during the past year.

Transit Lanes

Transit lanes are basically a development of "Bus Only" lanes. They are designed to provide faster and more reliable public transport for commuters, in an endeavour to increase patronage and to reduce the number of cars on the already overtaxed main road system in peak hours. However, the retention of a kerbside lane for the sole use of buses, especially over long distances, on heavily-loaded arterial roads such as the Spit Bridge and Victoria Road routes would result in extreme over-loading of other lanes.

To ease this situation, taxis and vehicles carrying three or more occupants, and motor cycles, are permitted to use the lane thus gaining benefit of lower travel times and providing a more evenly balanced use of the road as a whole. More efficient use of both vehicle and road is thereby encouraged, and a measure of restraint emerges to discourage the use of "low-occupancy" vehicles.

Transit lanes in Sydney have, in every case, been introduced in an effort to overcome major existing problems being experienced by peak hour commuters in all vehicles, not just buses. In each case, implementation of the transit lane was associated with several other traffic management measures, including in appropriate cases, tidal flow, intersection and signal improvements and local traffic management schemes designed to remove through traffic from parallel streets in adjacent residential areas.

During the year to 30 June 1978 transit lanes were introduced on Military Road - Spit Road - Manly Road - Sydney Road (Neutral Bay to Balgowlah via Spit Bridge route) in the afternoon peak period, namely 3.30 p.m. to 6.30 p.m., Mondays to Fridays; on Victoria Road, Gladesville between Cambridge Street and Gladesville Bridge in morning peak periods, namely, 6.30 a.m. to 9.30 a.m., Mondays to Fridays; and on Longueville Road, Lane Cove between Epping Road and Pacific Highway in morning peak periods, Mondays to Fridays.

The last-mentioned transit lane operates in conjunction with tidal-flow traffic, three lanes inbounds towards the City, with one outbound.

At the close of the period, investigations were under way into proposals for further transit lanes on sections of Epping Road and Pacific Highway at either end of the Longueville Road transit lane, and also on Warringah Freeway on the northern approach to Sydney Harbour Bridge.

Bus priority — Right of Way

As a means to improve schedule adherence, minimise delays to bus passengers and generally help to enhance the public image of bus services as a major commuter transport mode, measures to afford priority to buses in traffic have been under consideration. Priority for buses at traffic signals was mentioned in last year's annual report.

Under one method, 'active' priority, significant costs are involved in fitting electronic equipment to buses to activate traffic signals to change to a green phase on the approach of a bus and it was not demonstrated at that time that the expenditure would result in an appropriate return from an investment point of view. While 'passive' priority schemes relying on the use of existing signal controllers and vehicle detectors were seen to have greater benefit-to-cost ratio than 'active' priority schemes, experimental work with bus-mounted equipment is in progress in a number of cities elsewhere and developments will be monitored by the Traffic Authority.

Attention is also being given to delays to buses leaving bus stops and bus bays. Traffic flow on arterial roads is clearly improved by the removal of stopping buses from the traffic stream to bus bays, but the disbenefit to the bus operator and the bus passenger from the delays incurred in re-entering the traffic stream are recognised. The granting of priority to buses in those circumstances would overcome the problem but further study needs to be done to establish the feasibility of such a scheme.

Bus Operations — Problem Area

The introduction of full intersection control on main traffic routes (known as "priority road" conditions) prompted criticism that, where bus routes enter a major road and the minor or intersecting road is controlled by a 'stop' or 'give way' sign, delays to buses because of difficulty in gaining entry to the major roads were severely disrupting timetables and service efficiency.

Following a survey to obtain information from the Public Transport Commission and private bus operators in the Sydney Metropolitan Area to identify the nature and location of problems due to traffic signs adversely affecting bus services, details of individual locations were referred to Council Traffic Committees for remedial action, where practicable.

In the Newcastle district, similar problems occurring at a number of intersections brought under notice by the Public Transport Commission and the Australian Tramway and Motor Omnibus Employees' Association, were investigated by the Hunter Technical Sub-Committee. Proposals for traffic signals at some of those sites were being subsequently examined by the Department of Main Roads, while other proposals, for instance, for minor alterations to bus routes, timetables or work rosters were submitted to the Public Transport Commission, operator of the bus services concerned, for its consideration.

Clearways

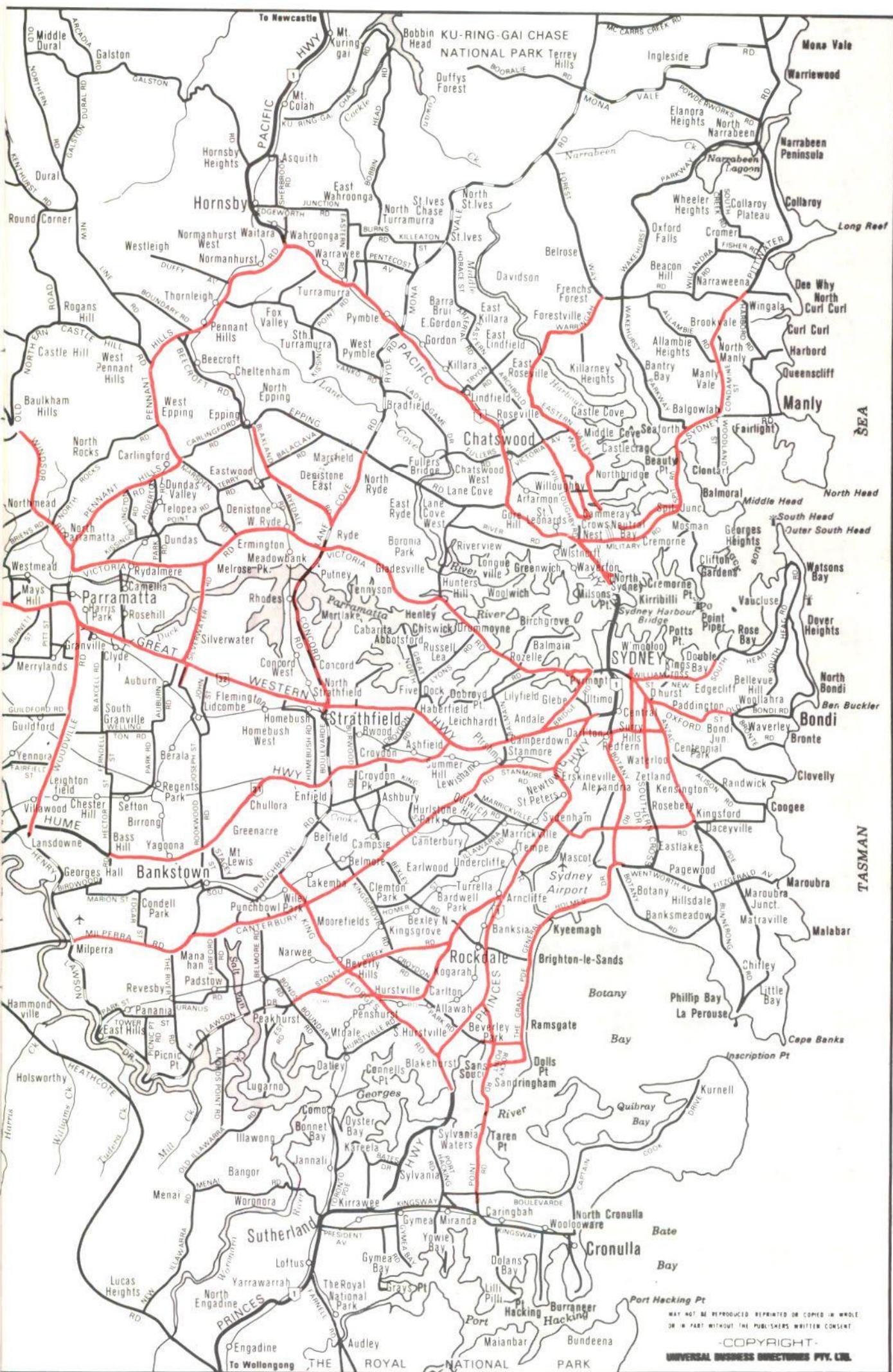
A "Clearway" restriction is one under which motor vehicles, other than buses, taxi-cabs and private hire cars actually picking up or setting down a passenger, are not permitted to stop during the hours and on the streets so designated by signs.

These restrictions are in force on many of the major traffic routes through the Metropolitan area and may apply between the hours of 6.30 a.m. to 9.30 a.m. and 3.30 p.m. to 6.30 p.m., Mondays to Fridays on one or both sides of such routes as considered necessary for achieving the maximum use of the roads concerned for the movement of traffic.

Clearways in operation in New South Wales at present are designed specifically to assist week-day peak hour movement. It is recognised, however, that the demands of industry and commerce and to a degree the needs of recreational traffic, are such as to warrant similarly utilising the maximum capacity of roads at other times.

Research on the social and economic costs and benefits of extended clearway hours, that is "off-peak" clearways, has been completed. This has provided a method of quantifying these factors in relation to vehicle-operating, person-time, extra costs to retailers for disruption to loading and unloading, costs of displacement of shoppers' vehicles, and costs to residential areas due to displacement of on-street parking. A trial application of the method has been made on sections of two arterial roads. This showed that if any off-peak clearway produced average speed increases of approximately 5%, then the total social, economic and rear-access installation costs would be balanced by the reduction in vehicle operating and driven-time cost.

Draft warrants and policies for the future implementation of off-peak clearways are currently being developed. Undertakings have been given to Councils and Chambers of Commerce that off-peak clearways will not be introduced without prior consultation with those bodies. In the past year peak-hour clearways were introduced in both morning and afternoon periods on four arterial routes in the Sydney Metropolitan Area totalling 17.2 km, namely, Woodville Road (Granville-Villawood), Lane Cove Road (North Ryde), Blaxland Road (Ryde-Epping) and a section of Wentworth Avenue, Mascot. As well, peak-hour clearways were extended along Pacific Highway from Pymble to Pearce's Corner, Wahroonga, southbound in the morning and northbound in the afternoon. Details are shown at Figure 1.



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Intersection Controls on Main Traffic Routes

The give-way-to-the-right at intersections rule which has long applied on all types of roads, from multi-lane highways to quiet residential streets is now being replaced generally by specific controls such as "give way" signs and traffic signals.

These controls are aimed at creating a smooth flow and absence of turbulence, essential ingredients of safe and efficient traffic movement, and assist in obtaining the maximum capacity from the main road system.

Eventually, all of the main road system, including State highways, main roads, and secondary roads will be converted to this pattern. In addition, other roads which already carry significant volumes of traffic which cannot be accommodated on the main road system will be similarly treated.

Routes with full intersection control were established during the year on 5900 km of arterial roads by installation of "Give Way" and "Stop" signs, making a total of about 6600 km completed to date. The main and secondary road system is now 90% complete in Sydney, 70% in Wollongong, 70% in Newcastle and about 25% complete for the whole State network. By the end of 1978 drivers travelling on any road with a marked centre line or median or lane lines may expect control by regulatory signs or signals at every intersection.

The routes under full intersection control in the Sydney Metropolitan Area, Wollongong district, Newcastle district, and throughout the remainder of the State as at 30 June 1978 are shown in Figures 2 to 5.

Left Turn on Red Signal

At certain intersections where traffic signals are installed and where the left turn movement is channelised but not controlled by a signal, signs are displayed "Turn left at any time with care".

Research has been conducted by the Traffic Authority to ascertain the feasibility of permitting traffic to turn left when facing a red signal (LTOR) at particular intersections without the above-mentioned facilities.

This practice is common, in the form of right-turn-on-red (RTOR) in North America where it is used in both "generally permissive" and "sign permissive" (or generally prohibited) modes.

Benefits accruing from this technique are time-savings to drivers, increased vehicle flow through intersections, and reduced fuel consumption because of reductions in waiting time at red signals.

The research study team developed a set of site-selection criteria which could be applied. They conducted a pilot survey to test and verify the process and to obtain preliminary indications of potential time savings to drivers by the introduction of LTOR.

It is evident that, because of the large number of intersections in the Sydney area with designs unsuitable for LTOR generally, it would be necessary for the mode of operation to be "sign permissive" only. Approximately 150 sites were identified as being suitable and recommendations have been made for a trial at a small number of sites for about a year to closely evaluate the scheme.

Light Traffic Thoroughfares

The powers under which Councils now proceed to declare roads as light traffic thoroughfares were provided to ensure protection of the road pavement and not designed with matters of environmental amenity in mind. The Traffic Authority sees no objection to the application of traffic management techniques or controls so as to preserve or enhance local amenity, and indeed recognises the need in many instances for positive action to be taken in this direction, but it considers that existing procedures are inadequate to ensure that there is proper regard to all of the consequences.

The Traffic Authority considers that, when contemplating the establishment of light traffic thoroughfares for environmental reasons, Councils should be required to follow procedures similar to those laid down in the Local Government Act for dealing with road closures. It has therefore recommended that the Local Government Act be amended to repeal Councils' present powers to impose load limits on public roads, except upon certification by a Council engineer that the road is structurally unsuitable for heavy vehicles, and to substitute in lieu thereof powers for Council to proceed in a manner similar to that provided for by Section 269A in respect of closure of roads.

In anticipation of such a change, guidelines are being prepared by the Authority in collaboration with Local Government bodies with a view to ensuring that Councils fully canvass all aspects of particular proposals and provide an opportunity for public comment by people who may be affected in any way. Councils in neighbouring areas will also be assured of advance notice of proposals which may have repercussions beyond the boundary of the area in which they are planned.

Resident Parking Schemes

The parking of commuters' motor vehicles on streets surrounding major public institutions, industrial centres, sporting and recreational centres and shopping centres continues to inconvenience residents and business people whose premises front those streets.

To assist residents who do not have off-street parking space and who cannot reasonably provide such a facility, preferential parking schemes are being introduced by Councils, with the Traffic Authority's consent in individual cases. Under these schemes residents in a defined area will be able to obtain from the Council a 'parking authority' covering a specified term and on display of the authority in a vehicle parked on a street where 'period' parking, for example, 1 hour, 2 hours, etcetera, is in force, the particular vehicle may be parked without restriction. These schemes generally operate during the hours 8.00 a.m. to 6.00 p.m. Mondays to Fridays and are known as "Resident Parking Schemes".

During the past year such schemes have been introduced on trial in sections of the Municipalities of Woollahra (at Watsons Bay), Leichhardt (at Glebe), South Sydney (at Darlington), and Randwick (at Randwick). A residents parking scheme which had been under trial at South Paddington (Sydney City Council area) for about a year, was put on a permanent basis.

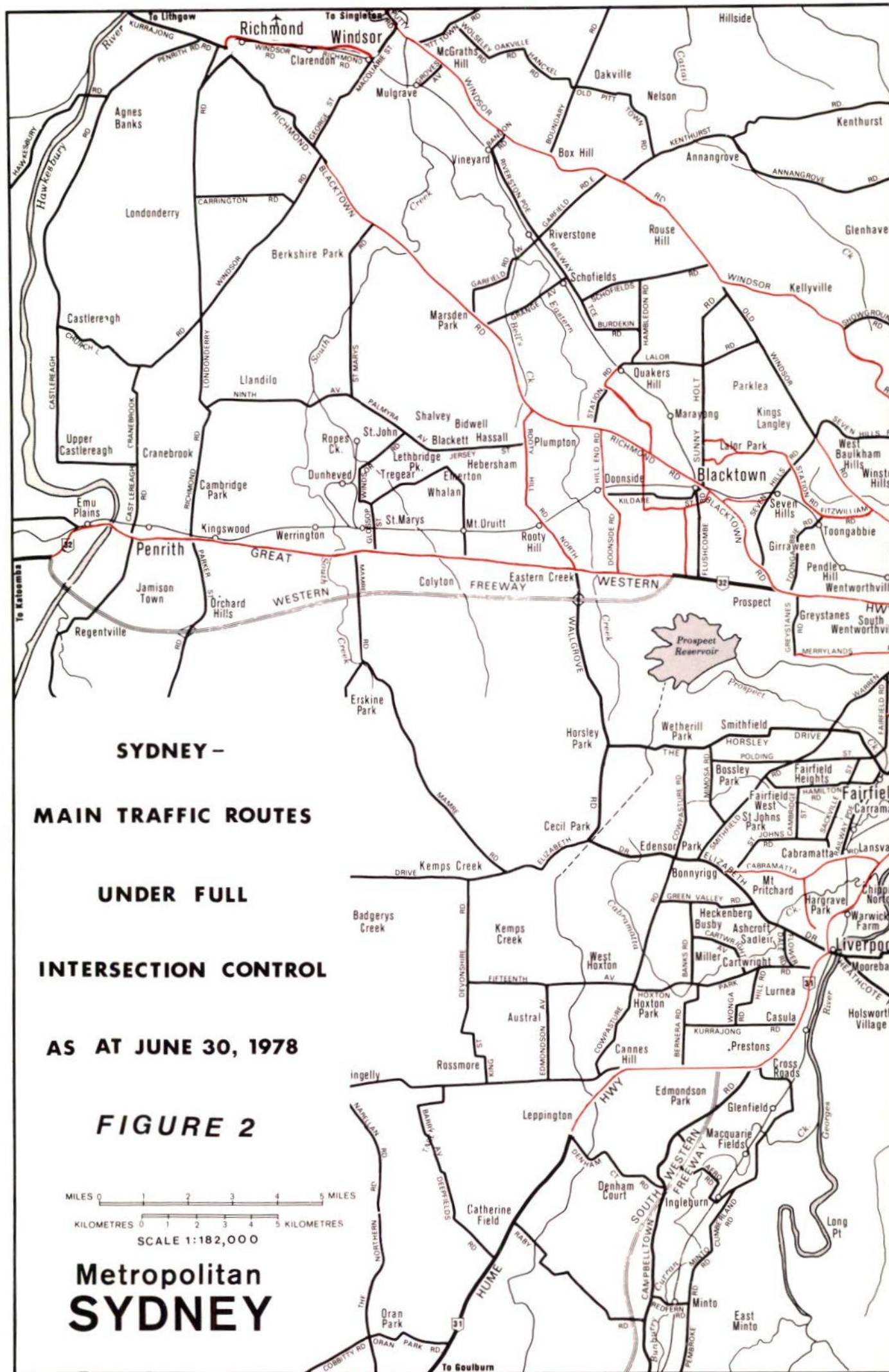
The Traffic Authority will shortly publish "Guidelines for Resident Parking Schemes" to assist in their planning and implementation by Councils.

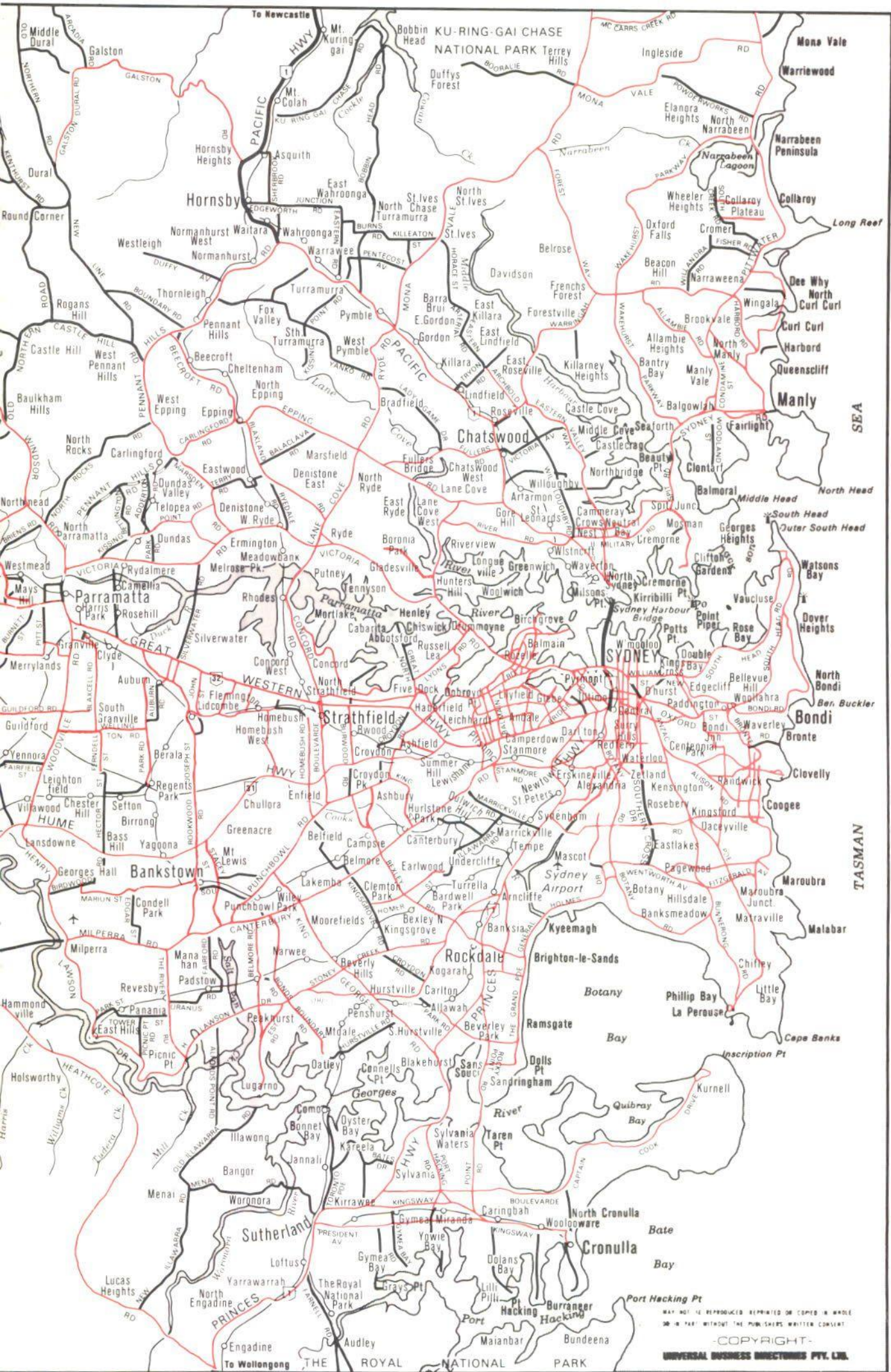
Traffic Flow Monitoring

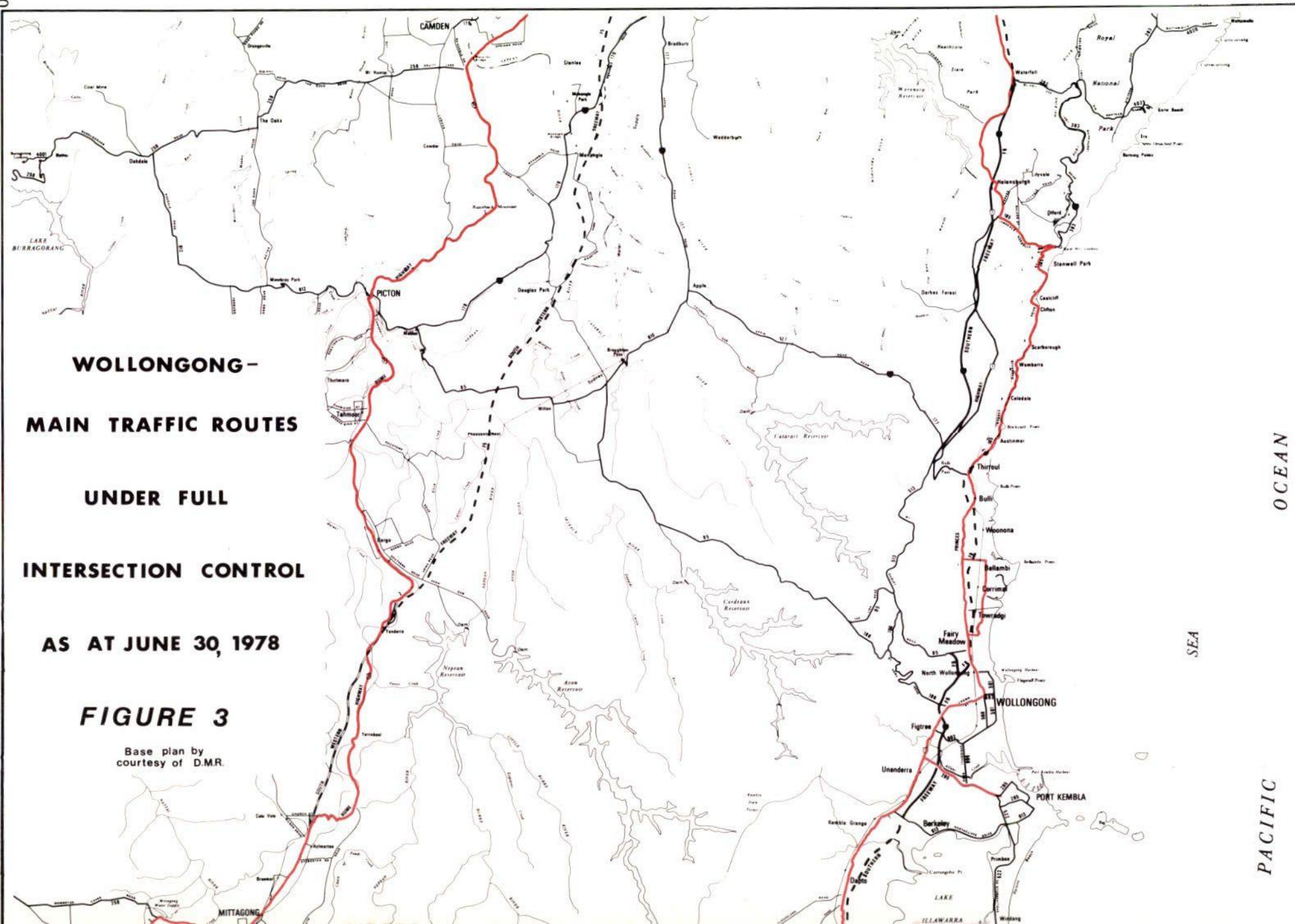
Significant traffic engineering works designed to improve the flow of vehicles on arterial routes are being introduced progressively as funds become available and evaluation of their effectiveness is an essential function of the Traffic Authority.

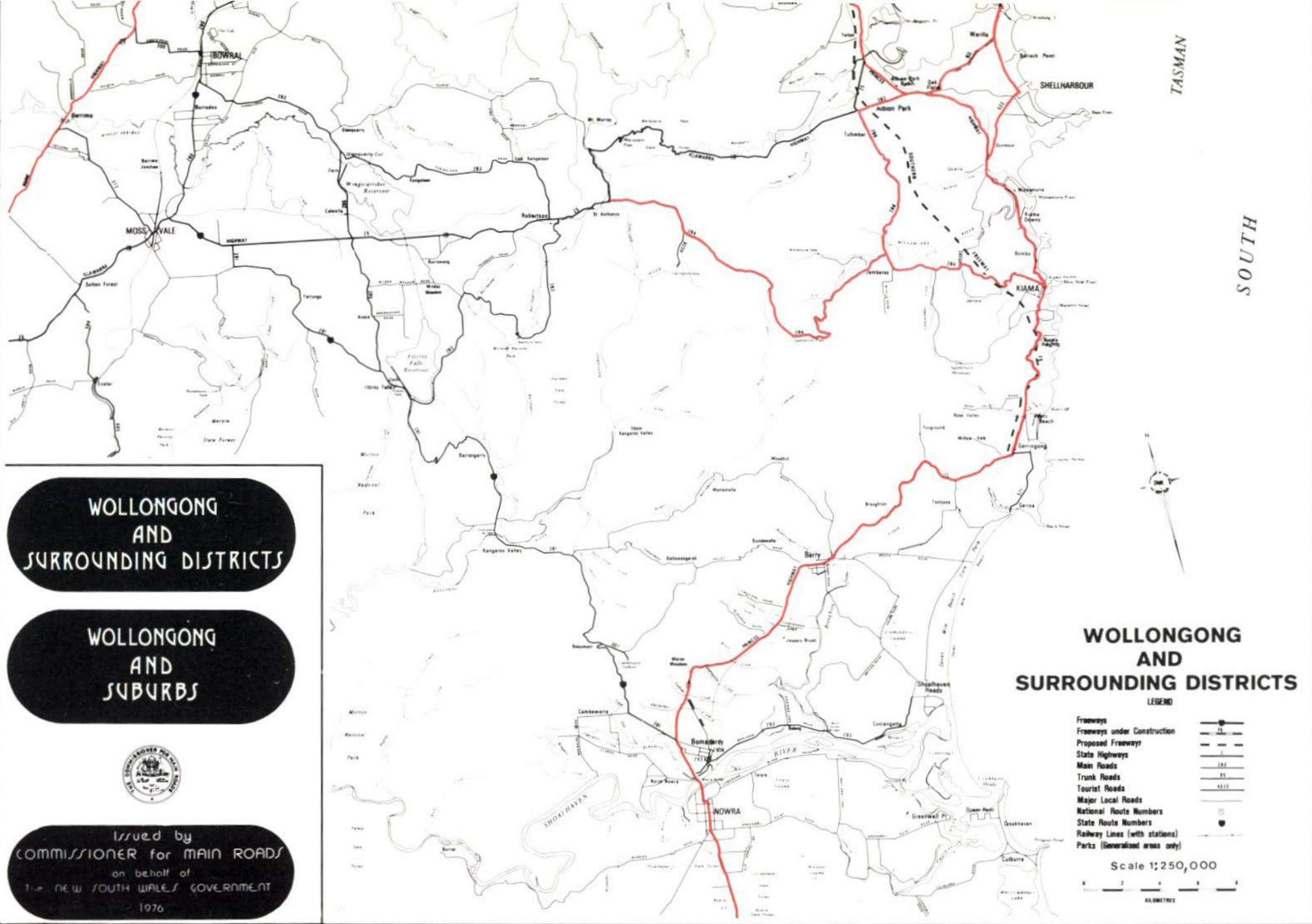
During the year a pilot programme for comprehensively surveying road travel times in the north-eastern sector of the Metropolitan Area was introduced. When fully implemented, this survey will cover all major trafficked routes including main and secondary roads, and some Council-controlled roads, radiating from the City of Sydney and on circumferential routes.

The surveys are planned to record mean travel times and to show variations in mean running speeds for vehicles generally. Bus travel times are to be studied as a separate exercise with the assistance of the Public Transport Commission. Data is being processed by computer with a view to the production of annual statistics or extracts, as may be required, at any lesser interval.









**WOLLONGONG
AND
SURROUNDING DISTRICTS**

**WOLLONGONG
AND
SUBURBS**

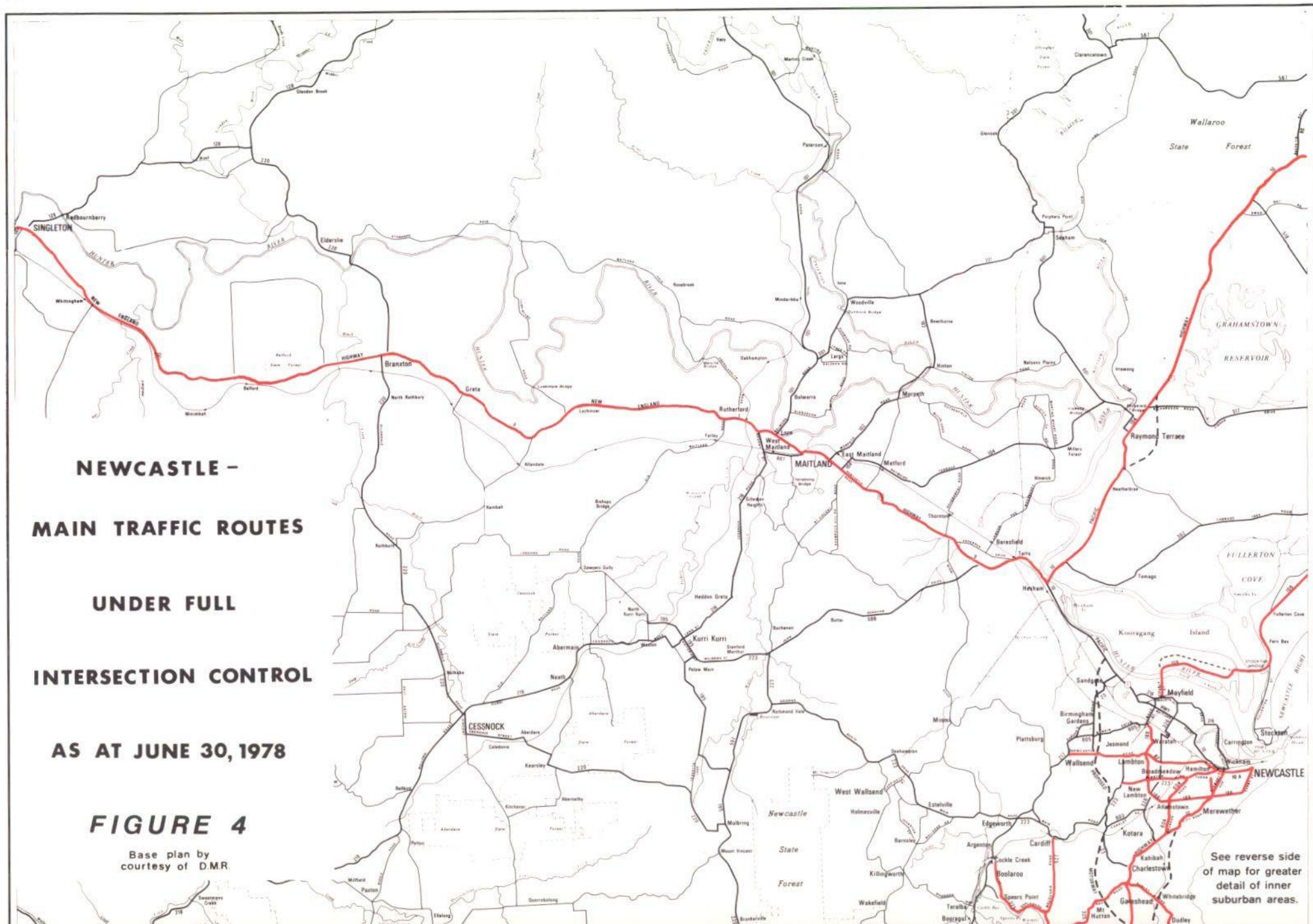


Issued by
COMMISSIONER for MAIN ROADS
on behalf of
The NEW SOUTH WALES GOVERNMENT
1976

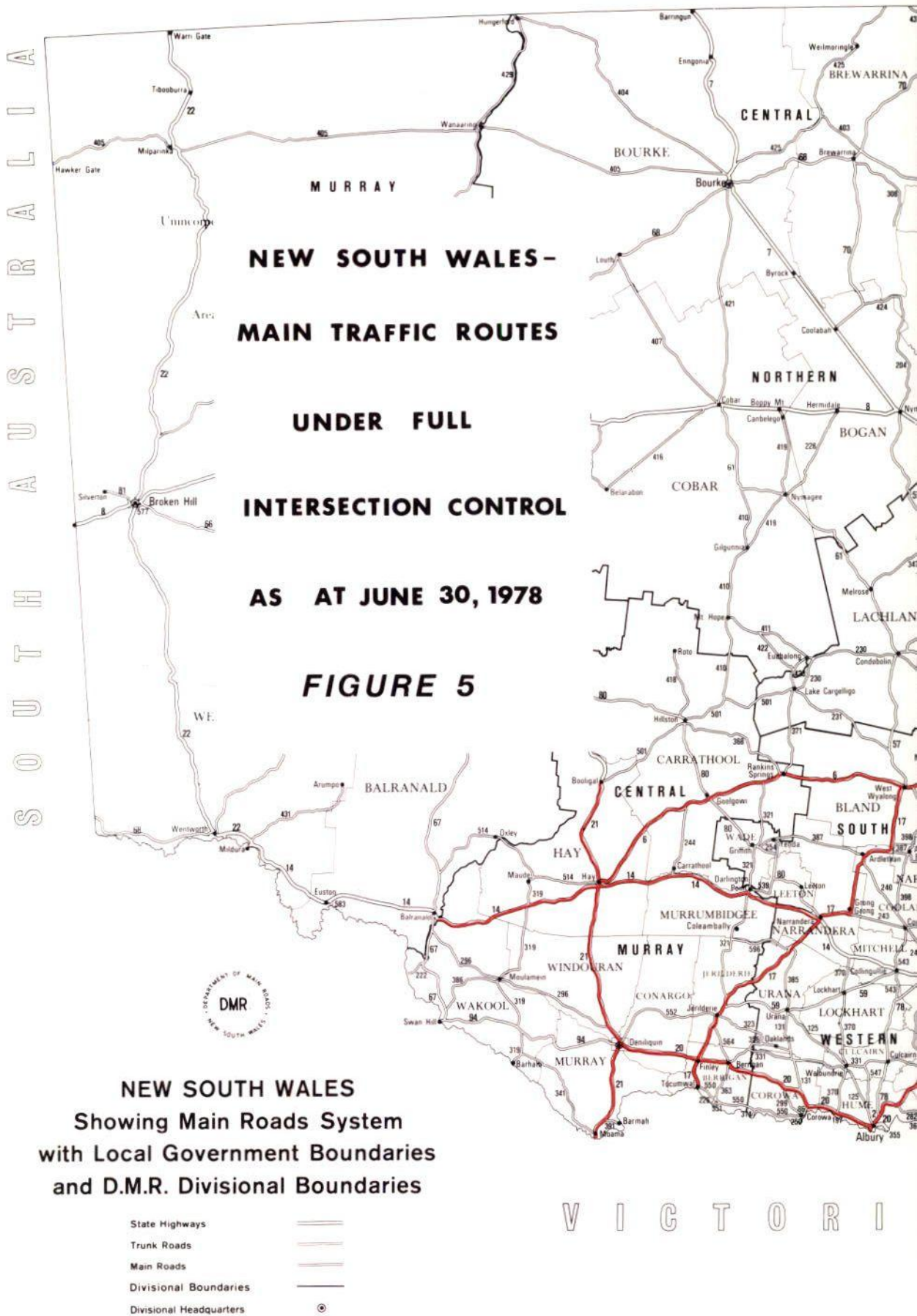
**WOLLONGONG
AND
SURROUNDING DISTRICTS**

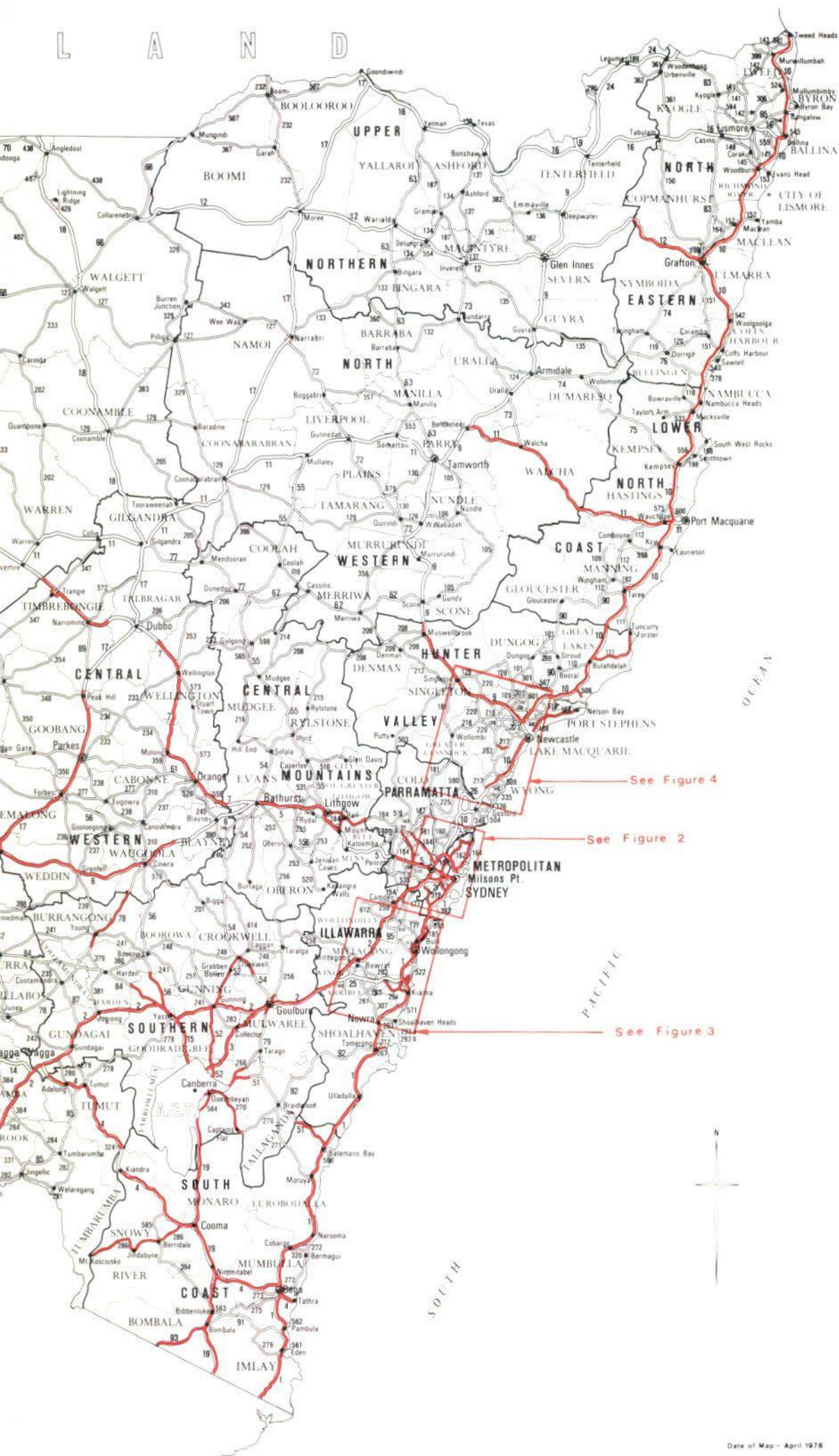
- LEGEND**
- Freeways
 - Freeways under Construction
 - Proposed Freeways
 - State Highways
 - Main Roads
 - Trunk Roads
 - Tourist Roads
 - Major Local Roads
 - National Route Numbers
 - State Route Numbers
 - Railway Lines (with stations)
 - Parks (Generalized areas only)

Scale 1:250,000
KILOMETRES









Tidal Flow Traffic

Tidal-flow schemes, whereby certain traffic lanes on a road are used for traffic in one direction in the morning and the opposite direction in the afternoon, continued to be employed on main traffic routes in the Sydney Metropolitan Area where traffic volumes were heavily in excess of the capacity of the particular roads under normal two-way arrangements.

Such schemes were introduced during the year on Clive Street, Roseville, between Boundary Street and Babbage Road for northbound traffic in afternoon peak periods to minimise the effects of queueing at the signal-controlled junction of Clive Street and Babbage Road; and also on Longueville Road, Lane Cove between Epping Road and Pacific Highway for traffic towards the City in morning peak periods. At the latter location, a transit lane was introduced simultaneously.

Traffic Engineering Works

Traffic Signals

A total of 111 new sets of traffic signals were brought into service during the year using Department of Main Roads staff and contractors. In addition there were 39 sites under construction or let to contract at 30 June 1978. At that date there were 1477 sets of signals in service throughout the State distributed as shown in the following table —

	Vehicle Actuated	Pedestrian Actuated	Inner City	TOTAL
Sydney	963	210	113	1 286
Newcastle	64	20	—	84
Wollongong	43	7	—	50
Country Centres	44	13	—	57
TOTAL	1 114	250	113	1 477

In addition, 35 sets of traffic signals were reconstructed because of changing traffic factors or road reconstruction. Six sets were removed from service.

The Main Roads Department's construction staff installed 15 of the sets of signals commissioned during the year, the remainder being installed by contractors to the Department's designs and specifications. The Department's staff also carried out 27 of the reconstructions of existing signals.

Temporary signals were installed at five locations to assist in controlling traffic movements at works in progress.

This large number of traffic signals has resulted from the needs of traffic on arterial roads, catering for both through traffic and traffic wishing to join, the arterial road. Where signals are close together, either in a central business district, or continuous along an arterial road, there is a need to co-ordinate their operation.

During the year new major computer based systems were installed in master control cabins at St. Leonards, Newtown, Leichhardt and Rushcutters Bay. For the first time private telephone lines rented from Telecom Australia were used to connect the individual local controllers to the master. A total of 47 new sites were co-ordinated during 1977/78, whilst the standard of co-ordination at another 16 sites was improved.

In the inner and near city area of Sydney, there are 149 signal sites controlled

by a computer based system. Other computer based systems are located at King Street, Newtown (20 sites); Pacific Highway, St. Leonards and Chatswood (23 sites); Parramatta Road, Strathfield and Lewisham (26 sites); Military Road, Mosman (11 sites); Canterbury Road, Punchbowl (11 sites); Hume Highway, Ashfield and Carramar (12 sites); and New Canterbury Road, Lewisham (6 sites). Other non-computer based systems and small master controlled systems are installed at 71 sites and flexilink (cableless) systems operate at 75 sites.

Regional master computers have now been installed at Newtown, Punchbowl, St. Leonards, Lewisham and Rushcutters Bay and contracts have been called for the construction or extension of computer cabins at Silverwater, Hornsby (previously Turramurra), Sylvania, Liverpool, Newcastle and Wollongong to house computers that have already been delivered.

A map of the locations of co-ordinated systems is shown at Figure 6.

Signs and Markings

Over 25 500 new facilities including marked footcrossings, traffic domes, regulatory, warning and guide signs, together with 25 700 replacement signs were provided during the year. The installation and maintenance work on regulatory signs in the Sydney, Newcastle and Wollongong areas is carried out for the Traffic Authority by Main Roads Department staff and in other areas the work is performed by Councils.

The Department of Main Roads maintained approximately 45 000 km of longitudinal traffic lines on classified roads and unclassified roads. Raised pavement markers continued to be used to augment painted lines and to simulate traffic lines on freeways. Approximately 95 000 square metres of transverse lines, zebra crossings and road symbols were marked and maintained during the year. Increased quantities of hot-applied thermoplastic material, instead of conventional line-marking paint, were used throughout the year.

Speed Zoning

Responsibility for determining the speed zoning on public streets passed from the Minister for Transport and Highways to the Traffic Authority in June, 1976. Since that date investigatory work in connection with the review of speed zoning at various locations throughout the State has been carried out for the Authority by traffic engineering officers of the Department of Main Roads.

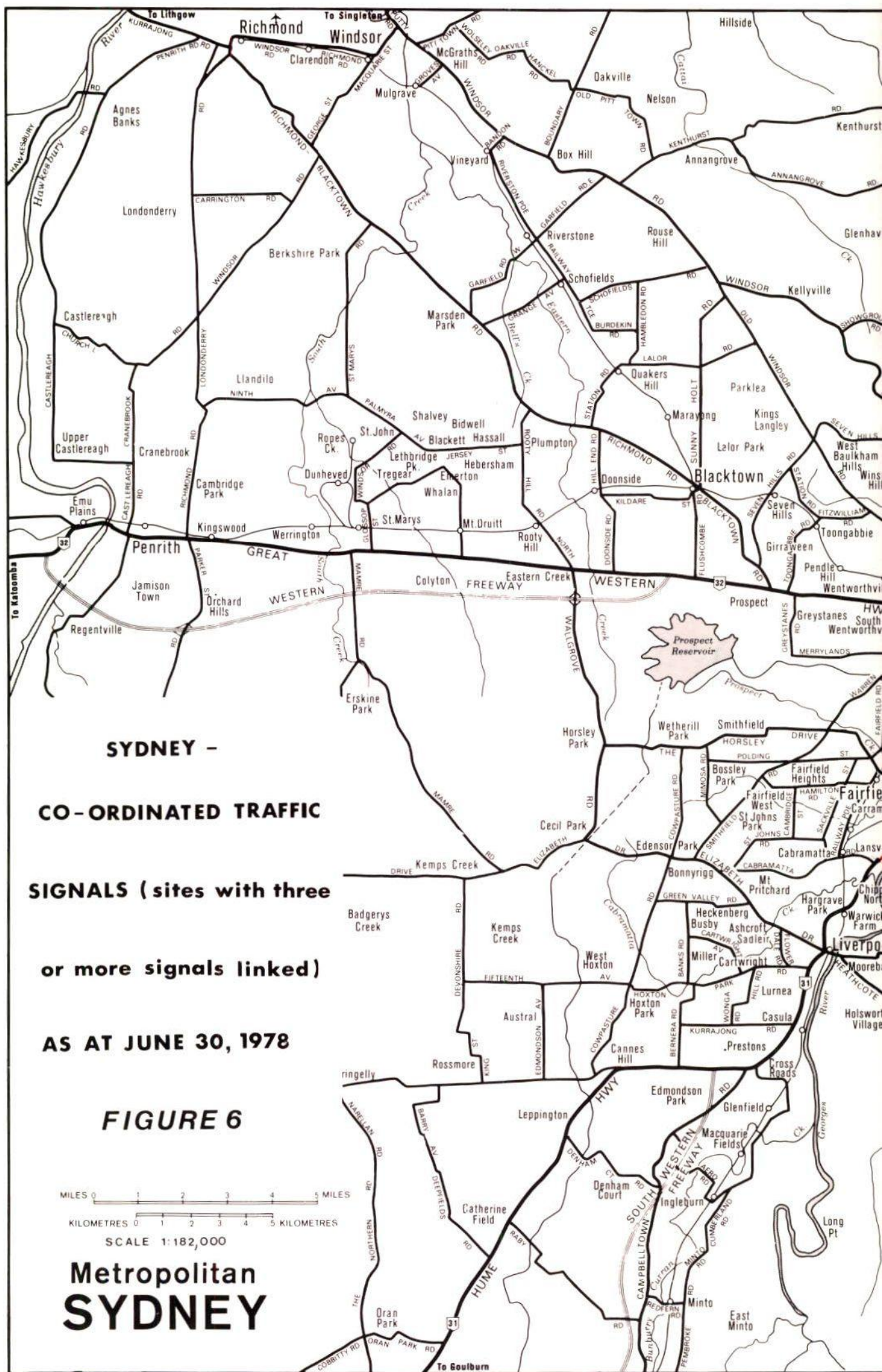
However, in the interest of decentralising the decision-making in this regard, the Traffic Authority delegated to the Commissioner for Main Roads, the power to authorise speed limits, or speed zones, on public roads throughout the State, on the understanding that the powers would be exercised by the Department's Divisional Engineers, wherever located, subject of course, to the observance of guidelines to ensure uniformity in application.

Situations also arise from time to time when it becomes desirable or necessary to impose a temporary speed limit, lower than the prevailing one, over a section of road whilst maintenance or reconstruction work is in progress. This function is also exercised by the Main Roads Department Divisional Engineers.

During the year new speed zones were established over the following lengths: 36 km (60 km/h); 37 km (80 km/h); 73 km (100 km/h) and 21 km (110 km/h); and extensions to existing speed zones were made over 102 km of roadway.

Pedestrian Bridges and Subways

The pedestrian bridge over the Pacific Highway at Mt. Ku-ring-gai was completed during the year and a contract for the installation of a pedestrian subway under Pacific Highway at Pymble was let.



Other Pedestrian Improvements

Although only nine mid-block pedestrian signals were installed during the year, special pedestrian facilities were provided at most of the 137 sets of traffic signals installed or reconstructed at intersections during the year. These additional facilities should greatly assist pedestrians to safely cross roads particularly the busy arterial routes.

Other Traffic Management and Safety Schemes

Approximately 62 miscellaneous traffic management and safety projects were completed during the year. The different types of projects were —

Guardrail installations	30
Skid resistance improvements	6
Improvement to superelevation	5
Shoulder widening	5
Improvement to alignment	5
Visibility improvement	3
Driver aid schemes	2
Additional lanes	1
Bus bays	6

The installation of emergency telephones on F4-Western Freeway between Prospect and Emu Plains was completed and is proving of great assistance to stranded motorists. A fourth lane was constructed for southbound traffic on Babbage Road from the Malga Avenue overbridge to Clive Street, Roseville and this work is being extended along Boundary Street to Archbold Road, Roseville.

Intersection Improvements

A total number of about 30 intersections were channelised during the year. Major sites where channelisation was completed included —

- Princes Highway and Darkes Forest Road, Darkes Forest
- Pacific Highway and North Sapphire Beach Road, Coffs Harbour
- Mitchell Highway and Main Road No. 233 near Wellington
- Princes Highway and Dalmeny Drive, 66 km south of Batemans Bay
- Pacific Highway and Kanangra Drive, Kanwal
- Woodville Road and Guildford Road, Guildford
- Boronia Road and Waterloo Road, Greenacre
- Woodville Road and Villawood Road, Villawood
- Great Western Highway and Old Western Road, Prospect

In addition ten intersections were reconstructed to provide additional lanes. These include —

- Five Islands Road and Wattle Street, Port Kembla
- Maitland Street and Wallsend Road, Sandgate
- Hume Highway and six side roads, north of Camden
- Great Western Highway and Coughlan Street, Blaxland

Approximately a further 20 intersections were in the process of being improved at 30 June 1978.

Research

Transportation System Management

Transportation System Management (T.S.M.) has been defined (overseas) as a planning concept which views existing streets and highways, rail trackage, parking and pedestrian facilities and transportation vehicles — both private and public — as elements of a single urban transportation system. The objective of T.S.M. is to organise these individual elements with the help of various operating, regulatory, and pricing policies into one efficient, productive and integrated transportation system which respects local community needs and objectives and serves the broader national goals of environmental protection, energy conservation and equity for those dependent on public transportation.

Research was conducted to develop and evaluate a comprehensive programme of T.S.M. methods and strategies in the New South Wales context, in particular, priority treatments for high-occupancy vehicles in specific areas and routes in the Metropolitan Area. The study looked into individual strategic goals and their interaction, techniques for achieving individual goals, and techniques for monitoring resultant system changes.

From an analysis of major traffic delay sectors in the Metropolitan Area, the three highest-ranking of such sectors were selected for pilot studies. They were: Leichhardt, which has considerable cross-involvement of traffic on many routes; Northmead, with its single arterial road, Windsor Road as the focus; and the North-East Corridor (Spit Bridge route), where extensive traffic management schemes have previously been introduced.

Schemes were devised for each of those sectors and a report on the studies was due to be published early in 1978-79, when consideration will be given to the introduction of the recommended transport and traffic management techniques, initially in one area probably Leichhardt for detailed evaluation in practice.

Effects of Flexitime on Transport

Flexible working hours, or other types of variation on traditional work times have been introduced in the community in recent years and the effects of this on the transport system are virtually unknown.

A study of the situation was commenced by the Authority during the year. An initial survey of the Sydney Metropolitan Area showed that the central business districts of Sydney and North Sydney are the only areas with a significant incidence of flexible or irregular work times.

North Sydney was selected for a detailed study which was continuing at the end of the year. A questionnaire survey of commuters to and from North Sydney will provide data concerning people's choice of travel time, mode and route from many points of the Metropolitan Area. Analysis of this data is expected to assist in understanding the likely effects on transport of a more widespread use of flexible and staggered working hours, and to facilitate forward planning on traffic movement and transport generally.

Traffic Law Observance

Public observance of laws and regulations governing the parking and movement of vehicular (and pedestrian) traffic is a vital component of traffic management systems, for without such observance, chaos quickly ensues. Factors impinging on the level of this observance include public acceptance, or otherwise, of the need for particular rules and appreciation of the likely cost of ignoring them.

An extensive study has been made to determine the public attitude towards observance of traffic laws, with the aim of identifying those enforcement techniques or penalty measures likely to attain a higher level of observance of those laws.

The consultant's report makes a number of recommendations for instance in respect of matters such as the level of infringement notice penalties for some traffic offences, the extent of publicity given, or to be given, to this question of traffic law observance. A detailed evaluation of the report and recommendations is expected to be completed shortly.

Control of Land Use and Access to Arterial Roads

The task of developing policies and procedures relating to the control of land uses and access to and from arterial and sub-arterial roads was continued this year.

The Development Technical Committee, which was established in association with the New South Wales Planning and Environment Commission, has drafted guidelines for Councils, land developers and planning consultants in the submission of development applications made under Local Government Planning Scheme Ordinances or Interim Development Orders.

These guidelines, under the title "Draft Policy and Standards for Traffic Generating Development", cover aspects of safety, environment, traffic and planning principles, siting considerations, vehicular access, parking, etcetera.

There is as yet no statutory obligation for all Councils to seek the Traffic Authority's advice when dealing with land development applications, but this provision is being made in new Planning Scheme Ordinances resulting in an increasing number of such requests being made. Pending the passing of legislative amendments proposed earlier by the Authority, and the setting up of an appropriate administrative procedure for dealing with these applications (almost entirely at a local level), the Development Technical Committee has examined and advised on the requests submitted. Major proposals were considered by the Authority.

Metropolitan Parking Policy

Research and analysis of data collected in connection with the preparation of an overall parking policy for the Sydney Metropolitan Area continued during the year.

A comprehensive report, in the form of a 'discussion' paper, has been compiled covering the many issues, including current policies of State and Local Government instrumentalities, problems affecting special interest groups, for example, commuters, commercial goods vehicles, doctors, etcetera, and outlining options that could be taken up.

Opinions are being sought from certain Departments, Local Government and other organisations to assist in the final analysis and determination of the most suitable policies which might be adopted for parking in the Metropolitan Area.

Road Closures

To close a road to traffic, for reasons other than to enable essential works to be carried out, a Council is required by the Local Government Act, 1919, to obtain the consent of the Traffic Authority or the approval of the Minister.

A publication, "Guidelines for Road Closures" was issued by the Authority to Councils to indicate to them and their planning consultants the principles and procedures involved in connection with the four basic categories of road closure, namely, 'full', 'partial', 'part-time' and 'temporary' closures. These derive from the provision in the Act covering the placing of barriers to 'restrict' as well as to 'prevent' the passage of vehicles.

During the year to 30 June 1978, the Traffic Authority's Technical Sub-Committee examined 49 applications by various Councils under the relevant section (269A) of the Local Government Act for road closures: 41 were approved, 1 was declined and the others deferred for further consideration of particular aspects.

Road closures of less than 24 hours duration to allow for the holding of carnivals, bazaars and festivals are determined by Councils under powers delegated by the Traffic Authority. Consultation with the local Traffic Committee is a condition which must be observed.

Traffic Safety Aids Outside Schools

A survey was commenced during the latter part of the year to determine the extent of the need for additional traffic safety aids in the vicinity of all schools in the Sydney Metropolitan Area. About 1200 schools are involved, both public and private.

As a first stage, surveys were made at some 250 schools near which one or more pedestrian traffic accidents had been reported in a two-year period 1975/76 and 1976/77. A report by the consultants appointed to do the survey was being examined at the close of the year. The second stage, involving all the remaining schools in the Sydney area is now in progress and expected to be completed by December 1978.

Impact of Land Use on Traffic

As community needs change, so do our cities and urban surroundings. Development and redevelopment of property is a continuous process. Examples range from small business premises to multi-storey office blocks, retail shopping centres, hospitals, ports and terminals, industrial and recreational centres.

Each of these developments will cause a redistribution in the movement of people and goods, and a proper assessment of the 'traffic-generating' potential of a planned development is a vital necessity. As well as providing suitable access to the property and determining the requirements for the parking of vehicles both on-site and on nearby streets, there is the question of the total impact of the development on the street system in the area to be considered.

Current practices in assessing the traffic — generating potential of each land use appear to be based on 'rule-of-thumb' techniques in the absence of appropriate research to develop adequate quantifying measures. However, a study has now been commenced by the Traffic Authority with the help of the New South Wales Planning and Environment Commission and consultants to evaluate the traffic potential and impact of such land uses as large office blocks, suburban shopping centres, recreation clubs, and factories.

Container Depots

To meet a particular need of some Councils before work was completed on the drafting of guidelines as to policy and standards for traffic-generating developments generally, the Traffic Authority issued a pamphlet titled, "Container Depots — Locational Criteria and Siting Requirements".

This document was issued during the year to Councils for their guidance in considering development applications for container depots, that is, premises or land where shipping containers are loaded, unloaded, stored or handled otherwise than being put aboard or taken off a ship.

Requirements as regards the general siting of a container depot, access and driveways, parking of vehicles, amenities, etcetera, are included in the pamphlet.

Bicycle Use as a Transport Mode

A survey was conducted during the year to ascertain whether incentives and removal of some of the current restraints, such as safety and parking and route difficulties, would encourage the increased use of bicycles as a transport mode.

Data was obtained from people in all age groups, and at widespread locations which included suburban schools and railway stations, a ferry wharf, a regional public authority office, a regional shopping centre, a University, and an outer suburban industrial centre.

Poor safety due to road design and aggressive attitudes by some motorists, and lack of safe storage facilities were perceived as the major reasons for not cycling, while speed, cost and reliability were reasons nominated by people for their present choice of transport mode. Incentives perceived as most likely to encourage an increase in bicycle use were separate bicycle paths, bicycle lanes on major roads, and thief-proof parking facilities.

Subject to provision of appropriate incentives, there would be some potential for increased bicycle use to railway stations, universities and colleges, primary schools, and to a somewhat lesser degree to ferry wharves and smaller shopping centres. Such increased usage might have a greater effect on public transport than on private car travel, particularly buses operating to suburban trains and ferries and schools.

Feasibility studies were in progress at the end of the year to examine possible bicycle path networks using existing pathways, residential streets and open space corridors. Such a network at Mount Druitt was found to be feasible while other studies at Parramata and in the Wakehurst Parkway area do not look quite as promising.

Speed Control Studies

Studies have been commenced in relation to the use of speed control devices on roads, and the question of lower speed limits on residential streets.

It is generally accepted that any transport system should provide and maintain the correct balance between safety, mobility and environmental quality. Further, it is apparent that community attitudes govern the acceptable levels of each of these elements. In this regard, there is growing concern with the impact of through traffic in residential areas not the least of this with the speed of this traffic and the potential for accidents.

Based on the assumption that excessive speed is one of the major contributing factors in road accident crashes, the Traffic Authority is examining the need for a reduction in residential speeds to improve safety for road users.

The principle of speed control devices is to provide a stimulus to increase driver attention and reaction by means of physical obstructions such as 'speed bumps', 'rumble strips', and 'rumble areas' constructed on roadways.

A study is now being made to determine whether any of these devices could be used in local conditions to bring about a reduction in vehicle speeds at specific locations where speeds up to the authorised maximum speed limit could constitute a danger.

Fuel Consumption

With the prospect of a decline in the ready availability, and further rises in the price of oil in the years ahead, the 'efficient' use of fuel by road traffic will soon become of major importance to all. While an essential objective of traffic management is to improve the efficiency of the road system the effects of different traffic management techniques on fuel consumption rates are presently unknown and a joint study is being undertaken in this field by the Traffic Authority and the Commonwealth Scientific and Industrial Research

Organisation (C.S.I.R.O.) — Division of Mechanical Engineering. This study which is to be completed by 1980, will with the aid of vehicles specially equipped with instruments, measure the vehicle, road and traffic characteristics that influence the rate of fuel consumption.

The aim of the project is to produce an accurate method of estimating the aggregate fuel consumption of traffic on particular roads, under different forms of control.

Finances

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

The principal sources of funds for this purpose are —

- Road Transport and Traffic Fund — amounts collected from motor registration fees and drivers' licences fees;
- Main Roads Fund — amounts collected from vehicle weight tax and tax levy;
- special grants by State Treasury;
- contributions by the Commonwealth Government under the Roads Grants Act, 1974 for Minor Improvements for Traffic Engineering and Road Safety (M.I.T.E.R.S.) and under the National Roads Act, 1974;
- Sydney Harbour Bridge Account — amounts collected from the bridge tolls;
- Public Vehicles Fund — amounts collected from motor tax on public vehicles other than omnibuses.

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

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

**TRAFFIC FACILITIES FUND
COMPARATIVE STATEMENT OF RECEIPTS AND PAYMENTS**

FUNDS (\$,000)	1976/77	1977/78
Road Transport and Traffic Fund	10 300	10 300
Main Roads Funds	3 345	3 820
Treasury grants	2 500	2 500
Harbour Bridge and other Tollway Accounts	1 215	1 393
Public Vehicles Fund	325	325
Commonwealth Government —		
M.I.T.E.R.S. Grants	3 300	3 300
National Roads Act Grants	655	978
Planning and Research Grants	64	195
Traffic Safety Purposes —		
State sources	250	203
Commonwealth sources	304	252
Other (miscellaneous) —	107	413
Carry-forward from previous year	2 597	3 859
	<u>24 962</u>	<u>27 538</u>

EXPENDITURE (\$,000)	1976/77	1977/78
Maintenance and Operations:		
Pavement marking and signposting	5 990	8 515
Traffic signals	4 412	5 579
Driver Aid	1 133	1 228
Engineering Administration	449	1 055
Construction:		
Traffic signals	2 218	4 339
Intersection improvements	1 433	
Pedestrian facilities	220	56
Traffic Management and Safety Projects	1 283	2 007
Driver Aid Schemes	93	201
Engineering Administration	827	1 120
Miscellaneous:		
Special commitments	100	300
Transfer (of staff) costs	201	324
Administrative Expenses	1 126	1 520
Secretariat —		
(Administration and Research)	560	753
Traffic Accident Research Unit	586	405
Other	472	22
Balance, carried forward	3 859	114
	<u>24 962</u>	<u>27 538</u>

TRAFFIC FACILITIES FUND (SPECIAL DEPOSITS ACCOUNT) STATEMENT

Sources of Funds	Receipts
Balances brought forward, 30.6.77	
State funds	3,631,154.06
Commonwealth funds:	
Roads Grants Act, 1974 (M.I.T.E.R.S.)	228,051.00
Schedule 4 amount — Carry-over	
Contributions from State Sources:	
Road Transport and Traffic Fund	10,300,000.00
Public Vehicles Fund	325,000.00
Motor Vehicle Taxation	
Tax Levy }	
Weight Tax }	3,820,000.00
Sydney Harbour Bridge Account	1,071,520.00
Berowra-Calga Tollway	123,000.00
Waterfall-Bulli Tollway	199,037.00
Ministry of Transport & Highways (Treasury, special grant)	2,500,000.00
Contribution by Commonwealth Government:	
Roads Grants Act, 1974 (M.I.T.E.R.S.)	3,300,000.00
Schedule 4 amount —	
National Roads Act, 1974 — allocation	978,336.00
Transport (Planning & Research) Act, Grant — (Chief Engineer)	
Dept. of Motor Transport	{ 39,839.00
	{ 155,355.00
Dept. of Main Roads	150.00
Contributions for Traffic Safety Purposes:	
Transport (Planning & Research) Act, Grant — T.A.R.U.	214,788.00
Commonwealth Grant for Road Safety Education	37,500.00
Special Deposits Account No. 2660 (Sale of personalised number plates)	200,989.71
Miscellaneous	
Sundry receipts	3,490.63
Defensive Driving Course fees	2,553.50
Dept. of Main Roads Income from Services Provided for Councils and Other Bodies	408,187.62
	<u>\$27,538,951.52</u>

OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1978

Department of Main Roads, Traffic Facilities Programme			Payments
Maintenance and Operations: (less costs recovered)			
Pavement Marking and Signposting		8,515,110.62	
Traffic Signals		5,579,436.31	
Driver Aid Schemes —			
Sydney Harbour Bridge	870,759.12		
Berowra-Calga Tollway	114,077.41		
Waterfall-Bulli Tollway	152,159.02		
City-Tow Service	11,843.93		
Roseville Bridge Tow Service	79,520.23	1,228,359.71	
Engineering Administration		1,055,234.36	16,378,141.00
Construction			
Traffic Signals, Intersection Improvements and Railway Level Crossing Modifications		4,339,404.97	
Special Pedestrian Facilities		56,195.56	
Traffic Management and Safety Projects		2,007,578.26	
Driver Aid Schemes —			
Sydney Harbour Bridge	94,637.54		
Waterfall-Bulli Tollway	30,005.00		
Western Freeway	76,687.54	201,330.08	
Engineering Administration		1,120,255.28	7,724,764.15
Administrative Expenses			1,519,559.00
Establishment of Transferred Department of Motor Transport Organisation			323,746.06
Planning and Research			150.00
Contribution towards cost of Construction of Bondi Junction By-Pass			300,000.00
Total, Dept. of Main Roads			26,246,360.21
Department of Motor Transport —			
Traffic Authority Secretariat Administration	436,903.26		
Research Programmes —			
Transport planning and research projects	208,193.79		
Other research projects	83,031.97		
Urban Transport Study Group	25,130.82	753,259.84	
Traffic Accident Research Unit			
Transport planning and research projects	179,308.00		
Traffic Safety Education Section	225,610.71	404,918.71	
Miscellaneous			
Traffic control activities prior to 1/7/76 (less costs recovered)	10,221.94		
Transport planning and research (Chief Engineer's Projects)	10,173.00	20,394.94	
Total, Department of Motor Transport			1,178,573.49
Total Payments			27,424,933.70
Balance Carried Forward			114,017.82
Total			\$27,538,951.52

PUBLICATIONS

Documents, Reports and Technical Papers published by the
Traffic Authority.

Information Pamphlet:

"The Traffic Authority of New South
Wales"

June 1976

Guidelines:

Provisional Guidelines for the Authorisa-
tion and Installation of Traffic Con-
trol Facilities

June 1976

Guidelines for Road Closures

December 1977

Locational Criteria and Siting
Requirements for Container
Depots

April 1978

Policy and Standards for Traffic
Generating Development

June 1978

Discussion Papers:

Development of a Metropolitan Parking
Policy — by F. Bezer

October 1977

Functional Classification of Roads

April 1978

Reports on Research Projects:

* Report on Car Pooling Research
Project Stage 2 — by Development
Planning & Research Pty. Ltd.

February 1977

* Bus Priority Survey: St. Leonards — by
Stapleton Transporation Planning
Pty. Ltd.

May 1977

Car Pooling on a Geographical Basis
Evaluation of Transit Lanes — by C.
Hallam

June 1977

* Social and Economic Costs and
Benefits of Extended Clearways —
by W.D. Scott & Co. Pty Ltd.

October 1977

* Bicycle Use as a Transport Mode:
Attitude Surveys (3 Vols.) — by Lyle
Marshall and Associates with Plan-
ning Workshop Pty. Ltd.

October 1977

*Traffic Law Observance Study — by
Planning Workshop Pty. Ltd.

December 1977

March 1978

* Left-Turn on Red Signal Final Report
— by De Leuw Cather of Australia
Pty. Ltd.

April 1978

Traffic Law Observance Study — Sum-
mary Report — Planning Workshop
Pty. Ltd.

May 1978

* Impact of Land Use on Traffic — by
Sinclair Knight & Partners Pty. Ltd.
with R.J. Nairn & Partners Pty.
Ltd.

June 1978

Transport System Management in Syd-
ney — by Stapleton, Clark &
Associates

June 1978

* Survey of Traffic Safety at Schools:
Stage 1 Report — by Casey and
Francki

June 1978

* Reports not reproduced, but available
for examination in the Authority's
offices.

Technical Papers:

Bicycles in Old and New Cities — by K.J. Fehon, 1977
Transportation Conference of Institution of Engineers,
held at Orange

Extended Clearways — The Issues — by C. Hallam (and A.
Dimitric), 1978 Australian Transport Research Forum,
held at Perth, W.A.

Some Australian Experiences with Systems Management
Approaches to Transport Planning and Operations — by
H.L. Camkin, Institution of Transportation Engineers
1977 Annual Meeting held at Mexico

Recent Experiments and Experiences with Bus Priority
Measures in Sydney — by H.L. Camkin, Institution of
Engineers (Aust.) Victoria Division in May 1978.

The Sydney Transit Lane — by C. Hallam in "Traffic Engineer-
ing and Control", Vol. 18, No. 2, 1977.

An example of traffic control measures designed to improve the orderly movement of traffic and to provide preference for public passenger vehicles.



Improvement of the pedestrian environment and the exclusion of through traffic by means of road closures.