

URBAN ROAD NEEDS

Sydney — Newcastle — Wollongong





Above: Morning traffic congestion along Parramatta Road at Lidcombe. The completion of the F4 — Western Freeway between Homebush and Clyde will improve travelling conditions considerably.



Left: The approaches to the bridge over Georges River at Liverpool showing Newbridge Road and Heathcote Road. A typical peak hour traffic congestion situation.

Front cover: Aerial view of the extension of the Warringah Freeway from Miller Street, Cammeray to Willoughby Road, Naremburn.

New South Wales Government

Case for Additional Roads Funds

The New South Wales Government is undertaking a massive land transport investment programme.

This includes a five year public transport improvement programme estimated to cost \$1,000 million. Expenditure in 1977/78 was approximately \$200 million. About half of this amount was spent in the urban areas of Sydney, Newcastle and Wollongong.

While a basic Commonwealth contribution of \$14 million per annum will be available for urban passenger transport improvements, the financial burden of the programme will fall substantially on the State. This expenditure is absolutely necessary to rehabilitate the system.

Moreover, in roads, New South Wales in 1978/79 is spending about \$270 million as compared with the \$164 million being allocated to the State by the Commonwealth and the total amount of \$508 million being provided for the whole of Australia. In addition, a significant proportion of State grants to Local Government is being spent on roadworks.

This effort is far in excess of that required of the State under the quota arrangements of the Commonwealth States Grants (Roads) Act, 1977. This arrangement requires \$158 million to be expended from State sources in 1978/79 to qualify for Commonwealth grants totalling \$164 million.

New South Wales has consistently expended in excess of the Commonwealth quota figure in recent years as shown in the supporting information section of this submission.

There is thus clear evidence of a huge financial commitment to rehabilitate the public transport system and provide for roadworks. This is placing a severe strain on the State's limited financial resources.

However, expenditure on roads falls far short of the amounts required for essential needs particularly in the urban areas of Sydney, Newcastle and Wollongong.

While Commonwealth grants for roads overall have been maintained at a steady level, however inadequate they might be, the amounts allocated for urban arterial roads have been cut dramatically.

In reporting to the then New South Wales Government in 1976, the Urban Transport Advisory Committee (URTAC) outlined many studies that had shown that there were significant improvements needed in the Sydney urban arterial road system. In recognising these needs, within likely available road finance, a programme of road construction and traffic management was recommended.

Notwithstanding the need to spend larger amounts on Sydney's roads, URTAC's 1976 programme assumed a level of Commonwealth grants for urban arterial roads over the following 10 years equivalent to the \$40 million (approximately) available in the 1975/76 financial year. A special grant took the amount finally available to \$44.26 million.

Regrettably, the amount allocated for urban arterial roads during 1977/78 under the States Grants (Roads) Act, 1977, was only \$28.7 million, with provision for the grant to continue in 1978/79 and 1979/80. It can be seen therefore that Commonwealth grants are substantially below the level to meet even the basic recommendations of URTAC.

The Commonwealth's own advisory agency, the Commonwealth Bureau of Roads (now incorporated in the Bureau of Transport Economics), has clearly indicated high urban road needs for New South Wales. In its Report on Roads in Australia 1975, the Bureau of Roads outlined an economically and operationally warranted programme of urban arterial roads construction for the Sydney-Newcastle-Wollongong region totalling approximately \$890 million (1977/78 prices) for the five year period 1976/77 to 1980/81.

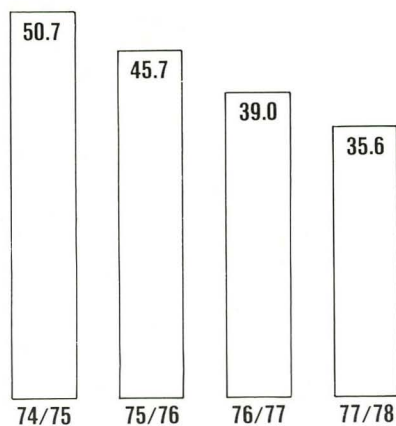
Such a programme was needed to bring the standard of roads in these areas up to the standard applying to similar roads in comparable world cities.

In reaching its conclusions on urban roads, the Bureau considered such issues as the costs and problems of the movement of people and goods as well as the distribution of these costs in the community. Other issues, such as congestion, road traffic accidents and the needs of expanding outer urban areas, were also taken into account.

Expenditure from Commonwealth and State Sources on Classified Main Roads in Urban Areas of Sydney, Newcastle and Wollongong

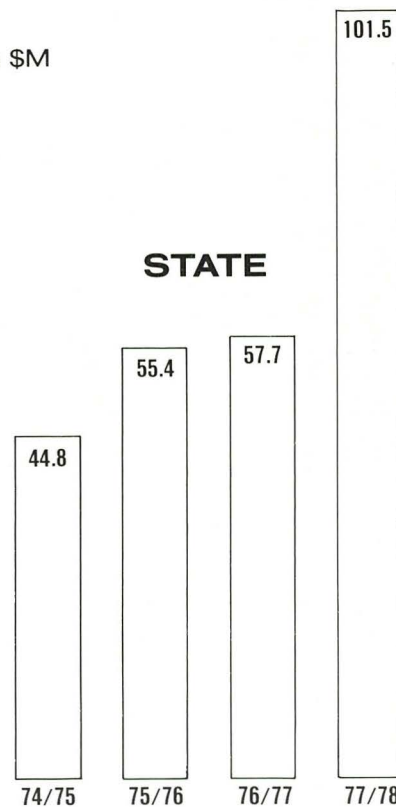
Expressed in Current Value \$M

COMMONWEALTH



These funds are available for construction only

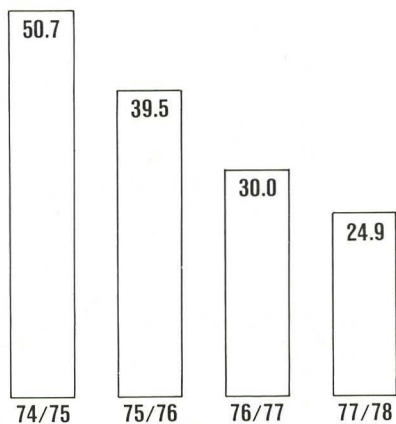
STATE



These funds are available for construction and maintenance

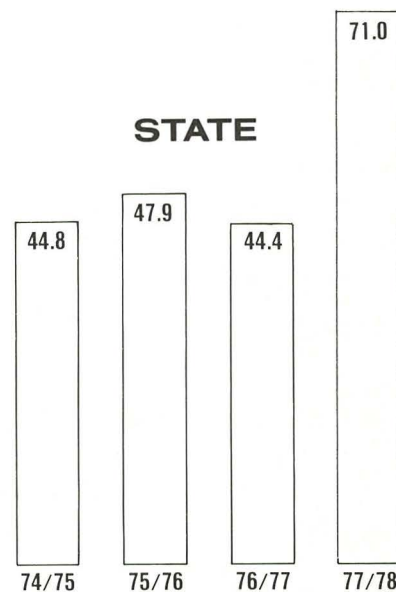
Expressed in 1974/75 values \$M
(Department of Main Roads Cost Rise Index)

COMMONWEALTH



These funds are available for construction only

STATE



These funds are available for construction and maintenance

Following a review of the overall economic situation the Bureau's Report recommended a roads expenditure programme to 1980/81. Although the amounts put forward in its recommended programme were considerably reduced from those contained in the warranted programme they are still substantially more than the amounts finally appropriated by the Commonwealth.

RECOMMENDED AND ACTUAL ALLOCATION FOR URBAN ARTERIAL ROADS IN NEW SOUTH WALES (1977/78 Values)

Year	Bureau of Roads Recommended Programme	Commonwealth Appropriation
1977/78	66.4	28.7
1978/79	72.0	30.694 (a)
1979/80	86.3	28.7 (b)
1980/81	97.8	(not appropriated)

(a) Adjusted to estimated 1978/79 cost rises of 6.95%.
 (b) To be adjusted for cost rises.

Supporting information set out in a following section demonstrates in more detail the case for additional funds for New South Wales urban arterial roads.

The final part of this submission includes programmes of works in the Sydney, Newcastle and Wollongong areas which can be accelerated with Commonwealth assistance. The projects not nearing completion have been selected on the basis of an additional \$50 million being made available for 1978/79 and in each of the following two financial years.

Although the injection of an additional \$50 million in 1978/79 for works in the Sydney, Newcastle and Wollongong areas will result in a marked increase in the tempo of road construction in these areas, it must be appreciated that there is a large potential available to undertake works.

The real value of funds available from normal sources to the Department of Main Roads in 1978/79 will be even less than was spent in 1977/78 and there is reserve capacity available. Councils also have road construction organisations not able to work to maximum capacity due to shortage of funds. As well, there is a large potential for work to be undertaken by the contracting industry.

It must be pointed out further that due to the requirement in past years for the available funds to be directed to works which would provide immediate benefit to the road user, there has developed a backlog of property acquisition which should be completed now to enable the orderly programming of future works through the preliminary stages of final design and the adjustment of public utilities.

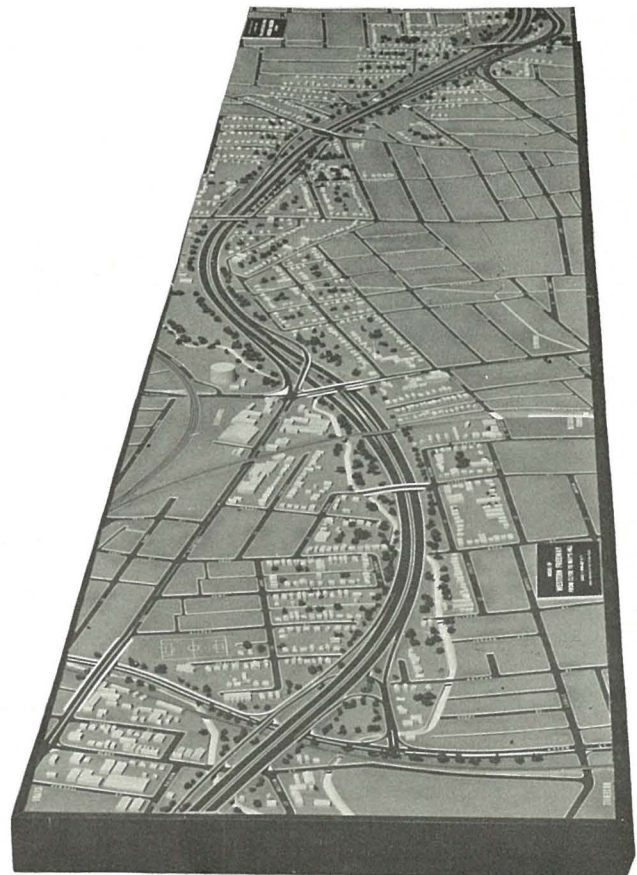
The programme is based on realistic *lead* times and the resource capacity of the Department of Main Roads, Councils and contractors to undertake additional works.

It is stressed that the completion of this programme as fast as scheduled is vital to the economy of New South Wales.

It will provide a stimulus to employment and key industries, such as steel, cement, construction and the like, and will lower transportation costs.

The needs of this conurbation are also vital to the Australian economy and, in the view of this State, constitute a special case for further assistance. The New South Wales Government has clearly demonstrated that it is meeting more than its share of necessary expenditure.

Scale model of proposed route of the F4 — Western Freeway between Clyde (in the foreground) and Mays Hill.



Growth in Traffic

Over the past ten years there has been a 58% growth in the number of vehicles registered in the Sydney region and road use has increased at an even greater rate.

Road construction in that period has not kept pace with the increase in traffic.

Although there has been some slowing in the growth of vehicle registrations in the past three years, this is related mainly to present economic conditions.

SYDNEY MOTOR VEHICLE REGISTRATIONS

As at 31 Dec.	Number of Registered Vehicles	Increase Over Previous Year	
Year	Vehicles	Vehicles	%
1968	986,113	61,117	6.6
1969	1,050,627	64,514	6.5
1970	1,118,150	67,523	6.4
1971	1,197,491	79,341	7.1
1972	1,260,497	63,006	5.3
1973	1,308,523	48,026	3.8
1974	1,360,946	52,423	4.0
1975	1,397,680	36,734	2.7
1976	1,427,039	29,359	2.1
1977	1,466,628	39,589	2.8

Increase for 10 year period is 58%

Increase in Road Construction Costs

Road construction costs have risen by 190% in the past ten years as a result of increases in the price of every input into road construction — bitumen, concrete, steel, labour and heavy equipment. Inflation of road building costs over the last five years has been particularly heavy, requiring large increases in expenditure to maintain the same road building effort.

ROAD CONSTRUCTION COST INDEX

Year	% increase per year	
1967/68	—	100.0
1968/69	2.8	102.8
1969/70	5.1	108.1
1970/71	8.9	117.7
1971/72	7.5	126.6
1972/73	9.7	138.8
1973/74	13.9	158.0
1974/75	28.2	202.6
1975/76	15.7	234.4
1976/77	12.2	263.0
1977/78	10.1 est.	289.6

Rate of Spending Over Past Ten Years

The rate of expenditure on classified main roads in Sydney over the past ten years has not been sufficient to overcome the backlog of urgently needed improvements and to provide for the problems caused by the growth in traffic.

EXPENDITURE ON CLASSIFIED MAIN ROADS IN SYDNEY

Year	Current Values	At 1977/78
	\$M	Values \$M
1968/69	36.2	101.9
1969/70	48.8	130.7
1970/71	47.2	116.1
1971/72	59.2	135.4
1972/73	65.0	135.6
1973/74	74.2	136.0
1974/75	84.6	120.9
1975/76	92.7	114.5
1976/77	93.0	102.4
1977/78	121.6	121.6

The decline in the real value of expenditure on classified main roads in the urban areas of Sydney-Newcastle-Wollongong in recent years is due entirely to lower Commonwealth Grants for urban roads. While the State's own expenditure on urban roads has increased by 58% in real terms over the past three years, the Commonwealth allocation for New South Wales urban roads has fallen by 51%.

COMMONWEALTH AND STATE GOVERNMENT SHARES OF EXPENDITURE ON CLASSIFIED MAIN ROADS IN URBAN AREAS OF SYDNEY, NEWCASTLE AND WOLLONGONG

Year	New South Wales Share %	Commonwealth Share %
1974/75	46.9	53.1
1975/76	54.8	45.2
1976/77	59.6	40.4
1977/78	74.1	25.9

This is further illustrated by the bar charts on page 2.

New South Wales Road Users Already Pay High Motoring Taxes

More than three-quarters of the taxes imposed on road users by the New South Wales Government are earmarked for road purposes, but less than half of the automotive fuel tax paid by New South Wales road users to the Commonwealth is returned to New South Wales for road construction. If sales tax and other taxes are added to the fuel tax the return falls below one-quarter.

Over the past ten years, New South Wales road users have paid over \$2,000 million to the Commonwealth in fuel taxes while less than \$1,000 million have been returned to New South Wales for road construction.

COMMONWEALTH FUEL TAXES AND ROAD GRANTS FOR NEW SOUTH WALES

Year	C'wealth Duty Collected in NSW on Automotive Fuel	Amount Provided by the C'wealth for Roadworks in NSW	Per Cent of Fuel Taxes Returned to NSW for Roadworks
	\$M	\$M	%
1968/69	91.3	47.3	51.5
1969/70	97.5	57.1	58.5
1970/71	123.3	65.0	52.0
1971/72	161.8	74.5	46.4
1972/73	169.8	85.6	51.0
1973/74	227.2	98.3	43.1
1974/75	250.0	115.2	46.0
1975/76	275.4 (b)	130.6	47.6
1976/77 (a)	301.8 (b)	143.6	47.7
1977/78 (a)	325.8 (b)	155.3	47.6
	<u>\$2,023.9M</u>	<u>\$972.5M</u>	<u>48.0%</u>

(a) Estimated

(b) Excludes crude oil levy

New South Wales Road Expenditure Exceeds Commonwealth Quota

Under agreement with the Commonwealth Government, the New South Wales Government is obliged to meet a certain level of road expenditure, referred to as the matching quota. In 1978/79, expenditure on New South Wales roads from State funds will exceed the matching quota by over \$100 million.

EXPENDITURE ON NEW SOUTH WALES ROADS FROM STATE FUNDS AND MATCHING QUOTA

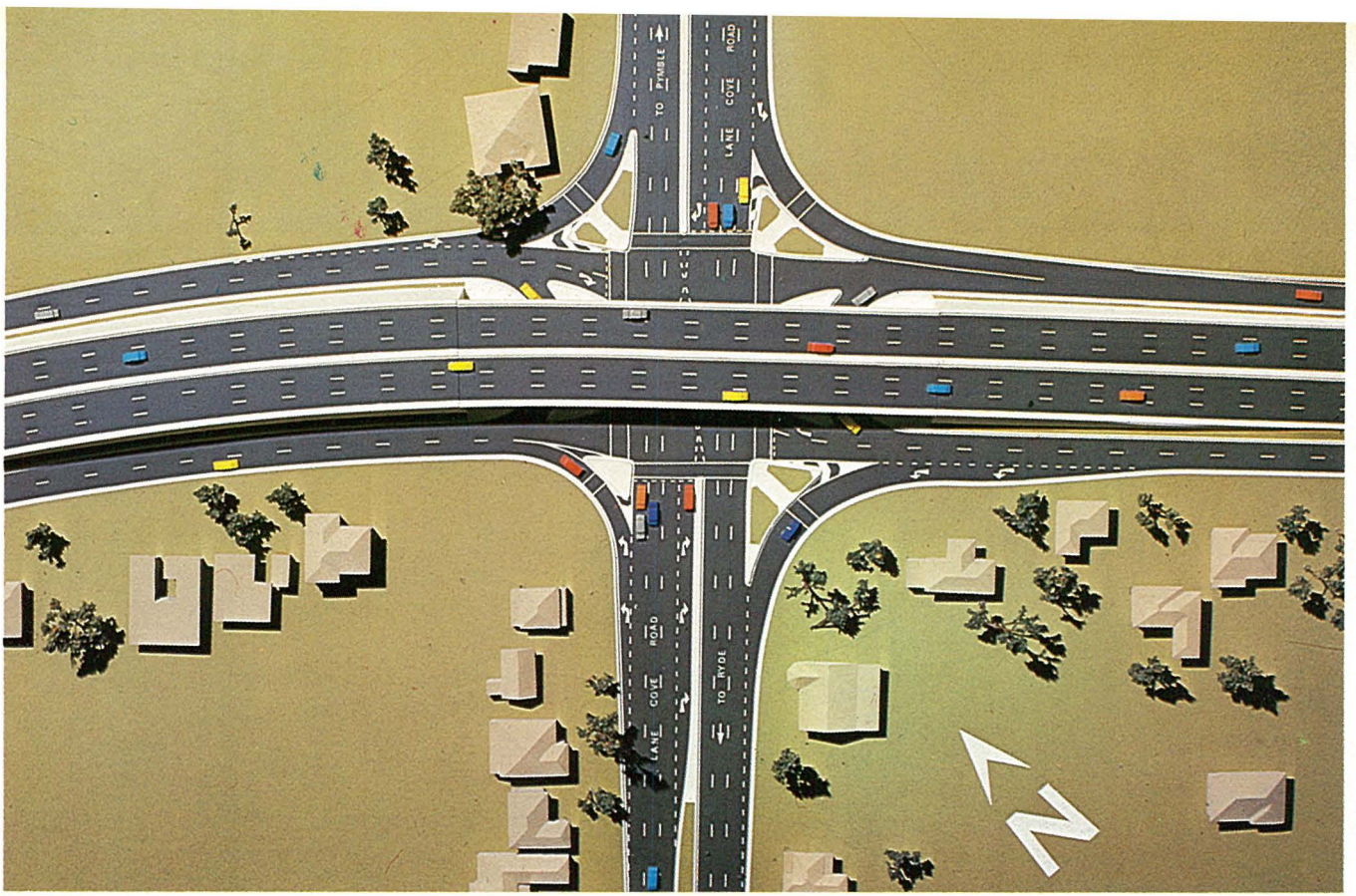
Year	Matching Quota	Expenditure from State Funds		Expenditure in Excess of Quota
		Classified Main Roads	Other Roads	
	\$M	\$M	\$M	\$M
1969/70	71.1	78.8	6.3	14.0
1970/71	76.0	86.9	7.1	18.0
1971/72	80.0	91.5	8.2	19.7
1972/73	85.0	107.6	8.3	30.9
1973/74	86.0	112.1	8.9	35.0
1974/75	124.6	123.8	16.9	16.1
1975/76	146.8	153.1	22.8	29.1
1976/77	135.8	162.6	27.0	53.8
1977/78	147.7	224.0	30.0 (a)	106.3
1978/79	157.9	240.0 (a)	30.0 (a)	112.1

(a) Estimated

Return of Commonwealth Road User Taxes

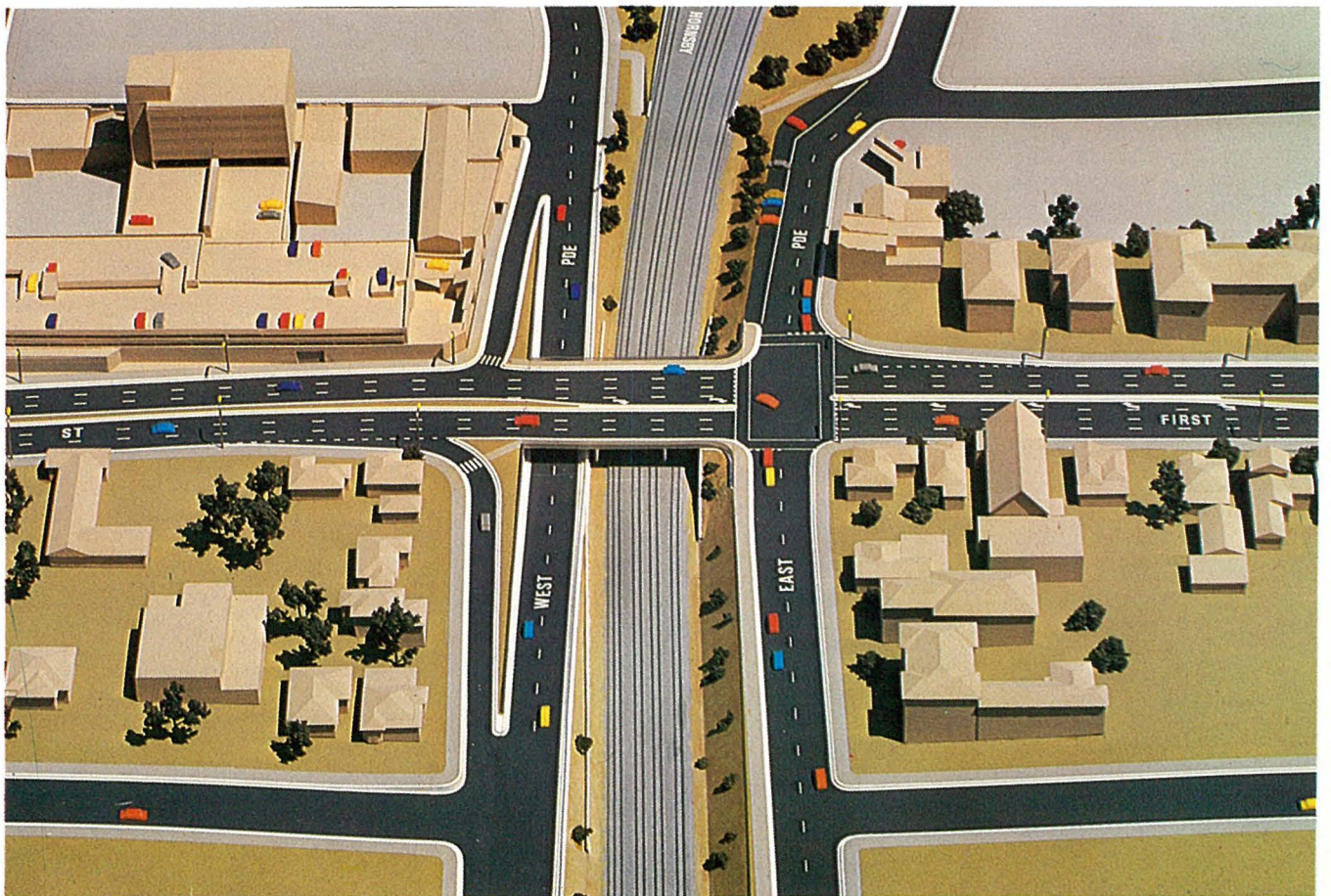
The cost of owning and operating a motor vehicle in Australia is high by world standards. With the high level of motoring taxes that exist already, the New South Wales Government believes that funds for an accelerated road construction programme should not come from additional State taxes on road users.

It is reasonable that road users in New South Wales expect that a higher proportion of the Commonwealth taxes they already pay should be devoted to road improvements.



Scale model of the overbridge to carry Epping Road over Lane Cove-Ryde Road at North Ryde.

Model of the bridge over the railway at Eastwood.



Sydney Metropolitan Area

In the Sydney region about 6 million journeys each day are made by residents. Half of these are between home and work or home and school and half are for other purposes such as trips to shops, health and other community facilities, social and recreational activities.

Of this total 60% were made by private motor vehicle and 23% by public transport.

In addition to the private journeys almost 1 million commercial goods vehicle trips and 200,000 taxi movements are made each day.

Major items in the programme of works for the area are listed below. A map showing the location of these works is included on page 11.

Roads being built by the Government

- 1. F3 — North Western Freeway. First stage construction of viaduct 2 km long across Darling Harbour from Erskine St to Harris St.**

This structure will replace Pyrmont Bridge and improve traffic flow conditions in the Central Business District. Construction costs are estimated at \$50M. The work is approximately 47% complete and is planned to be opened in 1983.
- 2. Main Road No. 173 — Bondi Junction By-Pass. Construction of divided carriageway between Ocean St and Bondi Rd, in viaduct between Vernon St and Adelaide St. Length 2 km.**

This work is essential for the Eastern Suburbs Railway interchange and other facilities and will relieve congestion in Bondi Junction Shopping Centre. Work approximately 55% complete. Estimated to cost \$12M and will be opened to traffic in January 1979.
- 3. F1 — Warringah Freeway. Stage 2 construction of divided carriageway between Miller St and Willoughby Rd. Length 1.3 km.**

This project will improve traffic access conditions to the Central Business District and southern suburbs for traffic from north western suburbs. Estimated to cost \$10.3M and is approximately 90% complete. Will be opened to traffic late August or early September, 1978.
- 4. Main Road No. 617 — Foreshore Rd. Construction of divided carriageway between Botany Rd and General Holmes Drive. Length 3.8 km.**

This road will provide adequate vehicular access into Port Botany, which is presently under construction. Estimated to cost \$12.7M and is approximately 20% complete. Road will be available for traffic in March, 1979. Part Commonwealth funded as a National Commerce Road.
- 5. County Road No. 5037 — Parramatta By-Pass. Construction of divided carriageway between Aston St Bridge, Rydalmere to Windsor Rd. Length 4.2 km.**

This road will provide a much needed by-pass of Parramatta and relieve traffic congestion within the City of Parramatta. The section Aston St to Pennant Hills Rd was opened to traffic in June, 1977. Balance of work approximately 75% complete. Estimated to cost \$13M and is planned for completion in May, 1979.
- 6. F4 — Western Freeway. Construction of first stage divided carriageway from Homebush to Clyde. Length 6.2 km.**

This section, when finished, will provide relief to the adjacent length of Parramatta Rd which is heavily congested. The work is presently in abeyance because of lack of funds. Estimated to cost \$20M and is approximately 55% complete. Work would be completed within 3 years if funds available.
- 7. Main Road No. 373 — Epping Rd. Construction of divided carriageway between Delhi Rd and Shrimptons Creek including an interchange with Lane Cove Rd. Length 2.1 km.**

This work will provide more traffic capacity in Epping Rd by virtue of the widening and the grade separation. Estimated to cost \$5M. The work is almost complete and is to be opened by the Premier on July 28, 1978.



Bondi Junction By-Pass to fit in with the bus-rail terminal under construction at Bondi Junction.

8. Main Road No. 315 — King Georges Rd. Reconstruction and widening to six lanes.

This work is being done in sections as funds become available. It is designed to provide adequate traffic capacity on this important artery. Total estimated cost for the full length is \$14M and could be completed in 5 years.

9. Main Road No. 309 — Aston St. Construction and widening to six lanes including extension into Berry St and connection to Parramatta Rd. Length 1.3 km.

This work connects to the Parramatta By-Pass and extends to Parramatta Rd. Estimated to cost \$3M and is approximately 80% complete. Some delay at present — waiting for acquisitions.

10. Secondary Road No. 2081 — Rutledge St. Construction of a six lane bridge over the railway at Eastwood and construction of approaches between Trelawney St and Ryedale Rd and extension to Blaxland Rd. Length 0.9 km.

Work when completed will relieve traffic congestion which occurs at the only crossing of the railway line at Eastwood. Also extension to Blaxland Rd will overcome existing difficulties in entering Blaxland Rd. Stage I of bridge is complete and was opened to traffic in July, 1977. Total estimated cost \$2M and work will be completed early in 1979.

11. Main Road No. 609 — The Horsley Drive. Fairfield St to Alan St. Duplication and lengthening of existing overbridge between Yennora and Fairfield railway stations. Also widening of road pavement in approaches. Length 0.6 km.

This work when completed will overcome a serious traffic bottleneck. Work is approximately 85% complete. Estimated to cost \$1.5M.

12. Main Road No. 575 — Elizabeth Drive. Liverpool to Mt. Pritchard. Construction and widening to six lanes including new structure over Cabramatta Creek. Length 1.9 km.

Work will improve traffic travelling conditions on Elizabeth Drive. Estimated to cost \$5M. Work is in hand near Cabramatta Creek.

13. County Road No. 5016. Extension of northern approach to Alford's Point Bridge between Alma Rd and Clancy St, Padstow. Length 1.1 km.

This work is an extension of the immediate approaches to Alford's Point Bridge over Georges River and will make the earlier work more effective. The work has just commenced and is estimated to cost \$2M. Work will be completed in December, 1980.

14. Main Road No. 190 — Joseph St and Rookwood Rd. Lidcombe to Greenacre. Reconstruction to six lane divided carriageway.

This work, in conjunction with construction of a new railway overbridge, provides improved traffic capacity along this important artery. Work is in hand. Estimated to cost \$5M.

15. Main Road No. 162 — Mona Vale Rd. Construction of divided carriageway to provide six lanes from Pacific Highway, Pymble to North St. Ives.

The work of widening Main Road No. 162 is an important part of upgrading Ring Road 3. It includes a grade separation with the Pacific Highway and this is being designed at present. Estimated to cost \$15M.

16. Main Road No. 164 — Military Rd. Reconstruction and widening to six lanes from Warringah Freeway to Spit Junction.

The only section of this work still outstanding is between Wycombe Rd and Merlin St. When this is completed Military Rd will be a high capacity connection between Spit Junction and the Warringah Freeway. The estimated cost for work between Wycombe Rd and Merlin St is \$1M. Property acquisitions have commenced. Scheduled for completion in 1981.

The new Foreshore Road skirting the northern side of Botany Bay — part of the development of Port Botany.



The following projects will be commenced

17. **State Highway No. 5 — Great Western Highway. Widening to four lanes from St. Marys to Kingswood. Length 6 km.**
18. **F5 — South Western Freeway. Construction of one carriageway from the Hume Highway, Casula to Moorebank Rd. Length 1 km.**
19. **Main Road No. 537 — Richmond-Blacktown Rd. Construction of new bridges over Rickabys Creek and South Creek.**
20. **F4 — Western Freeway. Extension from Homebush to Concord and from Clyde to Mays Hill. Length 7 km.**
21. **F3 — North Western Freeway. Extension from Harris St, Ultimo, to junction with Victoria Rd, Rozelle. Length 2.5 km.**
22. **Secondary Road No. 2060 — Punchbowl Rd, Punchbowl. Replacement of existing railway overbridge to provide four travelling lanes.**
23. **Secondary Road No. 2008 — O'Riordan St, Mascot. Widening of railway underpass.**
24. **Main Road No. 170. Improvement of intersections of Wentworth Avenue, Mill Pond Rd and General Holmes Drive with Botany Rd in the Botany area.**
25. **Secondary Road No. 2034. Construction of new bridge over Woronora River, Woronora.**
26. **Main Road No. 194 — General Holmes Drive, Mascot. Elimination of railway level crossing.**
27. **State Highway No. 13 — Pennant Hills Road. Widening to six lanes between Beecroft and the Pacific Highway at Pears Corner. Length 5 km.**
28. **Secondary Road No. 2087. Pemberton St, West Strathfield. Construction of deviation adjacent to railway. Length 1.5 km.**
29. **County Road. Construction of a new link from Bondi Rd to Carrington Rd via Council St at Bondi Junction. Length 0.5 km.**
30. **Secondary Road No. 2071. Development of a new County Road link between Liverpool and Great Western Highway near Greystanes. Length 12 km.**
31. **F2 — Gore Hill Freeway from Warringah Freeway to Longueville Rd. Length 2.5 km.**

This is a proposed extension of widening already carried out east of St. Marys. Estimated to cost \$2M. Work will be carried out over the next 3 financial years.

The work includes a new 2 lane bridge over the Georges River and will provide some relief for heavily congested streets in Liverpool. Estimated to cost \$5M. Design is in hand. Construction time — 2 years.

These new bridges will replace, on an improved alignment, two old timber bridges which are subjected to flooding. Estimated to cost \$3M, including approaches. Design is in hand. Construction time — 2 years each.

These extensions of the work currently in hand will provide for connections into the existing road system and provide relief from traffic congestion on the heavily industrialised section of the Great Western Highway between Parramatta and Concord. Estimated to cost \$80M.

Planned as an extension of the work currently in hand across Darling Harbour. The work is needed for traffic relief and includes a new high level bridge at Glebe Island to replace the existing opening bridge. Estimated to cost \$90M.

The existing two lane bridge in the centre of a busy shopping centre presents a hazard to traffic and restricts further development. Estimated to cost \$1M. Construction time estimated at 2 years.

The widened underpass will permit a better flow of traffic in a heavily industrialised area close to Sydney (Kingsford Smith) Airport. Estimated to cost \$1M. Construction time — 1 year.

The close proximity of several major road junctions feeding traffic from several directions leads to long traffic delays. Estimated to cost \$3M. Construction time — 2 years.

The existing single lane timber beam bridge is nearing the end of its useful life. New bridge will permit simultaneous flow of traffic in two directions and eliminate the present long traffic delays. Estimated to cost \$1M. Construction time — 2 years.

Provision of overbridge will provide increased safety for road and rail traffic on a very important road close to Sydney (Kingsford Smith) Airport. Estimated to cost \$1M. Construction time — 2 years.

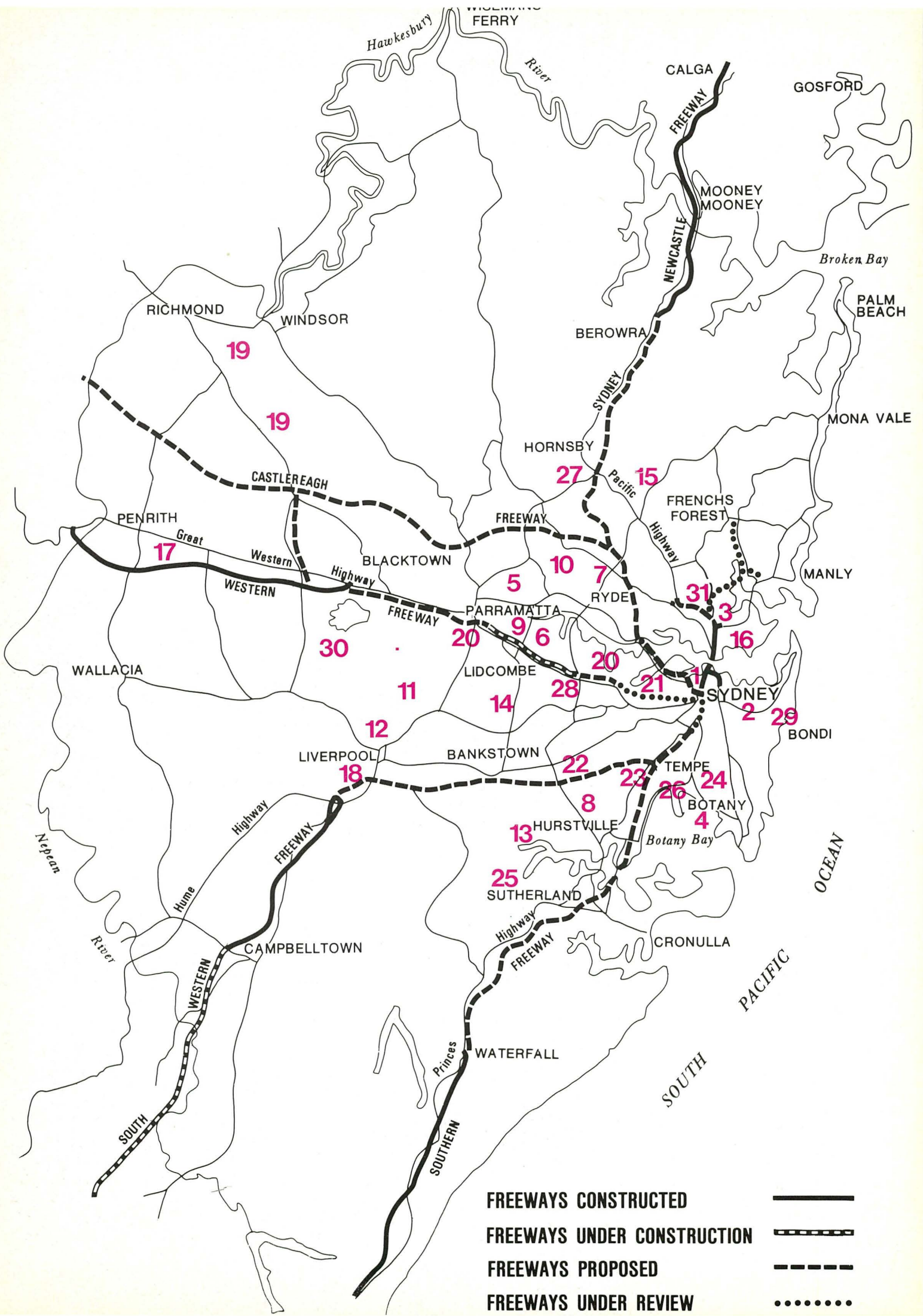
This road forms the principal connection between the Pacific Highway and the western region of Sydney. The road traverses hilly country and has a bad accident record. Estimated to cost \$14M. Construction time — 7 years.

Construction of this work will provide improved access to Flemington Markets and reduce traffic on residential streets. Estimated to cost \$1M. Construction time — 2 years.

Following the completion of the Bondi Junction By-Pass and the new rail facilities, further improvement to the road system will be needed to cope with the traffic in this high density residential and commercial area. Estimated to cost \$3M. Construction time — 3 years.

Construction of a number of short deviations and upgrading of existing roads will provide a direct connection between these two regions. Estimated to cost \$16M. Construction time — 5 years.

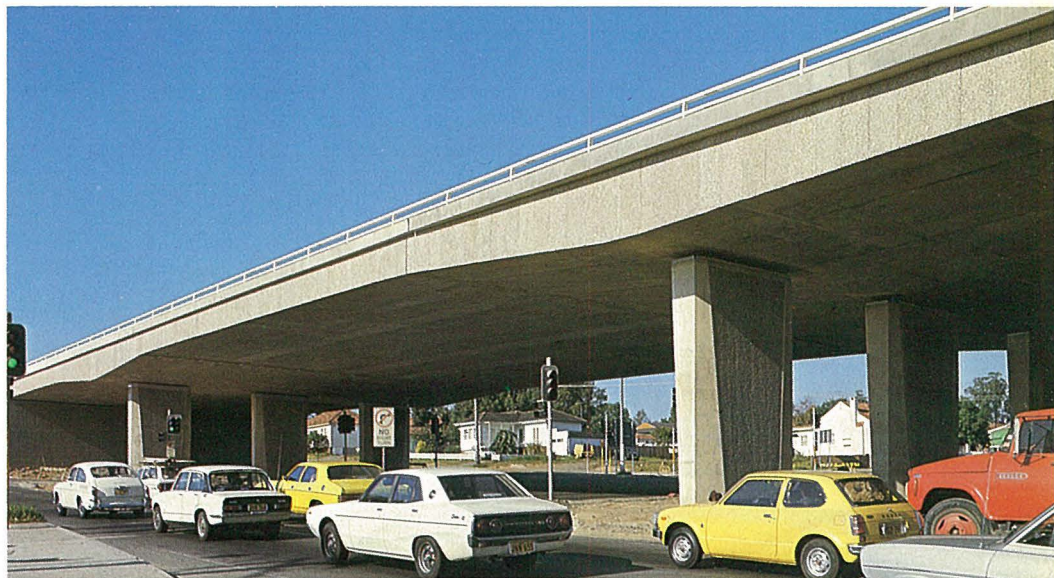
This important link in the road system is needed to reduce the volume of traffic using narrow residential and commercial streets and to provide a direct link with that section of the Warringah Freeway now nearing completion. Estimated to cost \$12M. Construction time — 5 years.



Aerial view of the construction of the North Parramatta By-Pass.



The nearly completed overbridge at North Ryde which will allow Epping Road traffic to pass safely and conveniently over Lane Cove-Ryde Road traffic.



Construction of four lanes of the F4 — Western Freeway between Homebush and Clyde, adjacent to Parramatta Road.

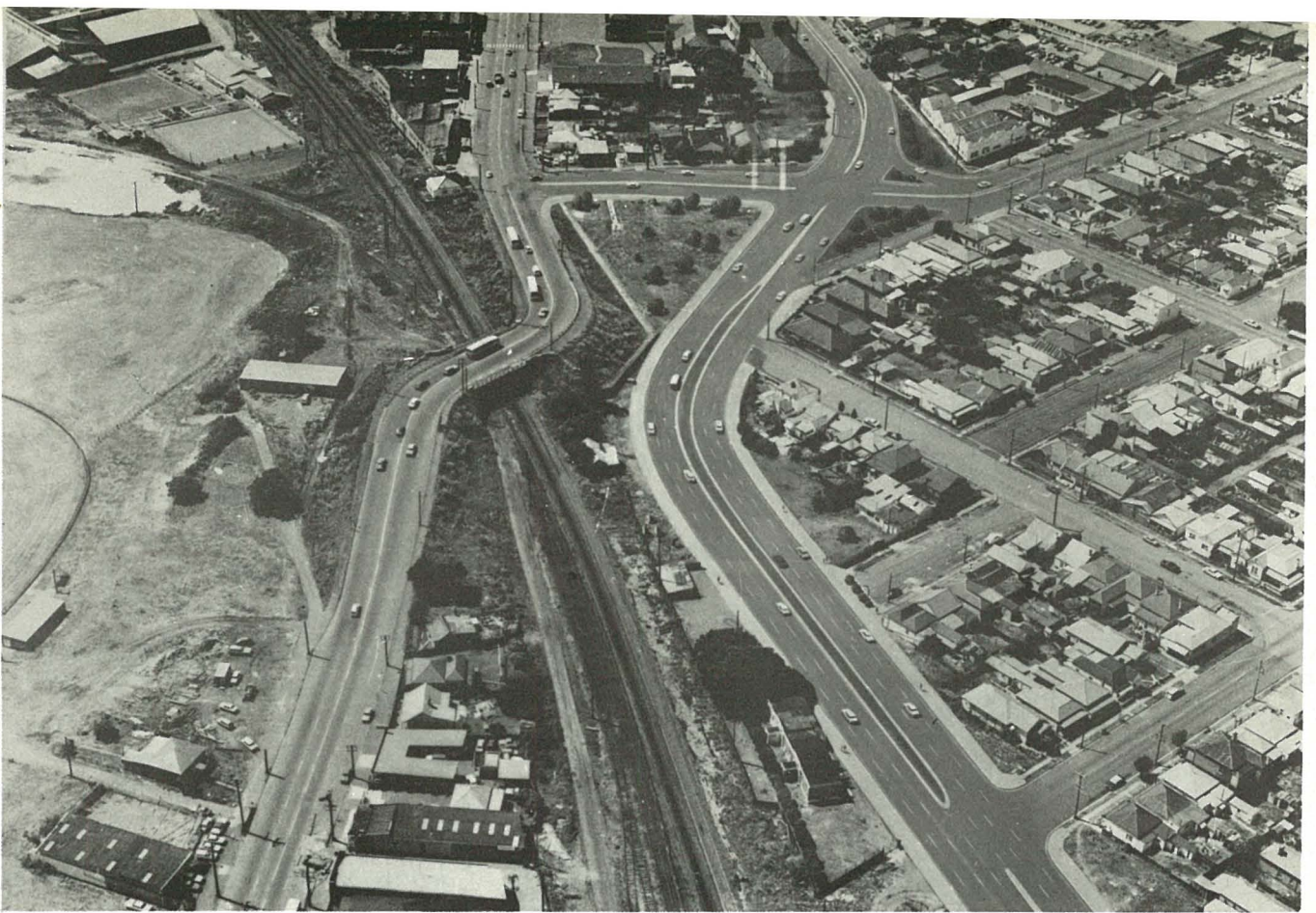


Newcastle Area

Newcastle is a centre of heavy industry and a major port especially in the coal export trade. Industrial road traffic places a heavy demand on the road system. In addition, the region suffers from the pressures of major flows of through traffic. Until such times as the National Highway route is developed west of Lake Macquarie, north-bound interstate traffic will continue to pass through Newcastle adding to the problems of internal regional traffic.

Recently completed divided carriageways and right turning storage bays on the Pacific Highway from Oakdale Road to Oxford Street, Gateshead.





An artist's impression of the proposed extension of divided carriageways to connect Parry Street and Donald Street, Newcastle.

The major items in the programme of works for this area are listed below.

- **State Highway No. 10 — Pacific Highway. Swansea Bridge to Docker St, Marks Point. Length 3 km. Construction of four lane dual carriageways with a narrow median and right turn storage bays.**
The project will improve traffic capacity and relieve congestion particularly in peak hours and at weekends. The present highway is only two lanes wide. Estimated to cost \$3M. Work is in hand and it is proposed to continue the work with completion in 1981/82.
- **State Highway No. 10 — Pacific Highway. Oxford St, Gateshead to Warners Bay Rd, Cains Hill (Charlestown). Length 1.1 km. Construction of a four lane arterial road.**
This work will replace a length with sub-standard alignment, high traffic volumes and a bad accident rate. The new work will improve both traffic capacity and safety. Estimated to cost \$1.2M. It is proposed to commence the work in 1978/79 and to complete it in 1980/81.
- **State Highway No. 10 — Pacific Highway. Ironbark Creek to the New England Highway. Length 3.9 km. Reconstruction including the provision of right turn storage lanes and selected median closures.**
This project will improve the capacity of the existing dual carriageways. Estimated to cost \$250,000. Proposed for completion in 1978/79.
- **Trunk Road No. 82 — Donald St. Denison St to Samden St, Hamilton. Length 1.4 km. Construction of urban dual carriageways with three lanes in each direction with a median.**
This project provides for the construction of a "missing link" on Trunk Road No. 82 and therefore provides for improved conditions for traffic on the Trunk Road leading to the Newcastle City Centre. Estimated to cost \$1.2M. This work is in hand by Council and will be completed by 1980/81.
- **State Highway No. 10 — Pacific Highway — Raymond Terrace. Kangaroo St to Richardson Rd (Main Road No. 517). Length 1.2 km. Reconstruction to a single carriageway standard including improvements to intersections.**
This project is designed to improve the capacity of the length by removing restrictions of intersections and also to improve travelling conditions by pavement reconstruction. Estimated to cost \$500,000.
- **Main Road No. 220 — Toronto Rd, Cessnock. Brunkerville to Mulbring. Length 6 km. Reconstruction and bituminous surfacing to provide a standard two lane rural road.**
This project has been designed to strengthen and improve the pavement because of the heavy traffic which is using Main Road No. 220. Work was undertaken by Council closer to Cessnock in 1977/78 and it is proposed that similar work continue in 1978/79. Estimated to cost \$400,000.

Wollongong Area

The Wollongong urban area is stretched along a relatively narrow strip between the Illawarra escarpment and the sea. A major steelworks and other heavy manufacturing industries as well as a major export port are at the centre of its activities and as a result large linear movements of traffic through the urban areas, especially to the north are a serious problem. Recreational traffic to the South Coast resort areas also place through traffic pressures on the internal road system.

This view shows the difficult and rugged terrain where work is in progress to provide four lanes on Mt. Ousley Road from Gwynneville to the top of Bulli Pass.



The major items in the programme of works for this area are listed below.

- **F6 — Southern Freeway. Northcliffe Drive to Kanahooka Rd. Length 2.7 km. Project provides dual carriageways with access available only at Northcliffe Drive and Kanahooka Rd.**
- **F6 — Southern Freeway. Kanahooka Rd to the Princes Highway near the southern junction with Mount Brown Rd. Length 5.5 km. Project provides a single carriageway only from Kanahooka Rd to the Princes Highway. Access will be available at Fowlers Rd and the Princes Highway. Grade separation will be provided at Harvey St, Byamee St, Fowlers Rd and Emerson Rd.**
- **F8 — Northern Suburbs Distributor. Gwynneville to Towradgi Rd. Length 2.5 km. Project provides an interchange with the Southern Freeway at North Wollongong and then provides a four lane arterial road (two lanes in each direction) from North Wollongong to Towradgi Rd. Access to the arterial road will be limited and will be via intersections with traffic lights.**
- **State Highway No. 1 — Princes Highway. Construction of a new dual carriageway bridge 53m long over the railway line at Flinders St, Wollongong.**
- **State Highway No. 1 — Princes Highway. Improvements to the alignment immediately south of Kiama. Length 4 km. Project provides a four lane arterial road on an improved alignment and grading.**
- **Trunk Road No. 95 — Mount Ousley Road. Main Road No. 186 to the Southern Freeway at Gwynneville. Length 4 km. Construction of an additional lane to provide a four lane arterial road.**
- **Main Road No. 513 — Mount Ousley Road. Bellambi Creek to the junction with Trunk Road No. 95. Construction of a fourth lane to provide a four lane arterial road.**
- **Main Road No. 295 — Five Islands Rd. Construction of dual carriageways on Five Islands Rd between the Princes Highway and the Southern Freeway. This work is under construction by Council and includes bridges over the railway line (to replace a level crossing) and Allens Creek.**

This project provides for relief to a heavily trafficked section of the Princes Highway at Kembla Grange and provides an essential link in the development of the Southern Freeway past the regional centre of Dapto. The work is in progress and will be completed in 1978/79. Estimated to cost \$2M.

This work provides for relief to the heavily trafficked Princes Highway, provides a by-pass of the regional centre of Dapto for through traffic and is the final section for the immediate future of this freeway. Estimated to cost \$6.2M to complete the first stage after 30 June 1978. The staging provides for the completion of the earthworks for the full facility and the completion only of a single carriageway pavement. There is no proposal in the immediate future for duplication south of Kanahooka Rd nor for extension further south to Albion Park. The timetabling proposes for the first stage (i.e., a single carriageway to the Princes Highway) to be completed by 1980/81.

This project provides for traffic relief at North Wollongong, removes through traffic from the local roads system and provides adequate connection from the northern suburbs of Wollongong to the freeway system. Estimated to cost \$9M. The tentative timetabling proposes construction for the years 1980/81 to 1983/84. It is assumed that the Northern Suburbs Distributor will be continued north ultimately to Lawrence Hargrave Drive (Main Road No. 184), with the next stage being the length from Towradgi Rd to Rothery St. It is tentatively proposed for construction in 1983/84 and 1984/85 at an estimated cost of \$3.5M.

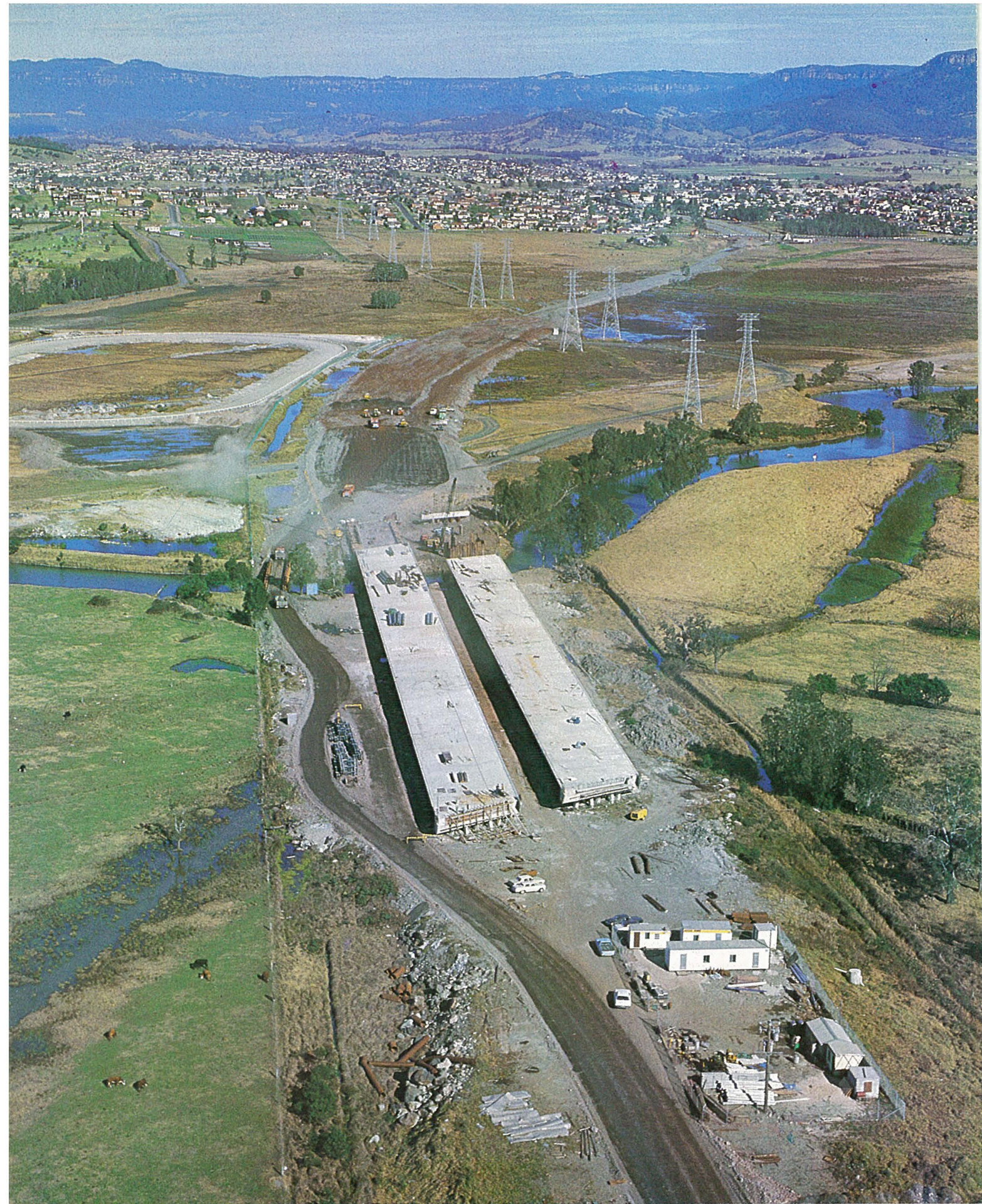
The structure is essential to the development of the adjacent interchange of the Northern Suburbs Distributor with the Princes Highway and has to be constructed before the interchange can proceed. It has the additional advantage of removing a narrow bridge from the present road. Estimated to cost \$800,000. To provide for traffic, the bridge will have to be constructed in two halves. The timetabling for the work is proposed for 1979/80 and 1980/81.

This work will improve traffic safety and capacity by eliminating a length of very poorly aligned and graded highway. Estimated to cost \$3M. It will be constructed continuously with completion proposed for 1980/81.

This project is needed to provide increased traffic capacity and improved traffic safety, particularly because of the heavy vehicles using the road. It also provides a link from the Waterfall-Bulli Pass Tollwork to the Southern Freeway at Gwynneville. Estimated to cost \$1.75M. The work should be completed in 1978/79.

This work provides for increased traffic capacity and when completed will provide a consistent four lane facility from the Waterfall-Bulli Pass Tollwork to the Southern Freeway at Gwynneville. Estimated to cost \$2.15M. The work is programmed to proceed continuously in 1978/79 and 1979/80.

This project will provide a totally new connection between the highway and the freeway and will provide a consistent link from the highway to the industrial area at Port Kembla. Estimated to cost \$1.8M. Work is in progress and will proceed continuously in 1978/79 and 1979/80.



Above: Aerial view of construction of the F6 — Southern Freeway from Dapto to Northcliffe Drive.

Back Cover: The first stage of the North Western Freeway across the southern end of Darling Harbour to Harris Street, Ultimo.

