

THE COUNCIL OF THE CITY OF SYDNEY

ACTION PLAN NO. 14

TRANSPORTATION PLANNING FOR
EASTERN DISTRICT B

Second Review Report

URBAN SYSTEMS CORPORATION PTY LTD
MLC Building, Miller Street,
North Sydney

Project Director
PETER CASEY

February, 1973



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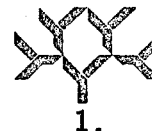
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1.0 INTRODUCTION

Eastern District B comprises the area immediately to the east of the Central Business District and includes the following Precincts :

- B1 Oxford Street Precinct
- B2 William Street (Boulevard) Precinct
- B3 Stanley Street Precinct
- B4 Woolloomooloo Precinct
- B5 Kings Cross Precinct
- B6 Potts Point - Elizabeth Bay Precinct
- B7 Darlinghurst Precinct
- B8 Taylor Square Precinct

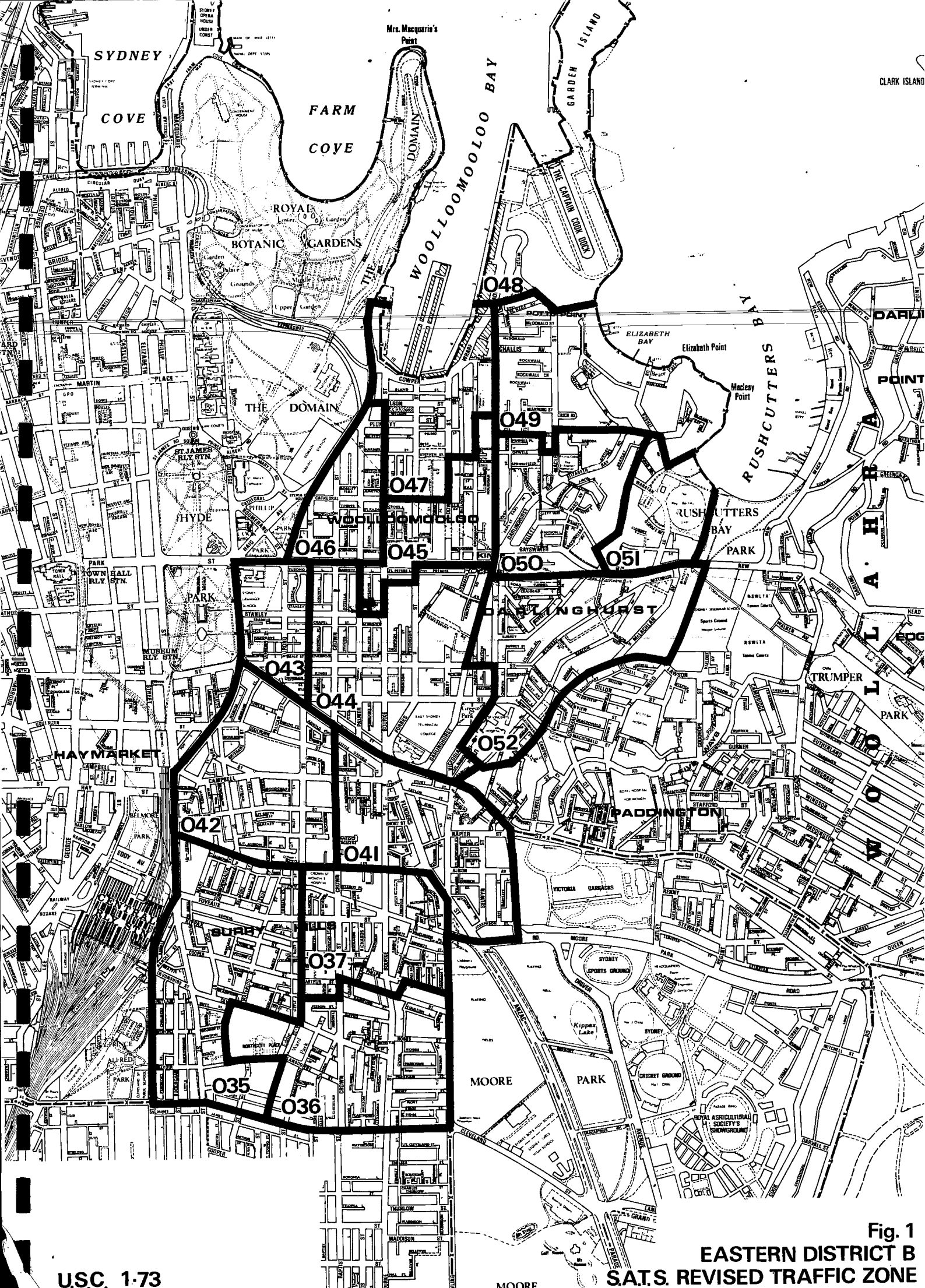
Due to the impracticability of considering this in isolation and as Action Plans were being prepared for the West Surry Hills and the Surry Hills Residential Village Precincts, the area under examination was extended to include the following Precincts from District C :

- C1 West Surry Hills Precinct
- C2 Flinders Street Precinct
- C3 Surry Hills Residential Village Precinct

Significant parts of the area under examination are obsolescent and require either extensive restoration and preservation, or large scale integrated redevelopment. Review of some of the plans already drawn up by public authorities and private developers would indicate that the District is on the threshold of unprecedented expansion should these plans be allowed to come to fruition.

Major road and rail projects that will vitally affect this District are under construction, while others are still in the planning stage. Some of these will be directly beneficial, others are likely to be indirectly beneficial, whereas several could be indirectly detrimental in the short to medium term. One of the objectives of this Action Plan will be to review these. The other principal object is to evaluate land use, transportation and parking within the area.

Much of the work being carried out or planned is dependent on the receipt of information being collected and collated by the Sydney Area Transportation Study (SATS). For purposes of analysis the area under examination has been subdivided into the same zones used by SATS. These are known as Revised Traffic Zones and the location and boundaries of these are shown in Figure No 1.



U.S.C. 1-73

Fig. 1
EASTERN DISTRICT B
SATS. REVISED TRAFFIC ZONE

2.0 REVIEW OF EXISTING CONDITIONS

2.1 Public Transport

The District is currently not served by rail passing through it, but parts of the District are fairly accessible to Central and Museum stations. The Eastern Suburbs Railway, when opened in two years time, will provide a station at Kings Cross which will serve a considerable portion of the northern part of the District.

Almost all of the buses now serving the Eastern Suburbs pass through District B or the three Surry Hills Precincts. Prior to 1960 the District was served by five tram routes passing through it and two on its perimeter. Supplementary bus services mainly oriented towards the Central Railway end of the CBD filled in the gaps in the tram system.

Following conversion from trams to buses in the late 1950's, the old tram routes were generally retained as bus routes. Figure No 2 shows the old tram routes and Figures Nos 3 and 4 show the current morning and evening peak hour flow of buses through the District.

The principal bus routes are Oxford Street and William Street. Oxford Street which is the principal outlet for buses to Bondi, Bronte, Clovelly, Coogee, Maroubra and intermediate areas, is easily the most heavily used street with one-way flows of 185 and 164 buses per hour during the morning and evening peak hour respectively. This is about ten percent of the peak hour vehicular flow and emphasises the importance of Oxford Street as a major thoroughfare for buses.

In addition, Oxford Street traditionally has been and still is a major shopping street. Because of the interaction between buses, pedestrians and private cars in Oxford Street, severe congestion is experienced by buses and private cars. One of the principal tasks within Oxford Street will be to provide an effective separation of these three elements.

William Street is relatively less heavily used, but is still a very important bus outlet from the CBD. One way flows are about 100 buses per hour during the two peak hours. This is a drop of about 20 buses per hour compared with 1970 and is a reflection of the effects of the 1971 fare increases.





There are no exclusive bus ways or bus lanes within the District except at Taylor Square where inbound buses have exclusive use of a left turn lane between Flinders Street and Oxford Street. An exclusive bus way has been provided along the old tram right-of-way in Anzac Parade, but this terminates at Moore Park Road on the boundary of the area under examination.

2.2 Roads and Traffic

The original road system is typical of that of most of the inner Sydney Metropolitan Area in that it was poorly planned or more likely not planned in the first place.

There are a number of individual arterial roads which have been designed and constructed to good modern standards with median strips, provision for three lanes in each direction and, in one case (Dowling Street), adequate provision for right turning vehicles. But almost invariably they run into a poorly planned intersection and hence create a major bottleneck. Typical examples are Taylor Square and Kings Cross.

In consequence, traffic management techniques have been extensively used to get the most out of the existing road system. Interconnected traffic signals were provided in Oxford, William and Cleveland Streets in 1971, 1972 and 1972 respectively. Crown and Bourke Streets were converted to one way operation to carry the traffic from the Cahill Expressway, some turning movements at a number of important intersections have been prohibited, clearway conditions have been proclaimed to handle peak hour traffic in a number of streets, including William, Oxford and Cleveland Streets, and major intersections have been channelised to regulate the flow of traffic. Figures Nos 5 and 6 show the location of the various traffic management devices and restrictions currently in operation.

In addition, Greenknowe Avenue was extended in late 1964 to provide a link between Macleay Street and Elizabeth Bay Road and provide substantial relief to the Kings Cross area.

In 1971 the Department of Main Roads conducted an Origin and Destination Survey of traffic entering the Central Business District. Part of the data obtained from this Survey will be relevant to traffic planning for Eastern District B. The results of this Survey were expected to be available in October 1972, but should now be available in February 1973.



The DMR also conducted in 1971 a traffic survey of the more important roads in the Sydney Metropolitan Area. This survey is the fourth such survey conducted since 1960 and includes a number of roads within Eastern District B. The results of this survey were made available in mid January 1973.

Figure No 7 shows the roads carrying more than 8,000 vehicles per day and is illustrative of the currently unsatisfactory situation in which a number of local streets are carrying traffic not intended for these streets.

The principal roads in the District carry very high volumes of traffic, for example, William Street (50,500 vehicles/day), Flinders Street (42,170 vehicles/day) and Oxford Street (37,120 vehicles/day).

An appraisal has now been made of the traffic growth between 1960 and 1971 on the major corridors linking the Eastern Suburbs (Municipalities of Waverley and Woollahra) and the CBD. Traffic growth was quite marked between 1960 and 1965 with an increase of four percent per annum over that five year period; but was relatively stable over the subsequent six years with the increase being restricted to about two percent. Table No 1 shows the traffic growth across a cordon line immediately to the east of the City of Sydney over the period 1960-1971.

TABLE NO 1

Appendix

Annual Average Daily Traffic Crossing Eastern Cordon Line
(Eastern Corridor)

	1960	1965	1968	1971
New South Head Road	41,300	48,560	49,900	48,790
Oxford Street	19,100	25,800	25,310	26,070
Moore Park Road	17,950	15,280	17,130	21,180
Sub-Total Arterial Roads	78,350	89,640	92,340	96,040
Glenmore Road	7,110	11,950	16,000 (est.)	19,920
Lawson Street	1,910	2,410	2,460	3,850
Dillon Street	310	880	850	850
Sub-Total Other Roads	9,330	15,240	19,200	24,620
Total	87,680	104,880	111,500 (est.)	120,660

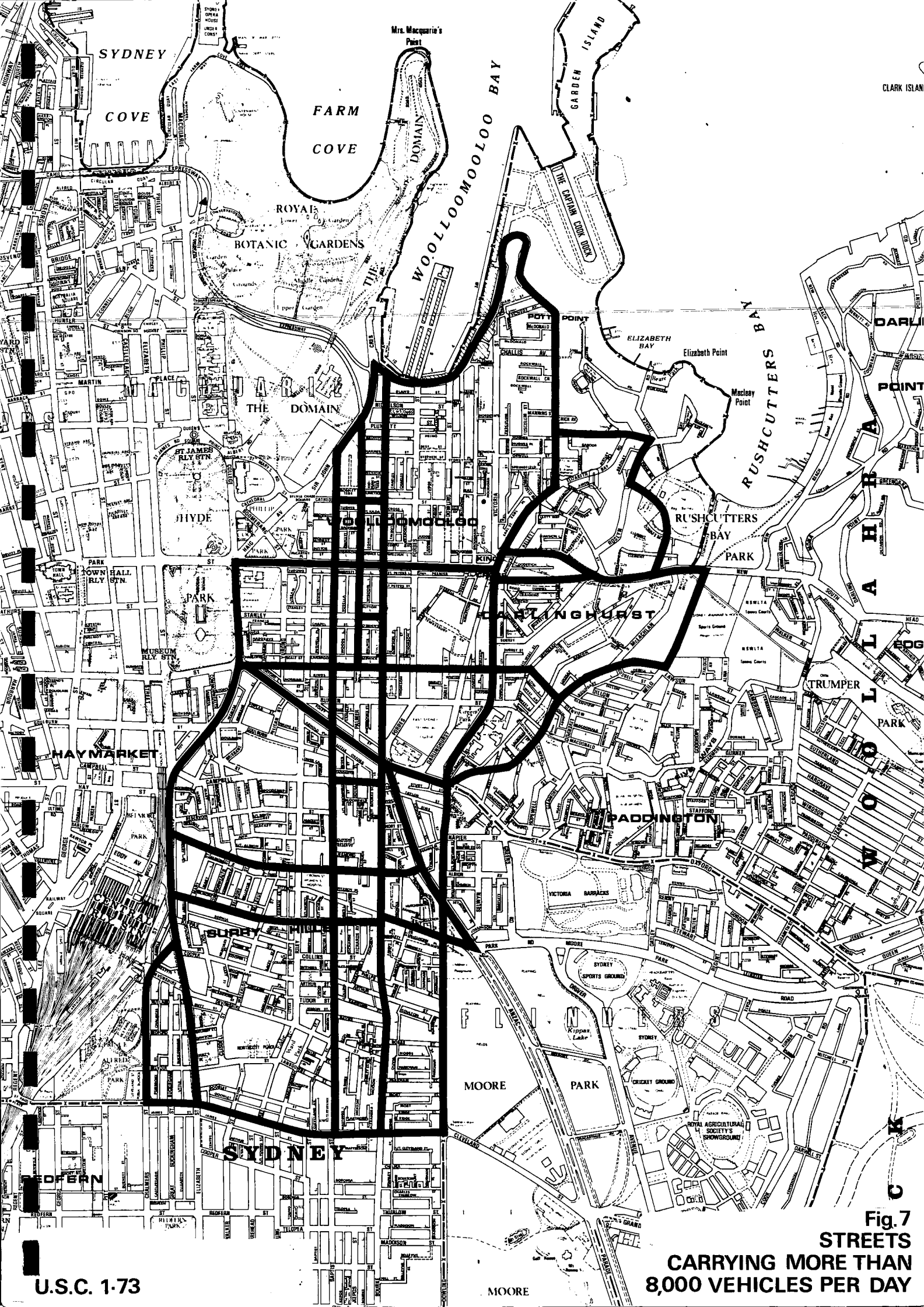


Fig.7
STREETS
CARRYING MORE THAN
8,000 VEHICLES PER DAY



Significant observations arising from these are :

- . No traffic growth on the already saturated New South Head Road and Oxford Street over the period 1965-1971.
- . Relatively slow growth on Moore Park Road over the period 1960-1971.
- . The dramatic increase in traffic on Glenmore Road which is at best a sub-arterial road to serve Paddington. This could be due in part to the increased traffic generation in Paddington as it changes in socio-economic character, but is also a reflection of the congested conditions existing on New South Head Road and Oxford Street.

Whereas traffic growth in the Eastern Corridor has been restricted to about 2.5 percent per annum since 1965, growth in the South Eastern and Southern Corridors, as measured by a cordon count south of Cleveland Street, has been significantly higher averaging almost 5 percent per annum over the same period, as shown in Table No 2. This is due in part to the opening of the Southern Cross Drive which added an average of 13,000 vehicles per day to traffic in Dowling Street, north of Cleveland Street, and to increased traffic generated by Sydney Airport (from 24,410 vehicles per day in 1968 to 36,840 vehicles per day in 1971). More importantly it is a reflection of the increased traffic on the Sydney Harbour Bridge and Cahill Expressway linking the northern suburbs to the industrial areas.

TABLE NO 2

Appendix

Annual Average Daily Traffic Crossing Southern Cordon Line
(South Eastern and Southern Corridors)

	1960	1965	1968	1971
Anzac Parade	34,000(est)	43,890	46,640	44,520
Dowling Street	12,890	13,120	14,760	33,640
Bourke Street	11,700	9,430	11,670	12,260
Baptist Street	3,645	8,910	10,480	12,430
Marriott-Walker Streets	6,010	6,910	7,070	10,000 (est)
Elizabeth Street	14,850	13,190	17,590	13,700 (est)
Great Buckingham Street	835	910	1,000	1,000
Chalmers Street	3,150	5,570	5,670	10,900
Pitt Street	2,110	2,970	6,450	4,840
George Street	3,850	5,190	4,970	5,220
Regent Street	22,700	17,790	19,790	20,300
Total (rounded)	116,000	128,000	146,000	169,000



2.3 Parking

A study has been made of the supply and demand for parking spaces within Eastern District B and the adjacent Surry Hills area in District C. The supply of spaces was obtained from an inventory survey conducted by the Sydney City Council during 1971, and a summary is listed in Table 3. The demand for spaces by various groups of drivers (residents, workers, visitors, and commuters) can, at this stage, only be estimated approximately from population and workforce data.

Within the next few weeks it is expected that the modal-split data for each Revised Traffic Zone will become available from SATS, making it possible to accurately estimate the number of workers' cars arriving in each Zone and the number of residents' cars leaving each day. It will then be possible to estimate the number of cars in each Zone parked by commuters to an adjacent Zone or to the CBD.

At this stage, a range of possible demand by workers for parking spaces is given in Table 4, based on an estimate of between 30% and 48% of workers travelling by car, and the average car occupancy being between 1.2 and 1.5.

In order to analyse the parking characteristics of the District, it can be considered as six individual areas, each comprised of whole Revised Traffic Zones : Kings Cross, Woolloomooloo, CBD Fringe, Surry Hills West, Surry Hills East, Oxford Street/Darlinghurst.

The location of the Revised Traffic Zones and an illustration of parking supply is shown in Fig. 8.

i) Kings Cross, Zones 048, 049, 050, 051

Kings Cross suffers from quite a severe parking problem arising from the intensive nature of its land use and the related generation of traffic. There are the conflicting interests of a large population, a large workforce and a large number of visitors to the active retail, commercial and entertainment centre. Most of the population of Kings Cross and Elizabeth Bay live in apartments, many of which do not have off-street parking facilities. This, combined with the general affluence of the residential area, results in many residents seeking a kerbside space to park their car in competition with either the daytime workforce of Kings Cross and Garden Island or the evening visitors to the entertainment centre.

A detailed analysis of the parking situation in Kings Cross can be found in Action Plan No.8, Second Review Report.

TABLE 3

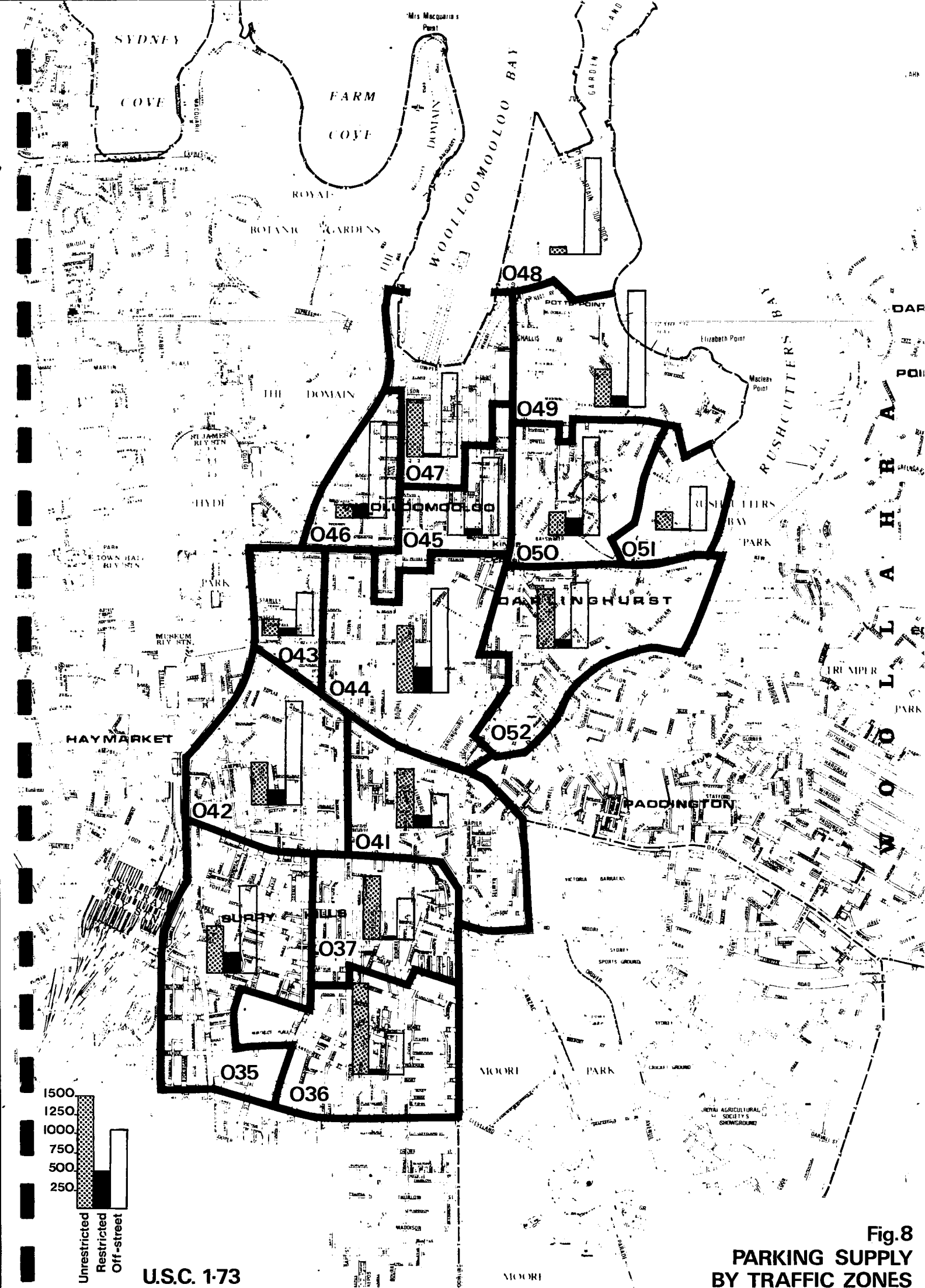
EASTERN DISTRICT B : PARKING SUPPLY BY TRAFFIC ZONES

	035	036	037	041	042	043	044	045	046	047	048	049	050	051	052
OFF-STREET															
Licenced	62	0	0	94	127	100	60	117	0	0	0	267	593	100	43
Unlicenced (Residential) *	33	252	33	83	10	107	113	101	38	39	157	968	389	160	95
Unlicenced (Commercial) *	1,079	306	503	245	1,232	378	1,212	793	1,256	1,012	1,092	24	80	167	747
Unlicenced (Hotel)	6	0	1	11	1	0	0	43	0	76	29	309	276	143	0
OFF-STREET TOTAL	1,180	558	537	433	1,370	585	1,385	1,054	1,294	1,127	1,278	1,568	1,338	570	885
ON-STREET - Business Hours															
Metered up to 2 hours	0	0	20	36	125	53	63	39	17	0	0	31	52	0	4
Metered more than 2 hours	0	0	0	0	0	0	12	0	12	0	0	0	0	0	0
Metered Sub-Total	0	0	20	36	125	53	75	39	29	0	0	31	52	0	4
Unmetered up to 2 hours	263	55	15	110	84	31	251	47	133	29	0	104	173	3	91
Unmetered more than 2 hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unmetered Restricted Sub-Total	263	55	15	110	84	31	251	47	133	29	0	104	173	3	91
Restricted Sub-Total	263	55	35	146	209	84	326	86	162	29	0	135	225	3	95
Unrestricted	634	1,207	853	778	580	209	895	406	166	750	106	510	303	236	787
ON-STREET TOTAL - Business Hours	897	1,262	888	924	789	293	1,221	492	328	779	106	645	528	239	882
ON-STREET - Night Time															
All Unrestricted Total	1,209	1,301	934	1,045	1,023	393	1,496	540	397	773	106	684	658	248	916

* The distinction between off-street residential and unlicensed commercial spaces cannot be made accurately from the inventory maps, so although for each Zone the sum of these two figures is accurate, the apportioning may not be.

TABLE 4 : SUPPLY AND DEMAND FOR UNRESTRICTED NON-RESIDENTIAL PARKING SPACES DURING BUSINESS HOURS

[illegible]





ii) Woolloomooloo, Zones 045, 047

From Table 4 :-

Daytime supply of unrestricted spaces	=	4,861
Daytime demands by residents for unrestricted spaces	=	700
Daytime demands by workforce @ 20 cars per 100 workers	=	2,200
" " " " 30 " " "	=	3,300
" " " " 40 " " "	=	4,400

It can be seen from these figures for the daytime supply and demand that even allowing for a number of CBD workers parking in this area, a large number of the workforce are able to commute to Woolloomooloo by car. There are also 115 restricted kerbside spaces in the area.

iii) CBD Fringe, Zones 043, 046

Daytime supply of unrestricted spaces	=	2,186
Daytime demands by residents	=	100
Daytime demands by workforce @ 20 cars per 100 workers	=	830
" " " " 30 " " "	=	1,245
" " " " 40 " " "	=	1,660

It can be seen that during the day there is an excess of parking spaces for purely local needs, but of course these are filled by commuters to the CBD parking at the kerbside and completing their journey on foot. There are 246 restricted spaces within the area for short-term parking.

iv) Surry Hills West, Zones 035, 042

This area has a high workforce and a fairly limited supply of parking spaces, resulting in both a large proportion of the workers using public transport and a significant number of workers leaving their cars in adjacent residential precincts, such as Surry Hills East. A detailed analysis of the parking situation in Surry Hills West can be found in Action Plan No.11, Second Review Report.

v) Surry Hills East, Zones 036, 037

Daytime supply of unrestricted spaces	=	2,869
Daytime demands by residents	=	560
Daytime demands by workforce @ 20 cars per 100 workers	=	600
" " " " 30 " " "	=	900
" " " " 40 " " "	=	1,200

It can be seen that there is an excess of parking spaces in this area for purely local needs, but it is likely that these spots are filled by the cars of Surry Hills West workers.

vi) Oxford Street/Darlinghurst, Zones 041, 044, 052

Daytime supply of unrestricted spaces	=	4,861
Daytime demands by residents	=	700
Daytime demands by workforce @ 20 cars per 100 workers	=	2,200
" " " " 30 " " "	=	3,300
" " " " 40 " " "	=	4,400

Overall, there appears to be an adequate number of all-day parking spaces in this area but there could be localised problems adjacent to Oxford Street.

Following the receipt of modal-split data from SATS, a more precise analysis of the demand for parking spaces in each Zone can be made and compared with the already known supply. A policy for the management of existing spaces and the possible provision of new spaces can then be made in the light of future land use policies.

Domain Parking Station

Two separate studies have been conducted to investigate user characteristics of people parking in the Domain Parking Station. The first was conducted on Tuesday, 14 November, 1972, and Friday, 17 November, 1972 and consisted of a duration study calibrated for different times of arrival throughout the day. The second was basically origin, destination and trip purpose study carried out on Friday, 19 January, 1973. Questionnaires were issued to all motorists entering the station between 7 am and 3 pm and collected from them on leaving the station. The response rate was about 35 percent (600 returns). These have been processed by computer and a number of cross-classifications calculated. They are now being analysed and the conclusions will be presented in the next report.



2.4 Pedestrian Facilities

The pedestrian facilities in Eastern District B have hardly been improved upon since the streets were first sealed, kerbed and guttered. Pedestrian movement along the traditional pavements is made a hazardous operation by the constant conflicts with moving and stationary vehicles. The visual obstruction of parked vehicles and the high speed of traffic, especially along one-way streets, is making it more and more difficult to cross a street at mid-block and, despite the provision of pedestrian phases on traffic signals, crossing a street at an intersection involves long delays.

Many of the pedestrians' problems are in fact caused by the sophisticated techniques of traffic management trying to cope with ever increasing numbers of vehicles. The roads of Eastern District B are managed for the benefit of the passing motorist and not for the benefit of the local pedestrian. For instance, traffic signals are phased to give overall minimum delay to the motorist, but not minimum overall delay to the pedestrian.

Having inherited a street system incapable of handling the present day volume of traffic without infringing on the environment of the resident or pedestrian, we must find a way of halting this deterioration. Either steps must be made to reduce traffic on many of the existing street systems by means of a network hierarchy, or the step must be made to grade separate or time separate the pedestrian from the vehicles.

2.5 Land Use and Traffic Generation

Progress on this aspect of the Plan has been retarded as no information on trip generation has yet been received from SATS. It is expected that this will be available within the next few weeks.

Preliminary work has been carried out in relating population to car ownership, but some discrepancies have been discovered in the SATS data. These will need to be rectified before tables are prepared.

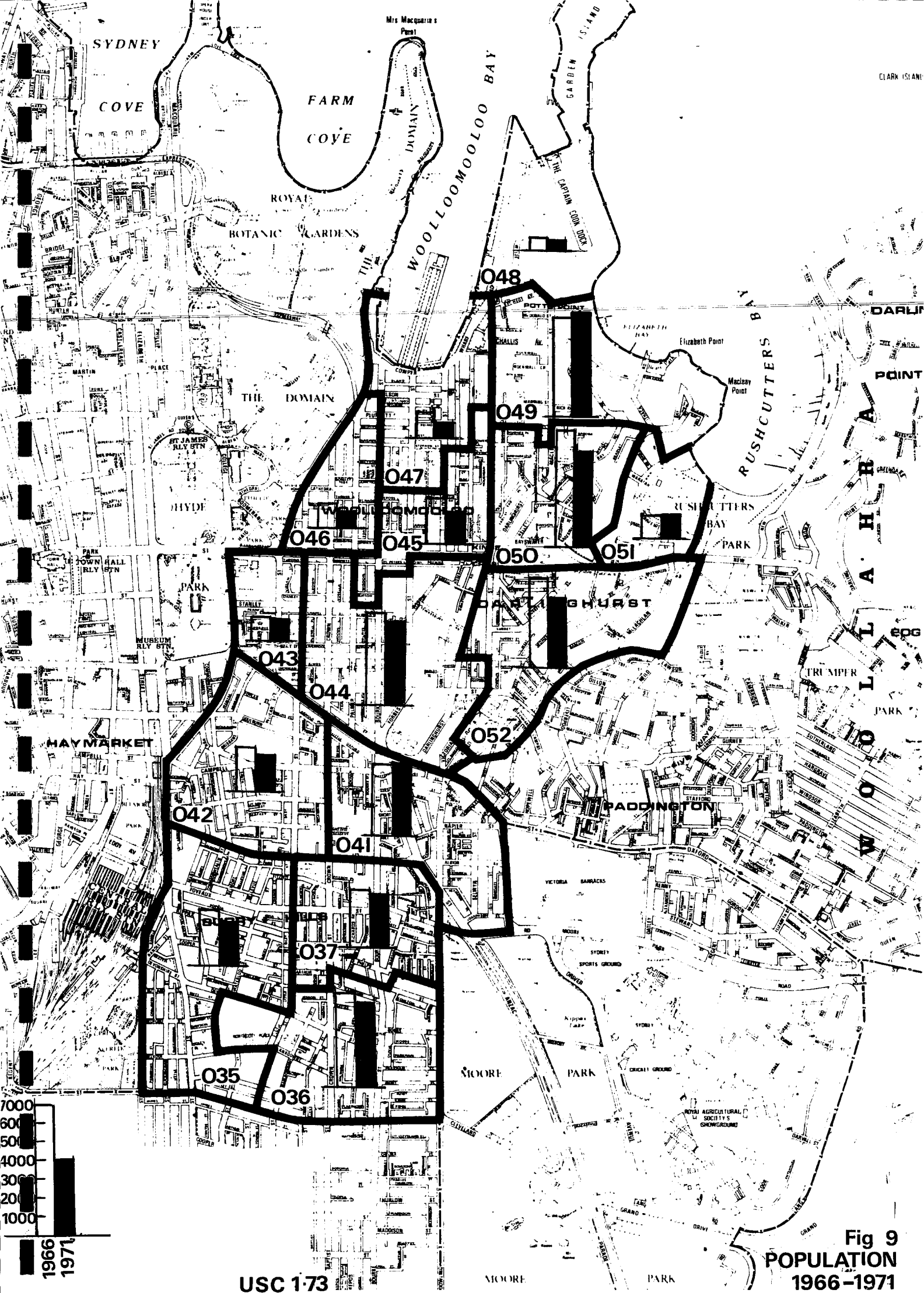
Car ownership in Eastern District B is very low compared with the average for the Sydney Metropolitan Area, but has increased substantially over the last five years. It is likely to increase significantly in the next decade, particularly if there is a marked socio-economic change in the area. This is likely to create considerable traffic and parking congestion during off-peak hours. A mitigating factor is that the population is decreasing, there being a drop from 46,400 to 40,500 over the period 1966-1971. Table No 5 and Figure No 9 illustrate.

Workforce varies being high in such areas as Surry Hills (Zone 35) and low in Woolloomooloo (Zone 47) and Rushcutters Bay (Zone 51). Figure No 10 illustrates.

It was hoped to have made a detailed assessment of the travel characteristics of the Garden Island workforce ready for this report. This is not possible until modal split data is received from SATS. But a preliminary study based on 1964 data is in hand. This previous study indicates that a high proportion of the workforce travel by car and that there is scope for re-routing special workers' buses to improve the bus patronage.

TABLE 5 : POPULATION AND WORKFORCE BY REVISED TRAFFIC ZONE

	Revised Traffic Zones														
	035	036	037	041	042	043	044	045	046	047	048	049	050	051	052
1966 Population	3,079	4,942	3,104	3,817	2,324	1,167	4,997	2,599	1,213	1,279	647	5,397	6,202	1,213	4,843
1971 Population	2,417	4,336	2,802	3,870	1,980	1,145	4,426	1,722	829	857	521	5,564	5,133	1,223	3,696
1971 Workforce	11,483	2,051	1,064	2,143	6,673	2,223	4,238	2,300	1,922	864	5,943	2,534	2,854	536	4,691



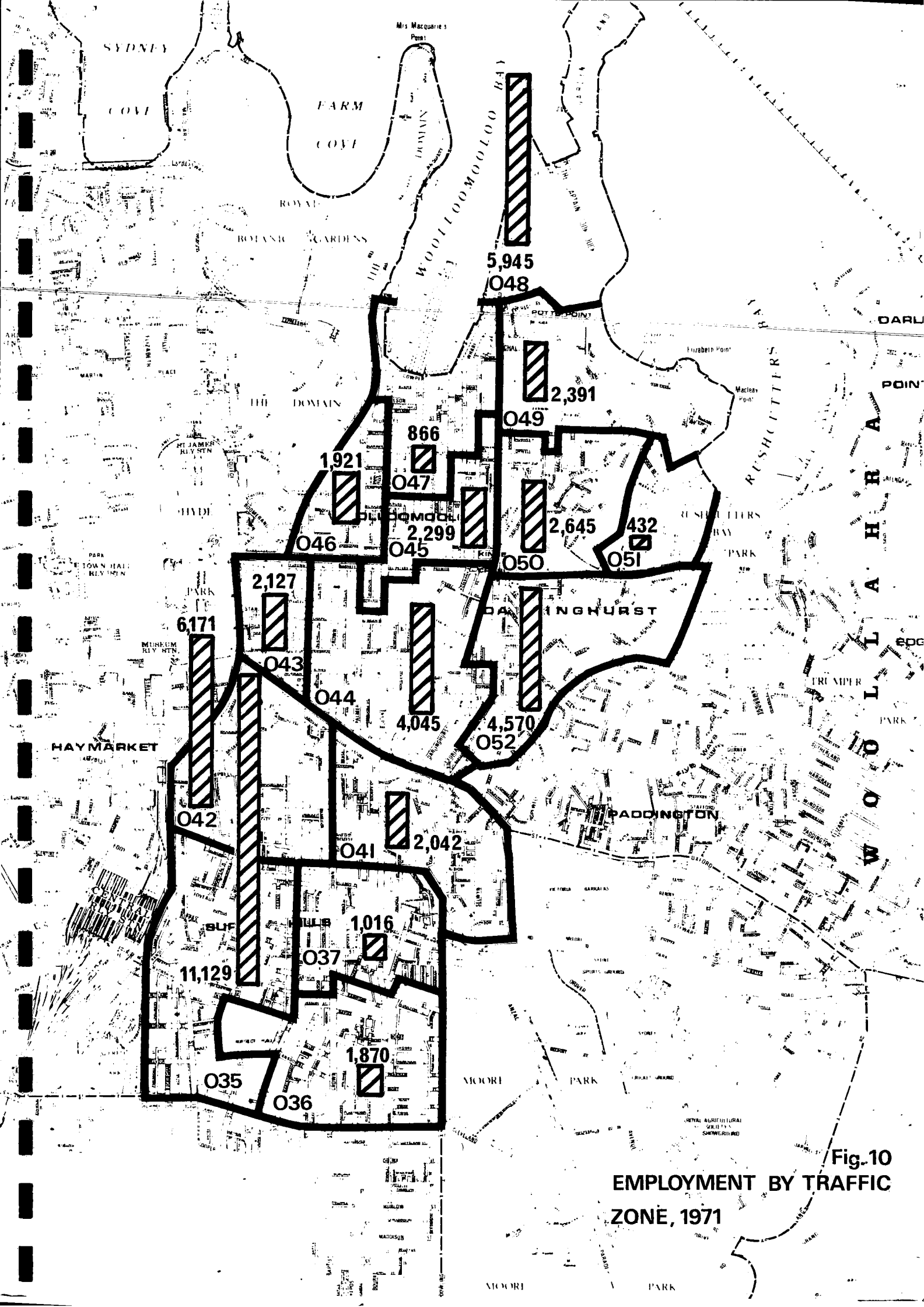


Fig. 10
EMPLOYMENT BY TRAFFIC
ZONE, 1971

3.0 APPRAISAL OF PROBLEMS AND OPPORTUNITIES

3.1 Public Transport

Buses: The Eastern Suburbs Railway is currently planned for completion to Edgecliff in 1974 and Bondi Junction in 1975. Bus-rail interchanges are planned at these two stations and many bus services now operating along William Street, Stanley Street-Burton Street and Oxford Street will terminate at these interchanges instead of continuing through to the CBD. This will result in significant reductions in the number of buses now using these routes through Eastern District B.

For example, a reduction of 90 percent to about ten buses per hour is expected for peak hour one-way flow in William Street and a 33 percent reduction to about 120 buses per hour is expected in Oxford Street. A unique opportunity will therefore exist within the next two years to completely replan the bus system throughout Eastern District B and Surry Hills.

Figure No. 11 shows the type of restructuring of routes that should be sought following the opening of the Eastern Suburbs Railway to Bondi Junction.

The principal feature of this scheme is the proposed concentration of buses along Oxford Street. This street will always be an important bus route even if the Eastern Suburbs Railway is completed to Kingsford. This could take another five years or more after the railway is opened as far as Bondi Junction. Consequently, short to medium-term plans should be made on the basis of the railway terminating at Bondi Junction. There is scope for considering an exclusive at-grade busway along Flinders Street and Oxford Street. This would serve to divert some of the through traffic in Oxford Street to Campbell Street and elsewhere; and, if made sufficiently attractive at the expense of private cars, should divert some commuters from cars to buses.

Buses now using Campbell Street could also be diverted to Oxford Street to further emphasise it as the major bus thoroughfare as distinct from a traffic route. But these diverted buses would need access to Crown Street for inbound movement and Bourke Street for outbound movement until such time as Crown Street can be restored to two-way operation between Oxford Street and Cleveland Street. Following this, Crown Street could be developed as a major two-way bus route to serve Surry Hills and Bourke Street dropped as a bus route.

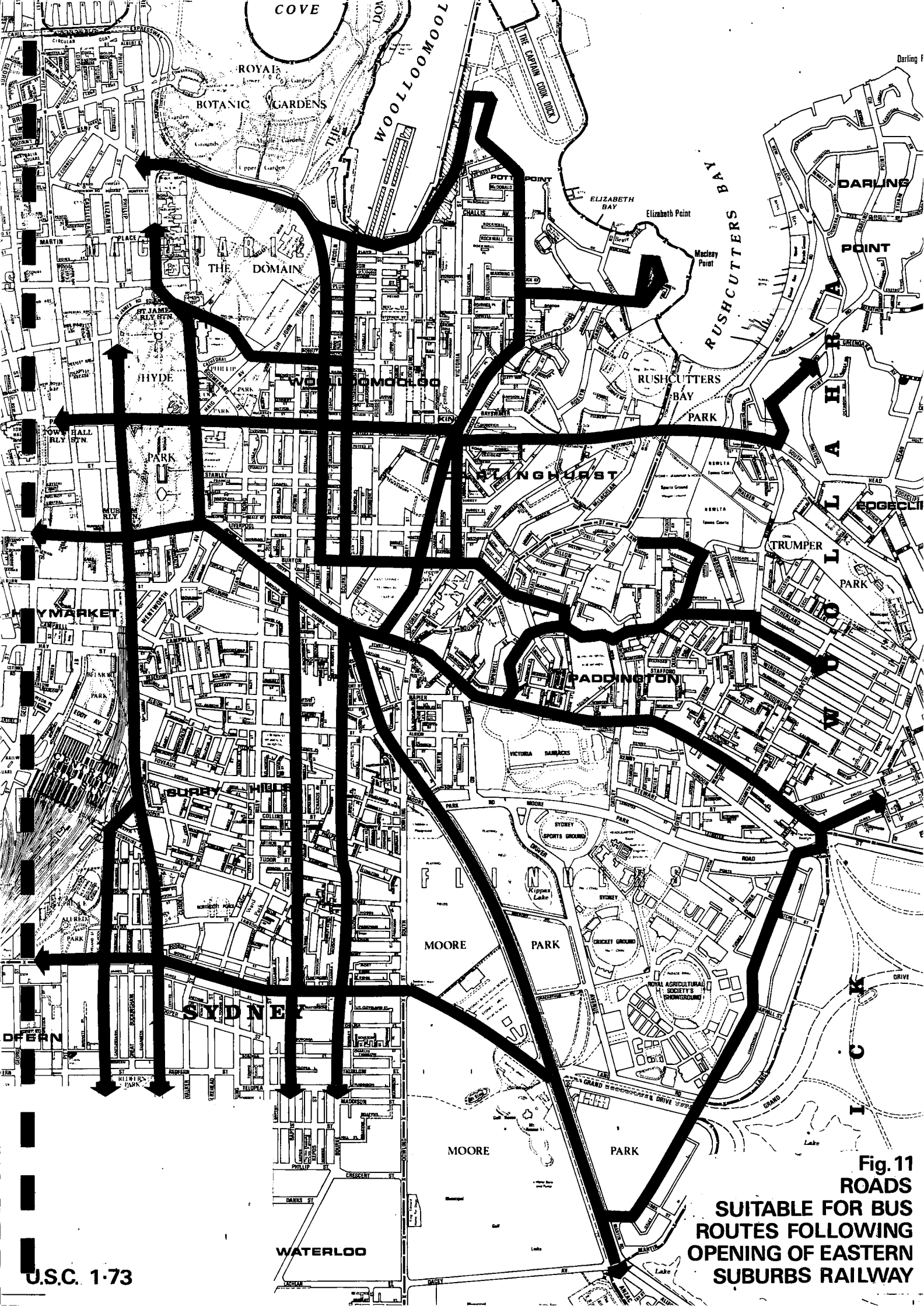


Fig.11
ROADS
SUITABLE FOR BUS
ROUTES FOLLOWING
OPENING OF EASTERN
SUBURBS RAILWAY

Other changes which should be made following the opening of the Eastern Suburbs Railway to Bondi Junction include :-

- Removal of all bus services from Moore Park Road (local bus services along Oxford Street should be adequate to serve the South Paddington Precinct);
- Opening a loop service following Oxford Street, Cook Road, Robertson Road and Anzac Parade to serve the South Paddington and the Moore Park-Centennial Park residential precincts;
- Discontinuing the diversion of south-bound buses in Elizabeth Street via Randle Street and Devonshire Street;
- Possible diversion of buses from Paddington now travelling to the CBD via Burton and Stanley Streets to routes via Palmer and Bourke Streets to the Cahill Expressway or to Cathedral Street (following completion of the William Street underpass). There is no real reason why buses should continue to follow Yurong Street and Stanley Street merely because of the historical fact that the old tramline did;
- Express bus routes now using Campbell and Albion Streets in Surry Hills could be deleted.

Looking to the longer term, preliminary examination of plans for the Eastern Suburbs Railway have shown that the benefits, in terms of travel time to the CBD compared with buses, diminish substantially for stations between Randwick and Kingsford. Bus-rail interchange stations are currently planned at Randwick Junction and Kingsford Junction. The section of the railway to Bondi Junction is scheduled for completion in 1975 and construction of this section is in progress. Plans for construction past Bondi Junction have not been finalised and no firm commitments to send them out for tender have yet been made by the Railways Department.

Commuters in the Clovelly, Randwick and Kingsford areas enjoy a relatively free outwards run along Anzac Parade via an exclusive busway located on the old tramway alignment. Congestion due to traffic is experienced only in the section along Flinders and Oxford Streets and within the CBD.

Proposals have been put forward (at least within the State Planning Authority) to provide an underground link between this busway and an unused pair of tunnels leading into the St. James Underground Railway Station. Such a scheme could have some merits and could,



in fact, be significantly cheaper than extending the Eastern Suburbs Railway from Bindi Junction to Kingsford. No engineering feasibility study has been carried out and at this stage such a study would be premature. If the plans for the Eastern Distributor and Eastern Expressway, as now envisaged, are adhered to, serious engineering problems are likely to be encountered.

However, there is now a strong prima facie case for scrapping these expressway plans as now envisaged; or at most providing merely local grade separated improvements to relieve major bottlenecks. Under these conditions a specially constructed busway link between Moore Park and the CBD and along the general alignment of Flinders and Oxford Streets should not be overlooked.

Location of this link underground and utilising St. James Station as a terminal would effectively separate buses or other transit vehicles from surface traffic but the economic viability of this scheme (although likely to be much cheaper than extending the Eastern Suburbs Railway past Bondi Junction) is still open to considerable doubt. Tunnelling is expensive and cut and cover construction, likely to be required along part of Flinders Street, would require substantial land acquisition and probably substantial major utility relocations. More importantly, the benefits are somewhat obscure as the terminal point (St. James) would be on the near perimeter of the CBD in relation to the south-eastern suburbs and the system would not distribute people throughout the CBD.

Another factor previously noted is the problems associated with moving large crowds from the Moore Park Sporting Arenas. Discussions will be held during 1973 with Mr. Walter Bunning (a noted Sydney architect) who was in Munich studying the effectiveness of the Munich public transport system in coping with this problem during the 1972 Olympic Games. His findings should be considered and, if necessary, used as input to any analysis concerning further strengthening of the public transport links between Moore Park and the CBD, in addition to the concept of an exclusive busway along Flinders and Oxford Streets.

Railway Station at Woolloomooloo: The feasibility and desirability of a station at Woolloomooloo is closely inter-related with the potential demand that may arise from a large workforce in the Woolloomooloo basin; and also with the capacity of the rail line and more importantly the capacity of the Town Hall station to handle the passengers changing trains. A station will not be necessary unless a large workforce develops. Previous discussions with the Project Director of Action Plan No. 7 dealing with



Woolloomooloo indicate that this is most unlikely to happen. But, owing to the previous submissions made concerning Woolloomooloo, this may still require testing and comment as part of the final report.

Ferry Terminal at Woolloomooloo : If a large office complex is to develop in the Woolloomooloo basin, there will be good potential for a ferry terminal in Woolloomooloo Bay to serve commuters from north of the Harbour and, in particular, Manly-Warringah. However, such a terminal would be dependent on a very large workforce. As indicated herein this is most unlikely and consequently no further investigation is now proposed.

Taxis and Tourist Buses: It is hoped that SATS will provide trip tables showing origins and destinations of taxi passenger trips and also the intensity of taxi passenger trip generation within the next two months. This will provide a basis for policy recommendations regarding taxis.

Tourist bus facilities will be considered in the context of this Action Plan covering the Eastern District B and also in the context of individual action plans for the different precincts being studied in detail. Work on this will commence later this year following further inputs from the relevant Project Directors concerning their respective Action Plans.



3.2 Roads and Traffic

Long Term Planning : The principal traffic problem within the District is that much of the through traffic passing through the District should not be in it at all. Basically, traffic within the District can be divided into six components. These are :-

- 1) Local traffic generated within the District and having both origin and destination within the District;
- 2) Traffic generated within the District and having an origin or destination elsewhere;
- 3) Through traffic between the CBD and the Eastern Suburbs;
- 4) Through traffic between the Eastern Suburbs and the Western and Northern Suburbs;
- 5) Through traffic between the CBD and Southern Suburbs and Kingsford Smith Airport;
- 6) Through traffic between the Sydney Harbour Bridge and the Southern Suburbs and Kingsford Smith Airport.

The basic principles that should be followed in providing for these six components are as follows :-

The local, sub-arterial and arterial road and street system of the District should be planned to cater for components 1 and 2. The arterial road system should be planned to cater for components 3 and 4. Component 5 should be generally confined to the arterial road system flanking the District in the short term and the Southern Freeway in the long term. Component 6 should be diverted away from the District to the western side of the CBD and in the long term to the Southern Freeway. Figure No.12 shows diagrammatically the desire lines of these six components.

Following receipt of the relevant technical information from SATS summarising trip tables and trip ends data for 1971, it will be possible to evaluate the extent of each of these six components for 1971. Land use, workforce and population projections for the City of Sydney, the Eastern Suburbs and other relevant parts of the metropolitan area will provide an estimate of the extent of these six components for future years 1980, 1990 and 2000.

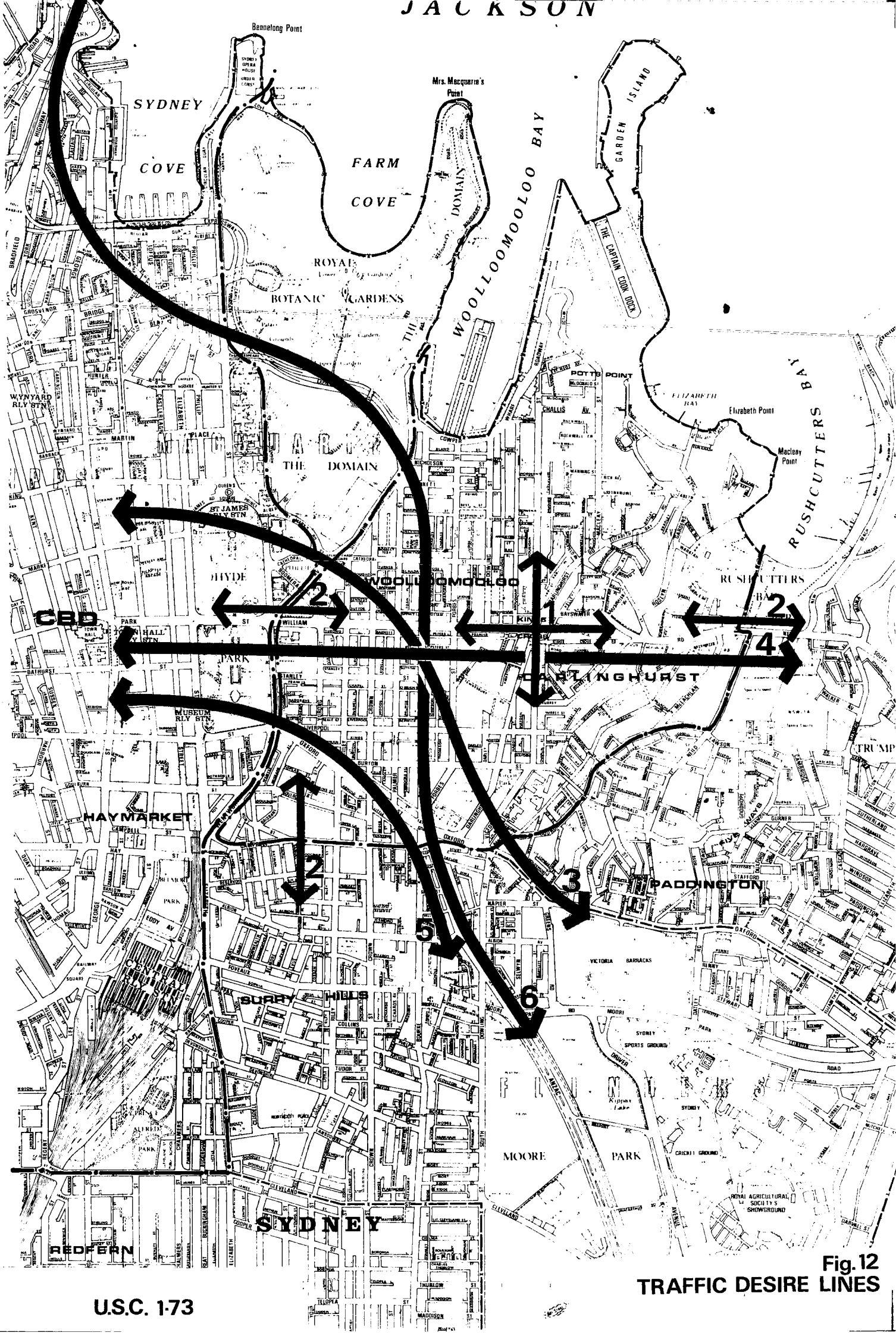


Fig.12
TRAFFIC DESIRE LINES



Notwithstanding the delay in receipt of the 1971 trip table and trip end information from SATS, it is possible to postulate in the light of happenings since preparation of the Strategic Plan, possible alternative future roadwork programmes that may have varying effects on traffic in Eastern District B.

The City of Sydney Strategic Plan recommended a road use classification for the City of Sydney for the period 1976-1980, and for the period after 1990; these being based on the existing road system plus planned freeways including committed projects like the Western Distributor Stage I, the North Western Freeway Stage I, the Kings Cross Road Tunnels and the Eastern Distributor Stage I (William Street Underpass). It also presupposed completion of the Eastern Suburbs Railway to Kingsford and that the planned DMR freeway system would ultimately be completed to serve a CBD workforce of 360,000 to 400,000 by the year 2000.

Data which has been made available subsequent to the completion of the Strategic Plan, indicates that the postulated workforce level of 360,000 may not be reached by the year 2000. In addition local opposition to freeway construction in Leichhardt is likely to severely restrict the freeway system in the inner suburban areas.

There now appears good reason to work on the assumption that the Western Freeway as now planned may be abandoned between Annandale and Sydney and that the Western Distributor will be completed in a much more simplified manner and not the complex multi deck structure now planned.

Consideration of the likely growth of the Eastern Suburbs indicates that the Eastern Distributor and Eastern Freeway as now planned is likely to be scrapped. A revised hierarchy of roads for the post 1990 period has, therefore, been prepared on the basis that :-

- a) The Western Freeway between the CBD and Annandale will be abandoned as a full scale freeway. This does not imply that elements of it may not be built to clear local bottlenecks or that a two lane facility to serve as a peak hour busway and an off peak truckway may not be built in lieu of the planned four carriageway - twelve lane freeway.
- b) The Southern Freeway will probably be constructed from Hay Street southwards along the planned route to link up with the section of the Southern Freeway now under construction between the Kingsford Smith Airport and Alexandria. This does not imply that it will finally emerge as a four carriageway - twelve lane facility as now planned. It is possible that it might end up as a four or six lane facility only with a reduced number of interchanges between the CBD and the airport.



- c) The Western Distributor will not be a double deck structure to serve the Southern and Western Freeways as now planned but may finally emerge as a revamped surface street link between the existing Western Distributor Stage I and a modified Southern Freeway.
- d) The North Western Freeway Stage I will be completed as now planned and will be extended to link with a future bypass expressway or freeway between the airport and Rozelle. It could follow the currently planned route between Ultimo and Rozelle or could be realigned to link with Western Freeway to Annandale. The nett result of this latter alternative would be that Leichhardt instead of being gravely disrupted by a major twelve lane freeway and a six lane freeway might be affected by only one four or six lane facility possibly on part of the route of the currently planned twelve lane freeway.
- e) The Eastern Freeway east of Anzac Parade will be abandoned and the Eastern Distributor between the Cahill Expressway and Anzac Parade will be substantially scaled down in size.

Figures Nos.13 and 14 show in diagrammatic form the effect of such revisions.

A consequence of this is that the Goulburn and Campbell Street connectors between the Eastern and Western Freeways may not need to be as elaborate as previously planned.

Even if a reduced freeway network such as that proposed in Figure No.14 is adopted in lieu of the current plan, some major roadworks will still be required. The present position concerning projects under construction or planned for construction in the near future is :-

- a) The Western Distributor Stage I has recently been completed.
- b) Plans have been prepared for the reconstruction of Railway Square.
- c) The Kings Cross Road Tunnels are now under construction and are scheduled for completion in 1974-75.
- d) Preliminary work has commenced on the North Western Freeway Stage I and this will be completed in stages between 1977 and 1980. Progress will be subject to availability of funds.



KEY



Major freeway



Freeway

U.S.C. 1-73

Fig.13
PLANNED FREEWAY
SYSTEM

Fig.14
REDUCED FREEWAY
SYSTEM



- e) Final plans are being prepared for the Southern Freeway between the Kingsford Smith Airport and Alexandria. Progress will be subject to availability of funds.
- f) Final plans are being prepared for the construction of the Eastern Distributor Stage I (William Street Underpass). Progress will be subject to availability of funds.
- g) Plans are being prepared for the extension of the Southern Cross Drive to General Holmes Drive. Progress will be subject to availability of funds.
- h) Botany Road is being progressively widened from Mascot northwards.
- i) Chalmers Street north of Devonshire Street will be reopened following the opening of the Eastern Suburbs Railway.

All of these projects will have some bearing on the traffic patterns in Eastern District B. Projects (a) and (b) - the Western Distributor Stage I and Railway Square will considerably relieve traffic on the western side of the CBD. The imminent removal of the City Markets will provide further traffic relief and allow for relatively simple upgrading of a route from the Sydney Harbour Bridge via the Western Distributor, Day Street, Harbour Street and Goulburn or Hay Street to George Street and Railway Square in the short term. With Regent Street reverting to two way operation traffic would have an additional alternative route along Pier Street, Harris Street to Regent Street.

Upgrading these routes would allow for some diversion of traffic components 5 and 6 referred to on page 29 from the eastern to the western side of the CBD.

Projects (c) and (d) - the Kings Cross Tunnels and the North Western Freeway Stage I would strengthen Park Street, William Street as a major east-west traffic artery. Traffic would be drawn from Liverpool and Burton Streets and also from the route via Cowper Wharf Roadway, Macleay Street, Greenknowe Avenue and Waratah Street. The success of this diversion of through traffic from these other routes will be dependent on the ease of traffic turning to and from Park and William Streets at intersections such as College Street, Bourke Street and Palmer Street.

Project (e) - The Southern Freeway is the first step in directly relieving major traffic bottlenecks on the Princes Highway between Darlington and Tempe. Notwithstanding the widening of Cooks River Bridge some years ago, no significant work to relieve very serious bottlenecks further north on the Princes Highway has been



undertaken. This has been reflected in the traffic flows between 1965 and 1971 which indicate that the sections of the Princes Highway north of Tempe have reached saturation. By contrast significant work has been done to increase the capacity of the General Holmes Drive. This combined with the construction of the Southern Cross Drive has led to provision of more attractive bypasses for traffic components 5 and 6 to the east of the CBD than to the west and hence overall traffic increases in the eastern sector.

Projects (f) and (g) - Stage I of the Eastern Distributor and extension of the Southern Cross Drive will further lead to roads on the eastern side of the CBD being more attractive to traffic components 5 and 6 than roads on the western side of the CBD. But completion of these projects will throw an additional load onto Taylor Square, Flinders Street, Crown Street and Bourke Street.

Project (h) - widening of Botany Road could provide relief to other routes provided St Pauls Place and Cleveland Street between St Pauls Place and Elizabeth Street are widened. This project would assist traffic component 5.

Project (i) - reopening of Chalmers Street will marginally assist in emphasising College Street, Wentworth Avenue and Elizabeth Street as a major north-south surface arterial road for traffic component 5.

Completion of all of these projects is likely within ten years but will leave a road system with very significant gaps. These are :-

- i) Lack of continuity for traffic components 5 and 6 from the CBD and Western Distributor across Broadway and the Main Western Railway to the Southern Freeway at Alexandria.
- ii) Lack of continuity for traffic components 3, 5 and 6 between Dowling Street, Anzac Parade and the William Street Underpass (Stage I of the Eastern Distributor).

Consequently, as an alternative strong consideration should be given to reevaluating the schedule of those projects on which construction has not yet started with a view to deferring one or more in favour of improving in the medium term the continuity on the projects retained.

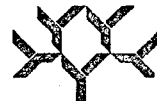
When additional data from SATS becomes available it should be possible to test as part of a 1980 Road Network the viability of some or all of the following alternatives :-



- 1) Including all of Projects (a) to (i) as listed on pages 32 and 33.
- 2) Completing a section of the Southern Freeway between the City and Alexandria at the expense of both Stage I of the Eastern Distributor (Project f on page 33) and the extension of the Southern Cross Drive (Project g).
- 3) Including all of Projects (a) to (i) as listed on page plus complete widening of St Pauls Square and Cleveland Street between St Pauls Square and Elizabeth Street, widening of Elizabeth Street north of Cleveland Street and complete widening of Regent Street and Botany Road south of Cleveland Street.
- 4) Constructing additional stage of the Eastern Distributor under Taylor Square and along Flinders Street and deferring the Southern Freeway (Project e on page 33).
- 5) Constructing a freeway between the Airport and Rozelle and deferring the Southern Freeway (Project e), Stage I of the Eastern Distributor (Project f) and the extension of the Southern Cross Drive (Project g).

Factors that will be evaluated and used as input following receipt of the relevant data from SATS include :-

- i The potential population, workforce and traffic growth in the Eastern Suburbs and elsewhere in the inner metropolitan area.
- ii) The likely growth of the CBD workforce.
- iii) The likely distribution of traffic in Eastern District B following the opening of the Kings Cross Tunnels.
- iv) The feasibility of attracting commuters from private car to rail following opening of the Eastern Suburbs Railway.
- v) The possible changes in CBD oriented traffic that may arise as a result of variations in parking policy and pricing within the CBD and on its eastern and western perimeters.
- vi) The likely future through traffic on the Sydney Harbour Bridge as a result of alternative policies concerning CBD parking and reversible and bus lanes on the Bridge.



The planned procedure is to test the suitability of the road system shown in Figure No. 14 as a viable system to serve the City of Sydney for the year 2000; make the necessary modifications and then test the alternative 1980 stage systems to determine the most suitable stage leading to the optimum solution for the year 2000.

Figure No. 15 shows a functional hierarchy of roads which should be sought in the short term (1973-1976) in the light of committed projects now under construction.

Figure No. 16 shows a functional hierarchy of roads which should be suitable for the year 2000 in the light of factors outlined in this Report.

Short Term Opportunities : Notwithstanding that further investigation is required to formulate a viable long term plan and the medium term staging necessary to achieve this plan; there are a number of opportunities which should be grasped now. These can be grouped into three categories, viz :

- Traffic Management and Restraint (immediate)
- Restructuring the Bus Route System (1975)
- Planning Incentives (as opportune with redevelopment)

The principal objective to be sought is to confine non-local traffic to the arterial road system as far as possible. Traffic management techniques are based principally on regulating the number of vehicles parked within District B and restraining through traffic from using non-arterial roads.

The future increase of parked vehicles within the CBD will be tightly restricted by the Parking Control Code. But this same document does provide for substantial parking on the perimeter of the CBD consistent with future increases in the capacity of the road system serving the CBD. An Action Plan was prepared to plan and programme for special offstreet parking stations on the Western Perimeter of the CBD. This Plan was prepared on the basis that about 80% of perimeter parking should be provided on the western side of the CBD, with the location of the balance to be determined following further investigation. It was originally envisaged that most, if not all, of the additional 20% would be located on the Eastern Perimeter of the CBD probably in proximity to College Street. There is

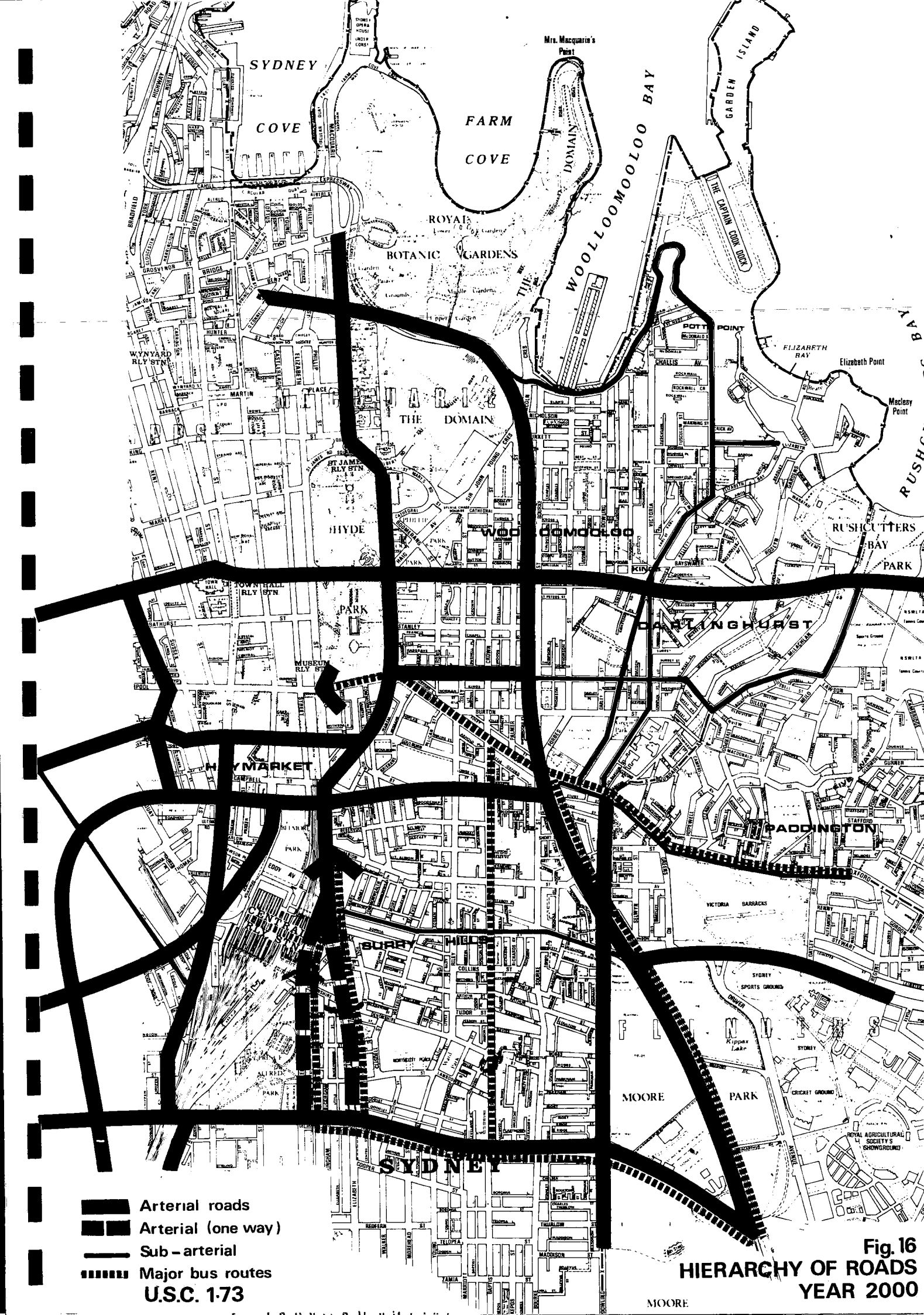


Fig.16
HIERARCHY OF ROADS
YEAR 2000



now reason to doubt whether this approach is correct and the whole concept of Eastern Perimeter Parking for the CBD requires review.

Factors to be considered include the current usage of the Domain Parking Station, the current usage of kerbside space in Woolloomooloo and Surry Hills by commuters to the CBD and to Woolloomooloo and Surry Hills, and the capacity of the local street system to accommodate substantial additional parking.

The following facts are relevant :-

- There is insufficient parking in Surry Hills for the local workforce and residents. The extent to which additional offstreet parking should be provided to serve the existing workforce will require evaluation following receipt of the relevant data from SATS. Car ownership among the local residents in Surry Hills is low but is increasing. As the area continues to become more fashionable the resident car population will continue to increase and could double. This would still be well below the average car ownership for the metropolitan area but would place a substantial additional burden on the available kerbside space. If the area is substantially renovated rather than redeveloped the provisions of the Parking Code would not apply and an increase in offstreet spaces available to local residents would not eventuate. Under such circumstances, it may be necessary to give priority to residents and restrict workers in Surry Hills and commuters to the CBD. A similar situation arises in Woolloomooloo.

- The north-south bypass roads on the eastern side of the CBD are generally more attractive than those on the western side in the context of the area between the Sydney Harbour Bridge and the Kingsford Smith Airport. This situation cannot be changed significantly within five years irrespective of which of the alternative programmes of major roadworks, as listed on page 34 of this Report, are chosen. Consequently, the value of traffic restraint measures to restrict traffic in Bourke and Crown Streets as suggested herein will be negated if substantial additional parking is provided on the Eastern Perimeter of the CBD.

- A major parking station over the Kings Cross Tunnels is essential for the continuing economic health of the Kings Cross area. It is hoped that measures can be introduced to ensure that this station serves as a facility for the Kings Cross area and not as a commuter parking station for CBD workers. Details have yet to be worked out.



- The amount of development (and hence offstreet parking) now being proposed along College Street between William Street and Oxford Street is much greater than originally envisaged. For example, application of the Floor Space Ratio Code and Parking Control Code as relevant to the Oxford Street Precinct to the Sydney Grammar School site (which is not unreasonable) will add several hundred car spaces to that area. Any proposal to provide Eastern Perimeter Parking in addition to the parking requirement of the development on the site would have to be critically reviewed. The problem is further compounded by the need to keep the approaches to the intersection of College, Park and William Streets clear of traffic friction. This is necessary to develop William Street as the main traffic artery serving the north-eastern suburbs and to reduce the through traffic on Liverpool and Burton Streets following the opening of the Kings Cross Tunnels.

In addition to placing some restraint on unnecessary traffic generation on the eastern side of the CBD, the following measures are suggested to assist in providing relief from through traffic on Bourke and Crown Streets within the Surry Hills Residential Village Precinct :-

- a) Retime traffic signals at the intersections of Cleveland Street and Bourke Street and Crown Street to favour east-west movement along Cleveland Street and discourage north-south traffic in the other two streets.
- b) Convert Bourke and Crown Streets back to two-way operation south of Fitzroy Street, Surry Hills.
- c) Convert Flinders Street between Taylor Square and Moore Park Road to one-way south with special provision for exclusive bus lanes for two-way bus travel following completion of the Eastern Suburbs Railway as far as Bondi Junction.
- d) Widen Fitzroy Street between Dowling Street and Crown Street to allow easier movement of one-way traffic west-bound between Dowling Street and Crown Street.
- e) Widen the western leg of Cleveland Street at the Cleveland Street-Dowling Street intersection to facilitate turning movements and allow retiming of the signals to more strongly favour Dowling Street.



Other short term opportunities should be seized as they arise to facilitate traffic flow on Cleveland Street and make this important ring road more attractive to east-west traffic seeking to bypass the City. Two of the more obvious opportunities in addition to those listed previously are to :-

- Impose continuous parking restrictions on both sides of Cleveland Street during business hours.
- Realign the junction of Cleveland and Elizabeth Streets to allow the smooth flow of two lanes of traffic in each direction along Cleveland Street.

In addition there are short term opportunities to increase the capacity of Moore Park Road by improved traffic management and to discourage traffic in Oxford Street through Paddington. However, these are accompanied by problems created by funnelling increased traffic on Moore Park Road and also on Dowling Street into Flinders Street. Notwithstanding that diverting traffic from Oxford Street to Moore Park Road is desirable, the question is whether it is more desirable than diverting traffic from Bourke and Crown Streets to Dowling Street and Flinders Street. There is no real short term solution to this problem but a longer term solution may well be to provide better continuity for north-south traffic on the western side of the CBD and divert as much traffic as possible to that side of the CBD.

3.3 Review of Effects of the Parking Control Code

Oxford Street Precinct (B1)

The Parking Code specifies one space per 300 square feet of site area as the maximum parking that may be provided for commercial activities. It also specifies minimum standards for on-site provision of parking for hotels, residential flat buildings and certain other land uses not associated with office development; and minimum standards for total parking to be provided either on-site or elsewhere to serve office buildings.

These minimum standards will not be in conflict with the limit of 1 space per 300 square feet of site area except in the case of office development with a floor space ratio of greater than 6.67 to 1 or a major hotel with a floor space ratio of greater than approximately 3.5 to 1.

Floor space ratios for office development could exceed 6.67 to 1 only on a site of greater than 53,300 square feet. Preliminary assessment of the Precinct and the likely market for office space indicates that in practice floor space ratios of greater than 6 to 1 are unlikely to be achieved.

Consequently, no contributions to the Parking Stations Fund are likely in this Precinct. Discussions on this basis have previously been held with representatives from Development Planning and Research Associates who are carrying out the Action Plan for this Precinct.

William Street (Boulevard) Precinct (B2)

The Strategic Plan has suggested that the William Street Boulevard could be flanked with buildings with continuous frontages of hotel, shop, showroom and entertainment uses and topped by hotel, entertainment, professional and consulting rooms, offices and residential uses.

The Parking Control Code specifies a maximum on-site provision of one space per 450 square feet of site area. For approximately 8 acres this represents about 800 cars. As the Code also requires a developer to provide one space per 2,000 square feet of gross floor area, any floor space ratio above 4.45 to 1 would require contributions to the Parking Stations Fund. For example, an average floor space ratio of 9 to 1 would lead to a special parking station of 800 car capacity. The desirability of substantial perimeter parking



in Eastern District B is, at present, questionable, as the amount of additional parking needs to be integrated with increases in road capacity. This is as yet undetermined.

A parking station over the Kings Cross road tunnels will be necessary to serve the current needs of Kings Cross and the amount that would be available to serve William Street is as yet undetermined.

If the Sydney Grammar School site is extensively redeveloped, it will require a substantial amount of on-site parking to serve its own needs and the possibility of a perimeter parking station may not now exist. Consequently, there may be a limit to the density of development that should be permitted along William Street.

Stanley Street Precinct (B3)

The Parking Code makes the same provision for off-street parking in this Precinct as in the Oxford Street Precinct. The Strategic Plan indicates that it should be primarily residential; and the Floor Space Ratio Code limits the floor space ratio to 2 to 1.

Consequently, no significant increase in off-street parking due to new traffic generators is envisaged at this stage.

Woolloomooloo Precinct (B4)

This was the subject of a study by the State Planning Authority which led to recommendations for an intensified development with an envisaged workforce of 35,000. The SPA apparently made some fundamental errors in calculating the likely workforce that could be accommodated in the area, and the Commonwealth Government and several private developers formulated plans which could have led to a workforce of up to 100,000 in the area. It has since been generally accepted that this workforce density was far too high and the Commonwealth Government have since decided to move out.

This is likely to induce a downward spiralling effect on the viability of the Gateway proposal; and the whole concept of massive office development within the Woolloomooloo Precinct looks like being abandoned. It is understood that the Action Plan for this area is now being mainly directed to the concept of the Strategic Plan, which stated that the Woolloomooloo valley, excluding the Boulevard frontages of the William Street Precinct, should be re-established as much as possible in predominantly residential uses. Attainment of this objective will substantially reduce, if not entirely eliminate, the need for special parking stations to serve the Woolloomooloo Precinct.



However, to ensure that these objectives are attained it is proposed to study the capacity, in terms of workforce, of this Precinct in the manner outlined in the original submission concerning this Action Plan.

Kings Cross Precinct (B5)

The Parking Code specifies a maximum on-site provision of one space per 900 square feet of site area; and for the developer to provide either on-site or elsewhere one space per 2,000 square feet of floor area. This implies parking station accommodation for all spaces provided in respect of all floor space over a ratio of 2.22 to 1. As the Floor Space Ratio Code allows for development within this Precinct, up to a floor space ratio of 6 to 1, it will be necessary in contingency planning to plan for at least one parking station to serve this Precinct.

It was previously envisaged that a major parking station within the 'Victoria Point' area bounded by Victoria Street, the McElhone Stairs, Brougham Street and Rowena Place, might be appropriate. However, its general accessibility by road and its proximity to the Kings Cross Precinct and Kings Cross Railway Station is less than desirable. Consequently, as a first priority, investigations are being directed towards the feasibility of locating a parking station over the Kings Cross road tunnels.

The capacity of the intersection of Darlinghurst Road and Victoria Street, over the western portal of the Kings Cross road tunnels, will be the governing control of the permissible size of a parking station over the tunnels as about 80% of the likely traffic generated by this parking station would pass through the intersection. For this reason, the capacity of the station should be limited to about 1,500 cars with both entry and egress on both Kings Cross and Craigend Streets.

Alternatively, instead of one major car parking station with a capacity of 1,500 cars, it may be preferable to reduce the size of this station to, say, 1,000 or 1,200 cars and provide the balance in one or two smaller stations on either Victoria Street or Kellett Avenue/Ward Avenue.

The Potts Point - Elizabeth Bay Precinct (B6)

This is within District Z as defined for the purpose of administering the Parking Control Code for New Development. Consequently, no restrictive controls on off-street parking were proposed as the principal objective is to make adequate provision for off-street parking for all vehicles within the Precinct.



The Strategic Plan envisages a high density, yet quiet and purely residential Precinct, free of through traffic without further intrusion by hotels, motels or entertainment uses. The Floor Space Ratio Code generally limits development to an overall floor space ratio of 2 to 1. Consequently, no conflict exists between the objectives of the Parking Code and those of the Floor Space Ratio Code.

Therefore, there is no need for special provision for parking stations to serve new development within this Precinct.

Darlinghurst Precinct (B7), Taylor Square Precinct (B8), and Rushcutters Bay Precinct (B9)

These Precincts are within District Z as defined in the Parking Code. Consequently, no restrictive controls on off-street parking have been proposed. The Floor Space Ratio Code restricts redevelopment, where such is appropriate to the provisions of the Strategic Plan, to a maximum of 3 to 1.

Detailed action planning is currently being carried out by Urban Development and Planning Associates for these Precincts and liaison is being maintained concerning this.

Further investigations will be necessary before any firm statements can be made concerning the need for parking stations to serve these Precincts.

West Surry Hills Precinct (C1)

The provisions of the Floor Space Ratio and the Parking Control Codes are almost identical to the Oxford Street Precinct. The review of that Precinct is relevant here.

Flinders Street Precinct (C2)

Some conflict between the two codes could occur. This will require review as part of the Revision to the Strategic Plan.

Surry Hills Residential Village Precinct (C3)

This is in District Z as defined in the Parking Control Code. Consequently, no restrictive controls on off-street parking were proposed as the principal objective is to make adequate provision for off-street parking for all vehicles within the Precinct.



3.4 Pedestrian Facilities

The inadequacy of the street system within District B to handle the existing volumes of traffic without creating constant conflict with the pedestrian actually using the land within the District requires the introduction of a street network hierarchy. As recommended in the Strategic Plan, certain roads are being designated as major or minor arterials and will have the prime function of carrying traffic. Consequently, properties aligning these roads should be low generators of pedestrians, and the movement of pedestrians across these roads must be catered for by means of tunnels or bridges.

Land uses which generate high pedestrian volumes should not face on to arterial roads but should be sited on local roads within an island surrounded by arterials. Hence, pedestrian movements on these local streets will not have fast through-traffic to cope with and will be able to co-exist with the motor vehicle. The only construction required will be grade separated crossings of the arterial roads.

In places it may be possible to create malls in streets relieved of their through-traffic, but in others, such as Kings Cross, it may be thought desirable to retain some of the excitement of congestion and conflict. Despite this, Kings Cross should be considered as a pedestrian precinct, and as such is a good case study for pedestrian facilities recommendations.

The pedestrian pattern within Kings Cross is going to undergo a drastic change following the completion of the Kings Cross Railway Station and so there is a need to examine the distribution of pedestrians away from this point.

It should be possible to extend the concourse easterly under Darlinghurst Road into the Kellett Street area to get people onto both footpaths of Darlinghurst Road.

There should be a further extension southwards under Victoria Street to the Kingsgate site and the northern footpath of William Street.

As an alternative to the underpass, one or more overpasses on Darlinghurst Road could be considered.

With increased pedestrian activity in the southern part of Kings Cross Precinct (through redevelopment in the area), there will be



a need to explore a variety of ways to improve pedestrian links and flows. The essential means of movement in Kings Cross is predominantly by foot - it is a pedestrian precinct. In some locations; there should be better linkages between activities.

Also, footpaths and pedestrian ways may have to be widened so that proper pedestrian amenities can be built into the footpath, i. e. drinking fountains, seats, street trees and litter bins. Set backs, colonnades and continuous cover awnings may be needed. However, the sense of busy crowded footpaths should not be lost completely for this adds to the excitement of Kings Cross and makes life on the street a lively business.

Perhaps the most significant problem with pedestrian movement in Kings Cross will be the surface movement across the main Kings Cross intersection when the tunnels are built. Although the road has been tunnelled to relieve surface congestion caused by through traffic and local traffic conflicts there is, according to the new designs, a far greater problem for the pedestrian moving from the vicinity of the Kings Cross Railway Station to Darlinghurst than there is at the present time. Although a footbridge has been proposed and suggestions have been made to extend the tunnel (to facilitate pedestrian movement) to the west, there is no clear indication from any authority that property provision will be made for pedestrians moving in increasing numbers between Kings Cross and Darlinghurst.

The Action Plan will recommend improvements for pedestrian movement across this intersection.

There will also be a need to create pedestrian bridges over Kings Cross Road and Craigend Street to link to the proposed parking station built over the tunnels to development on either side.



4.0 WORK PROGRAMME - 1973

The proposed Work Programme for 1973 includes a carry over of the work uncompleted in 1972 due to the delay in receipt of SATS data. The extent of evaluation of alternatives will be subject to budget control. Detailed statements of the tasks involved are as follows :

Parking

- a. Estimate the future parking, on the basis of SATS Revised Traffic Zones, that would be required for different levels of population and workforce.
- b. Examine the effect that the Parking Policy and Control Code for New Development has had on parking within the District during 1972-1973.
- c. Make recommendations concerning the rectification of any anomalies in the Parking Control Code as may be discovered as a result of (b) above.
- d. Assess the need to locate within District B parking stations intended to serve the CBD.
- e. Make detailed recommendations concerning the necessary staging and financing of car parking stations compatible with the development of this District.
- f. Make detailed recommendations concerning the size of, access to, and staging of parking stations to serve the Kings Cross Precinct.

Traffic

- a. Examine the distribution of origins and destinations of existing traffic passing through District B.
- b. Examine the distribution of origins and destinations of existing traffic with either an origin or destination in District B.
- c. Test the capability of the existing road system within and adjacent to District B (including partially completed and committed projects) to carry the future traffic generated by alternative population and workforce levels in the CBD, District B, the Eastern Suburbs and relevant other sectors within the metropolitan area.



- d. Test the capability of various alternative road systems within and adjacent to District B to carry the future traffic generated by alternative population and workforce levels in the CBD, District B, the Eastern Suburbs and relevant other sectors within the metropolitan area.
- e. Investigate the possible changes in CBD oriented traffic that may arise as a result of variations in parking policy and pricing within the CBD and on the eastern and western perimeters of the CBD.
- f. Make specific recommendations concerning high priority roadworks arising from investigations (a) and (b) above.

30

Public Transport

Do 1/2 day
drafts men

- a. Prepare an inventory of the location of taxi ranks within District B.

- b. Examine the distribution of origins and destinations of existing public transport passengers passing through District B.

2 days

- c. Examine the distribution of origins and destinations of existing public transport passengers with either an origin or destination within District B.

Trip
Matrix

Delete

- d. Prepare coded network maps representing various alternative selections of public transport networks to serve District B.

Discuss

- e. Examine the distribution of origins and destinations of existing taxi passengers with either an origin or destination within District B.

5

- f. Examine the alternative public transport proposals that could serve the Oxford Street and Taylor Square Precincts.

3

- g. Assess the optimum location of bus routes and terminals to serve the District following the opening of the Eastern Suburbs Railway in 1974-75.

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- h. Assess the optimum location of taxi ranks and of a possible ~~transit~~ bus terminal within the District.

tourist

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- i. Assess whether the planned redevelopment of Woolloomooloo could justify either a railway station or ferry terminal in the Woolloomooloo basin.

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Pedestrian Facilities

- 3 days* a. Liaise with other Project Directors in finalising pedestrian movement systems stemming from major traffic generators within or adjacent to District B.
- 2 days* b. Make specific recommendations concerning existing streets that can be closed in order to provide pedestrian malls or mini-parks.
- 2 days* c. Make specific recommendations concerning existing streets that can be closed to through traffic. 7

Land Use and Development

- 4 days* a. Carry out field surveys of pedestrian and vehicular traffic generated by various forms of land use within the CBD and Eastern District B.
- 2 days* b. Make specific recommendations concerning maximum land use intensities desirable in the context of the capacity of the transportation systems to handle this generated traffic.
- 2 days* c. Make specific recommendations on the desirability of retaining Garden Island as a naval base.
- 2 days* d. Make specific recommendations that may be required to equate development within the District to the likely availability of funds for major transportation projects. 10

Liaison

- 5 days* a. Maintain a continuing liaison with Project Directors of other relevant Action Plans.
- b. Establish a liaison with relevant community organisations and interest groups.
- c. Maintain effective liaison with the relevant State Government authorities concerned with roads and transport.
- d. Continue to liaise with other consultants, architects and developers involved in planning major building projects within the District and investigate and report to Council on Development Applications for any project likely to have a significant effect on traffic generation within the District. 5