

Action Plan No 4

CAR PARKING STATIONS ON THE WESTERN PERIMETER OF THE CENTRAL BUSINESS DISTRICT



The Council of the City of Sydney

**Urban Systems Corporation
in association with
McConnel Smith and Johnson and
W. D. Scott and Company Pty Ltd**

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THE WESTERN PERIMETER OF THE CENTRAL BUSINESS DISTRICT.**

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ACTION PLAN NO. 4

CAR PARKING STATIONS
ON THE WESTERN
PERIMETER OF THE CENTRAL
BUSINESS DISTRICT (CBD)

PREPARED FOR
THE COUNCIL OF THE
CITY OF SYDNEY

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McConnel, Smith and Johnson
and
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ADOPTED BY COUNCIL ON JULY 3, 1972.

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FOREWORD

Effective management, guidance and direction of a complex urban system like the City of Sydney must itself be a complex, systematic and continuous process. Effective City management can be generated only by repeated cycles of information, investigation, decision and action, followed by the feedback of new information regarding the effects of action taken.

By Resolution dated August 2, 1971, The Council of the City of Sydney adopted the City of Sydney Strategic Plan. Council formally adopted the four Objectives, the sixteen Policies and the 83 Priorities for Action of the Strategic Plan.

Following adoption of this Plan, Council is now engaged in implementing the City's strategic policies and priorities and towards this end the Council by Resolution dated December 6, 1971, adopted a Development Control and Floor Space Ratio Code and a Parking Policy and Parking Control Code for New Development in the City. Copies of these Codes are available for purchase at the City Planning and Building Department.

This present report sets out the Action Plan for Western Perimeter Car Parking. This Action Plan has been prepared within the framework of Council's Policies for -

Public Transport	: Policy 5
Roads	: Policy 6
Car Parking	: Policy 7
Pedestrians	: Policy 8

together with associated Policies for -

Retailing and Tourism	: Policy 10
and	
Urban Design	: Policy 14.

Section I
COUNCIL POLICIES
GOVERNING THIS
ACTION PLAN

SECTION I

COUNCIL POLICIES GOVERNING THIS ACTION PLAN

Council has resolved, under the Second Objective of the City's Strategic Plan, four Policies to improve the access into and movement within the City. These are :

POLICY 5 : PUBLIC TRANSPORT

Seek the modernisation of public transport, in stages, to create an integrated system of greater capacity, convenience and comfort

POLICY 6 : ROADS

Seek faster construction of roads bypassing the City; manage traffic inside the City to give priority to movements most vital to each Precinct

POLICY 7 : PARKING

Expand the system of parking stations around, and regulate parking inside, commercial Precincts, to relieve traffic congestion

POLICY 8 : PEDESTRIANS

Create an integrated city-wide pedestrian movement system, linking transport interchanges to each part of each Precinct.

Policy 7 and its five Action Priorities related to parking were formulated because of the necessity to limit the amount of, and control the distribution of, parking that should be made available within the City, particularly within the Central Business District (CBD) which consists basically of the Tank Stream, Midtown Hub and Brickfield Hill Precincts.

Council's adopted Priorities for Action under Policy 7 are :

- 7A Prepare and adopt a comprehensive Parking Policy for the City, having regard to projected needs for short term and commuter parking, the capacity of access routes to and within the City, and the necessity for regulations to govern the location and the use of parking spaces
- 7B Prepare and adopt a Parking Control Code for each Precinct, determining total requirements for parking to be provided for new projects by developers; regulating the portion of this total requirement which may be put on sites inside commercial Precincts; and regulating the provision and location of the remainder of the total requirement

Action Priorities 7A and 7B have been implemented by Council's adoption, at its meeting on December 6, 1971, of a comprehensive City Parking Policy and the City's Parking Control Code.

- 7C Plan for, and investigate potential means of financing, a system of major parking stations on the edges of commercial Precincts, with access from arterial roads, and linked by walkways, mini-buses or moving footways, to the core of each Precinct
- 7D Prepare action plans for such parking stations adjacent to and along the routes of the Western and Eastern Distributors to serve the Central Spine District, and proceed with the construction of a parking station to serve the Kings Cross Precinct

This Action Plan No.4, together with Council's Action Plan No.3 for the Wynyard Pedestrian Network - adopted by Council on November 8, 1971 - are significant steps towards the implementation of Action Priorities 7C and 7D.

- 7E Review kerbside parking throughout the City and investigate possibilities of reducing kerbside parking in commercial streets to make better provision for buses and taxis, and to widen footpaths

It may be necessary for Council to provide, or at least encourage, adequate perimeter parking to accommodate those vehicles which are generated by CBD activities and which cannot be accommodated on site. Much of this parking would be provided within the Western Parking and Business Precinct on the western side of the CBD in close proximity to the future Western Distributor, as shown in the locality plan (Figure 1).

This system of parking would -

- Provide parking near the entry and exit ramps serving the Western Distributor and North Western Expressway and yet close to the Tank Stream, Midtown Hub and Brickfield Hill Precincts
- Substantially reduce the volume of traffic on the street system within these Precincts
- Allow grade separated pedestrian connections via the city-wide pedestrian movement system between the parking stations and these Precincts.

In addition, Policy 10 calls for creation of short term parking to serve retailing activities in the Midtown Hub Precinct, and provision of parking immediately to the west of this Precinct would cater for that.



Fig. 1 Locality Plan – Western Perimeter Parking and Business Precinct.

Section II

RECOMMENDATIONS

SECTION II

RECOMMENDATIONS ADOPTED BY COUNCIL ON JULY 3, 1972

1. That Council provide a series of public parking stations in the Western Parking and Business Precinct to accommodate an additional 3,000 spaces by 1975 and a further 3,000 spaces by 1980, in accordance with the Strategic Plan and the Parking Policy and in accordance with the objectives and priorities set out in Section VI of this Action Plan.
2. That Council provide, as a first priority for the Western Parking and Business Precinct, possibly in collaboration with private enterprise, a major development project incorporating a parking station with provision for at least 600 cars, within the block bounded by Kent, Market, Sussex and King Streets.
3. That in addition to the existing parking meter account, Council establish a Capital Contribution Parking Fund to which will be credited as and when received, parking contributions paid by developers in lieu of on-site parking and Floor Space Bonuses, together with such other sources of revenue as Council may from time to time determine.
4. That Council adopt the Development Control and Floor Space Ratio Code for the Western Parking and Business Precinct, in order to provide for orderly integration of commercial development with major parking stations, and discourage development likely to prejudice the future orderly provision of parking within this Precinct, provided that Council may grant Bonus Floor Space in excess of that indicated as attributable to Bonus Element No. 1 in circumstances where the implementation of the Action Plan would be assisted.
5. That Council rationalise the street systems in areas where integrated redevelopment is being planned or programmed and allocate the net proceeds from the sale of surplus street and lane space for parking purposes.
6. That Council initiate a continuing series of surveys and studies of parking demand to examine in detail the patterns of usage and price, for commercial, off-street, on-site and Council-operated spaces.

7. That Council undertake a study of the actual usage of kerbside loading zones and investigate the possibility of metering kerbside loading zones.
8. That Council provide by realignment for the ultimate widening of Bathurst Street, between Sussex and Kent Streets, to allow for five traffic lanes in that section of Bathurst Street.
9. That Council provide by realignment for the ultimate widening of Liverpool Street on the north side between Kent and George Streets, to allow for two-way traffic operation within that section of Liverpool Street, thus providing an alternative route for southbound traffic in the event of that section of George Street in front of the Town Hall being closed for civic ceremonies, festivals, and allied activities.
10. That Council encourage integrated redevelopment of the central section of the block bounded by Kent, Druitt, Sussex and Market Streets to provide a public vehicular and pedestrian way, passing through the site and linking Sussex and Kent Streets, and close Druitt Place to through traffic.
11. That Council discourage, at least until the recommendations of the Sydney Area Transportation Study are known, any development likely to prejudice integrated redevelopment of the area bounded by Liverpool, Sussex and Hay Streets and the Western Distributor.
12. That Council initiate a series of traffic management studies associated with the completion of Stage 1 of the Western Distributor, North-western Expressway and Eastern Suburbs Railway, to evaluate the effects of these projects upon traffic movement and transport within the City.
13. That Council initiate the preparation of detailed three-dimensional development control plans for the three street blocks nominated in this Action Plan for priority action, namely :
 - 1st Priority : Block bounded by Market, King, Kent and Sussex Streets
 - 2nd Priority : Block bounded by Bathurst, Liverpool, Kent and Sussex Streets
 - 3rd Priority : Block bounded by Erskine, King, Kent and Sussex Streets

14. That Council liaise with private enterprise in developing parking stations in accord with the techniques recommended on pages 43 to 46 of Section VIII of this Action Plan.

Section III
THE NEED FOR ACTION
ON PARKING

SECTION III

THE NEED FOR ACTION ON PARKING

Every year in the life of the City brings with it greater transportation, traffic and parking problems. Public transport, especially that operating within its own right of way, must eventually take an increasing share of the burden. But, in the case of Sydney, the proportion of peak hour commuters travelling all the way into the CBD in their own vehicles (13 percent of the total) is already lower than in almost any other major city in the industrialised nations of the Western world. Only in London and New York is this proportion significantly lower. In other cities with extensive rail networks - for example, Chicago, Philadelphia, Boston and Toronto - it is significantly higher, being in the range 19 to 31 percent. In cities without rail networks - for example, Los Angeles, Detroit, St. Louis, Washington and Baltimore - and for which these are now being implemented or planned, the proportion is much higher again, being generally in the range 48 to 66 percent.¹

However, the level of service being provided by the public transport system now serving the Sydney CBD is gradually deteriorating. It is not likely to be improved without the subvention of massive sums of money to upgrade the system sufficiently to maintain the current status quo. If more people are to be diverted from motor vehicles to the public transport system, for part or all of the journey into the CBD, dramatic improvements in its efficiency and comfort will be essential. This has been demonstrated in Annexure D to the Strategic Plan on 'Traffic Projections and Capacity Restraints', which has quantified the order of the numbers of commuters which the railway system will have to carry in the future.

This is being considered as part of the current Sydney Area Transportation Study (SATS). Some of the major recommendations of this Study may well deal with the positive upgrading of Sydney Metropolitan public transport systems, with accompanying major expenditures. However, the results of this Study will not be available until 1973 and it will be necessary for the State Government to accept such recommendations and assign priorities for the detailed planning, financing and construction of these improved or completely new public transport systems. Such decisions are unlikely to have been finalised before 1975 and the completion of a major project is unlikely to occur within the ensuing ten years. For example, it will take approximately 11 years to complete the Eastern Suburbs Railway to Kingsford Junction, following the passing of the Act in February 1967, which authorised the continuance of earlier work on this project.

1 : Transportation and Parking for Tomorrow's Cities
(Wilbur Smith 1966)

Meanwhile, the City's needs are urgent. It is to the next ten to fifteen years, therefore, that this Action Plan is especially directed. There is no justification in assuming that the proportion of people travelling into the CBD by motor vehicle will decrease significantly, if at all, over the next ten to fifteen years.

However, if in the period 1985 to 2000, a twenty percent reduction in the demand for private car travel all the way into the CBD can be achieved, thus placing Sydney on a par with London and New York, a total of about 35,000 car spaces would still be required. This approximates the estimated requirement for the year 1980 based on a continuation to that year of the current modal split between private car and public transport. This is at present 13 percent and 87 percent respectively, and refers to the final mode of transport into the CBD. At present, there are an estimated 29,800 spaces within the CBD and the adjacent fringe areas of Ultimo, Surry Hills and Woolloomooloo.

It is therefore obvious that firm plans must be made to cater for the estimated requirements to the year 1980 and that options for further increases should be left open until the findings of the Sydney Area Transportation Study are known in 1973-74. A program for parking is needed to maintain economic activity in the City by meeting, as far as practicable, the demand for parking for essential vehicles, particularly short term visitor parking. Complete diversity of activities within the CBD will be achieved only if access by private car to the CBD is improved throughout the day and night. Visitors vitalise the City and need to be catered for. If kerbside parking is to be significantly reduced, even if not entirely eliminated, to allow vehicles and pedestrians to move more freely, adequate accommodation will be required off-street, for the traffic generated by CBD commercial floor space.

Overall, the proposed parking system comprises :

- A limited amount of on-site parking in existing buildings within the CBD with severe restriction of on-site parking in new buildings within the CBD
- ✓ - A limited number of special stations within the CBD, primarily for the use of visitors and short term parkers
- Existing and new parking stations on the perimeter of the CBD, close to expressways now under construction






- Provision for parking of delivery vehicles under buildings
- Kerbside spaces which would be gradually eliminated to reduce congestion as additional on-site and perimeter parking is provided.

A logical balance between these components is required. To achieve this, a comprehensive statement on Parking Policy, together with a Parking Control Code, have been prepared and adopted by Council. Figure 2 shows in broad outline the restrictive effect of this Code on parking within the Tank Stream, Midtown Hub and Brickfield Hill Precincts of the CBD. If these restrictions within these Precincts are to be maintained in the future, and if economic activity within the City is to be maintained, it will be necessary to provide for additional vehicles on the perimeter of the CBD. This principle is the same as is adopted in any regional shopping centre, but on an enlarged scale. In the case of a shopping centre, customers park their cars on the periphery and walk to the shopping and activity hub in the centre of the development. The repeated successes of such centres has demonstrated the efficiency of this concept. There is no reason why it should not be applied on a larger scale to the CBD as a whole.

The idea of building parking stations on the edges of central business districts directly fed from large bypass expressways is not new. These structures, with their associated on and off ramps, are now conceived as objects capable of giving form to the edges of central cities, of 'softening' the edge where the architecture of city buildings and of urban expressways can be related. (See Figure 3).

Precedents have been established overseas, notably in Detroit, USA and in Liverpool, UK. In fact, the City Council has already established precedents here in Sydney with the location of the existing peripheral parking stations at The Domain and Kent Street as close as possible to existing or proposed expressways, even though direct access was not available.

Controls on Density of Parking permitted
On-site in new Developments, as laid
down in Council's Parking Control Code
adopted 6th December 1971

-  Nil
-  50 Spaces per site acre
-  75 Spaces per site acre
-  100 Spaces per site acre
-  1 Space per 2500 sq ft of gross floor area

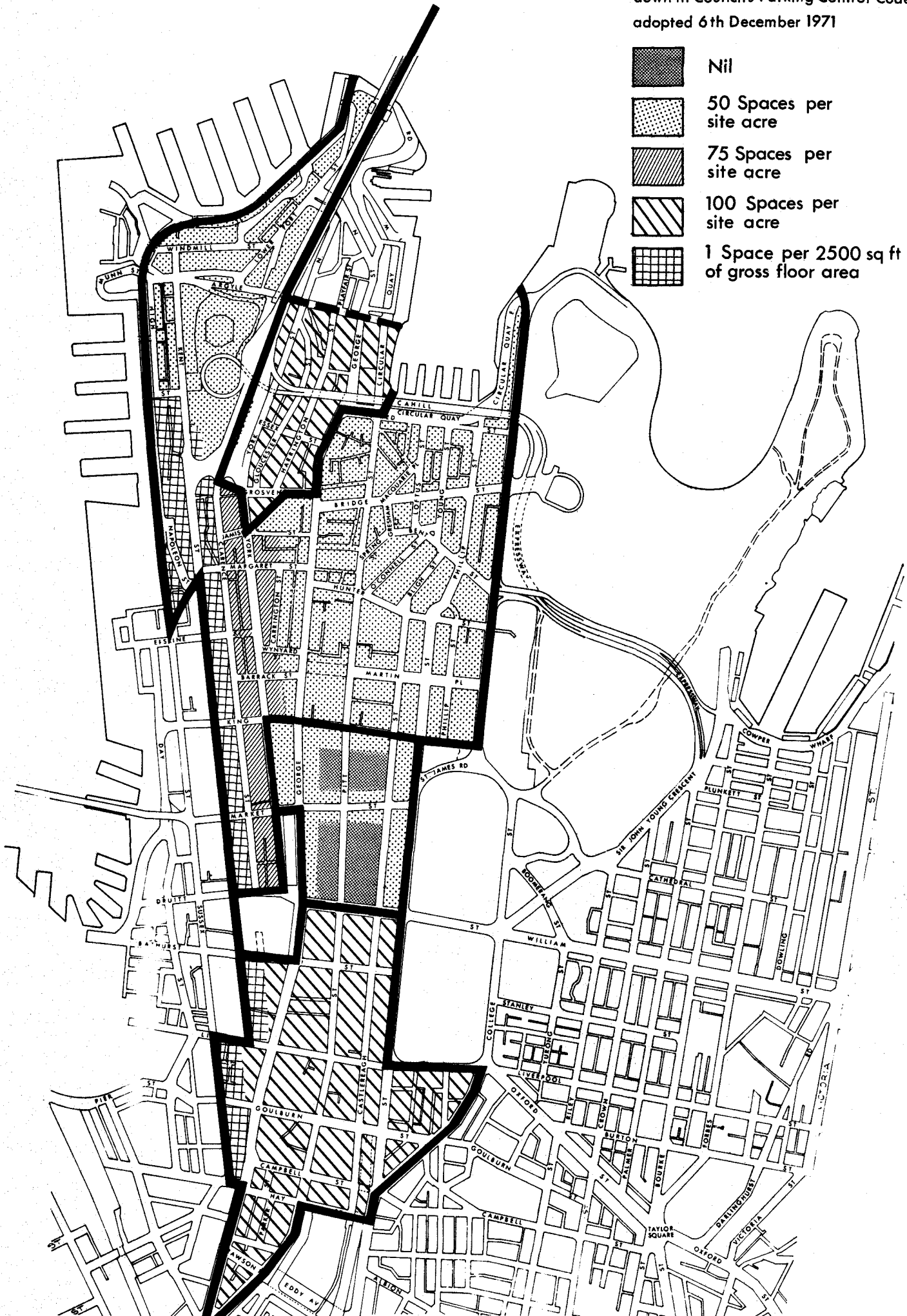


Fig. 2 Planned Future Distribution of Off-Street Parking in New Developments within the Tank Stream, Midtown Hub, Brickfield Hill and Rocks Precincts

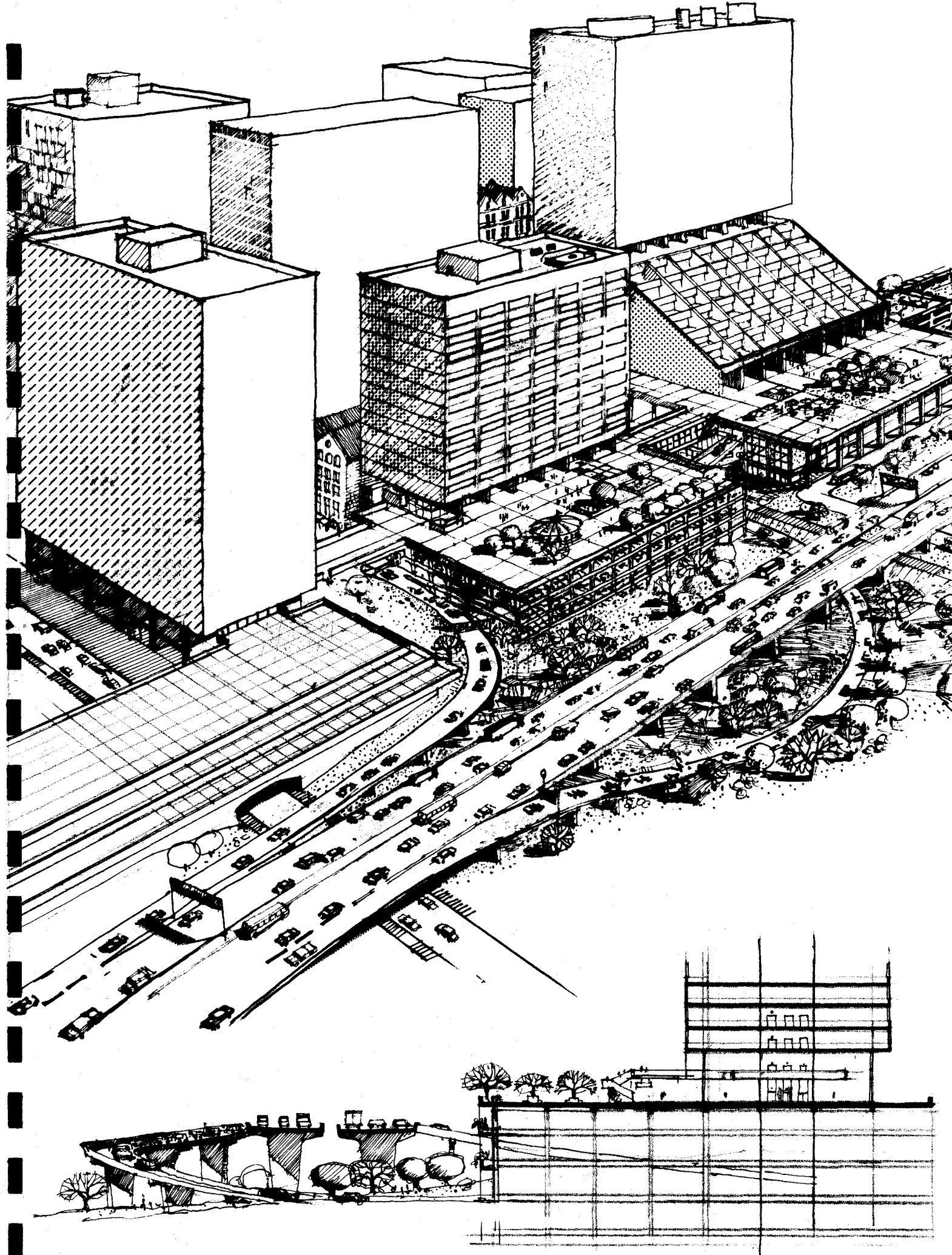


Fig. 3. Typical Parking Station with direct connections to Freeway.



Section IV

EVALUATION OF

REQUIREMENTS

SECTION IV

EVALUATION OF REQUIREMENTS

Having determined that a need exists for parking stations around the fringes of the City, it is necessary to determine the amount and location of parking that should be provided in these areas in stages over future years. Such determination must be made in the light of -

- the capacity of the approach roads and the inner street system
- the total amount and location of parking in relation to current and future demand and supply
- pedestrian movement between the parking stations and the Precincts comprising the CBD

Road Capacity

Currently, the inner cordon of the CBD is operating to capacity in the peak hour, with total maximum flows of about 18,500 vehicles per hour, comprised of 12,500 vehicles to the CBD and 6,000 vehicles of through traffic. There is a generally used working rule in traffic engineering that the maximum number of parking spaces allowable in an area is about twice the maximum traffic flow into the area. On this basis, the maximum number of spaces allowable within the CBD to equate with the maximum flow into the CBD is about 25,000.

On an assessed area of approximately 250 acres in the CBD (excluding the area of streets and footways), the overall allowable density of parking would be about 100 spaces per net site acre, which means one car space per 435 to 450 square feet of net site area, or slightly less than one basement of parking per building. This is the working criterion for the overall number of off-street parking spaces within the CBD.

For the inner approaches to the CBD, as measured at the outer cordon of the CBD, the maximum capacity under present conditions is about 21,000 vehicles per hour. This corresponds with a possible total allowable parking capacity of 42,000 spaces, if it were all CBD destined traffic.

Some of the traffic using the approaches, however, is through traffic and will be diverted around the inner approaches by the expressway improvements now in hand or planned.

Under current conditions of traffic management, the maximum allowable parking capacity of both the inner cordon of the CBD street system and the inner approaches is the same - that is, about 25,000 spaces.

The capacity of the inner cordon may be expanded in the future with improved traffic management and some diversion of through traffic following bypass expressway construction, but the scope for increase is not expected to be great.

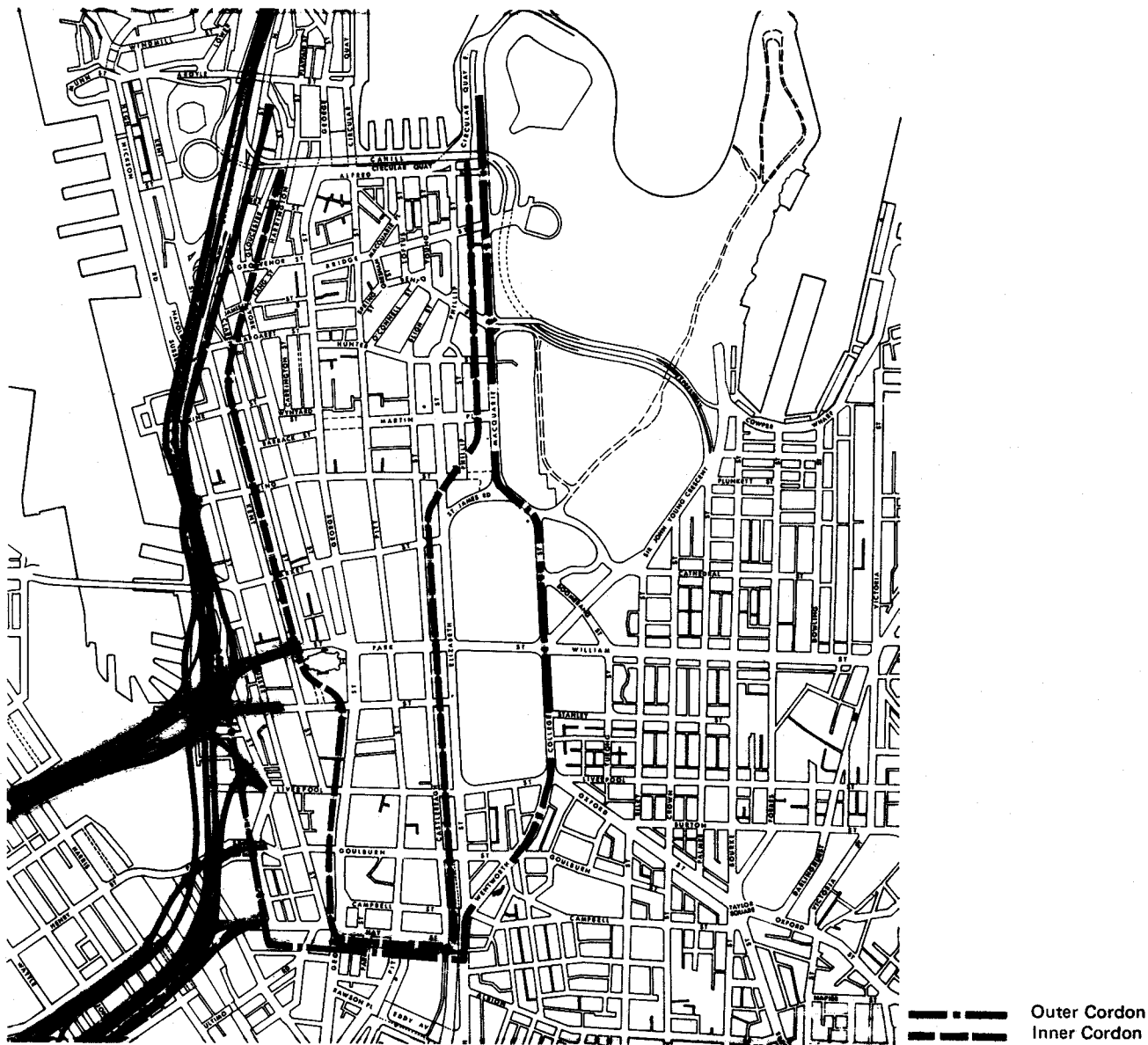
Future expressway construction will certainly increase the capacity of the approaches at the outer cordon, but in the absence of firm plans, it is difficult to forecast accurately the future capacity of this new road system. However, it is expected to be of the order of 28,000 to 30,000 vehicles per hour, on the basis that the entire expressway system planned to serve the City of Sydney is completed. If there were still some 5,000 to 6,000 vehicles of through traffic, this would allow about 23,000 to 24,000 vehicles per hour of commuter traffic to the CBD, corresponding with a maximum allowable parking capacity of 46,000 to 48,000 spaces (See Figure 4).

Supply and Demand

At present, there are about 29,800 car parking spaces in the CBD and the adjacent fringe areas of Ultimo, Surry Hills and Woolloomooloo available to serve the CBD. As these spaces are almost invariably occupied during business hours, it has been conservatively assumed that this amount of parking corresponds with the current demand at present levels of pricing of parking spaces.

The future supply of parking will be comprised of -

- The present net stock of parking spaces already provided in existing buildings and those now under construction, or at the kerbside
- Additional parking spaces to be provided in new buildings now committed, minus existing spaces lost in associated demolitions



ESTIMATES OF CAPACITY AND FLOWS (VEHICLES PER HOUR)

1. Currently.
2. After completion of the First Stage of Expressway proposals (5-10 years).
3. After completion of all Expressway proposals (indefinite – more than 10 years).

OUTER CORDON

	1	2	3
Commuters	12,500	15,500	23,000
Through Traffic	8,500	8,500	6,000

INNER CORDON

	1	2	3
Commuters	12,500	14,000	14,500
Through Traffic	6,000	4,500	4,000

Fig. 4 Estimates of Road System Capacity

- Additional parking spaces provided in future developments not yet committed, minus existing spaces lost in associated demolitions
- Changes in the total number of kerbside spaces provided.

A detailed assessment of the existing distribution of kerbside spaces and the scope for redevelopment of the CBD indicates that the overall supply is likely to be slightly reduced in future years. As a result of the application of the new Parking Control Code for New Development, further restrictions on the use of kerbside space will occur, and spaces in Ultimo, Surry Hills and Woolloomooloo, available to serve the CBD, are likely to decrease.

By contrast, the demand for parking is expected to increase steadily. In preparing estimates of demand, the following basic assumptions were made :

- The present demand for parking is met by the present supply of off-street and kerbside spaces : this is a highly conservative assumption
- The proportion of peak hour commuters travelling into the CBD in their own vehicles will remain at the 1966 level as a first approximation and the number will grow with the volume of commuters at the 1966 proportion. This could possibly reduce in the long term with massive improvements to the public transport system, but is unlikely to change before 1985
- The workforce in the CBD will grow linearly from the current level of about 240,000 to the order of 360,000 in the period to 2000 AD. This projection is consistent with the lower of the two alternative projections being considered by the Sydney Area Transportation Study. It is reasonable in the light of current knowledge, but will require review and revision as and when new data becomes available
- The currently estimated proportion of visitor needs to commuter needs will remain constant.

No
Larger
Relevant

On this basis, total demand for parking is expected to increase from about 29,800 spaces in 1970 to about 34,000 spaces by 1980, with the possibility of a further increase to about 43,500 spaces by 2000. This latter projection could be altered by long term changes in metropolitan transport

systems. For example, a 20 percent reduction in demand by the year 2000 would stabilise this in the order of about 35,000 spaces.

Table No. 1 shows the estimated relative supply and demand for parking to serve the CBD over the period 1970 - 1985.

These estimates were based on analysis of survey data obtained early in 1971. A change in economic conditions could alter these estimates. This points to the need for a periodic updating of the inventory of car parking spaces serving the CBD.

There are several points to be noted from these estimates :

- While the overall supply available is slightly reduced over the 15 years, the amount provided off-street on-site within the CBD has been increased by nearly 50 percent (i.e. from 13,836 to 19,000) but is still within the criterion of 25,000 spaces for the capacity of the street system within the inner cordon
- Kerbside space within the CBD has been almost entirely eliminated over the 15 years, allowing for a more economic use of the road system and for the relief of congestion.
- Kerbside and off-street parking now available in the fringe areas (Ultimo, Surry Hills and Woolloomooloo) to serve the CBD, will decrease following redevelopment of those areas.
- The off-street parking provided in the CBD itself includes special provision for a total of 1,000 spaces by the year 1980 for the needs of short term visitors for business and shopping purposes. This could be varied as estimates of need are reviewed and revised in the future.
- The total additional requirement on the assumptions used here for the years 1975, 1980 and 1985 would be for perimeter parking of the order of 3,500, 7,000 and 9,000 respectively. However, even if radical improvements to the public transport system are in fact carried out, there could still be a need for a further 7,000 spaces by the year 2000.

**TABLE NO. I : ESTIMATES OF DEMAND AND SUPPLY
FOR PARKING TO SERVE THE CBD
1970 - 1985**

Year	1970 (rounded)	1975	1980	1985
DEMAND				
Commuters	21,300	22,800	24,500	26,000
Visitors	8,500	9,300	9,900	10,500
Totals	29,800	32,100	34,400	36,500
SUPPLY				
Within the CBD				
- Kerbside	2,669	1,200	700	500
- Off street	13,836	16,600	17,900	19,000
Within East Rocks Area *				
- Kerbside	956	500	200	200
- Off street	719	1,200	3,000	3,000
Outside CBD in fringe areas (Ultimo, Surry Hills, Woolloomooloo)				
- Kerbside	4,691	3,700	2,400	2,000
- Off street	6,887	5,500	3,200	2,600
Totals (rounded)	29,800	28,700	27,400	27,300
Margin required on perimeter or else- where (rounded)	Nil	3,500	7,000	9,000

* Based on current SCRA proposals

In the shorter term, the projected need of some 3,500 parking spaces to be provided by 1975, mainly in perimeter parking stations, is formidable. However, it should be feasible, provided adequate parking is required of developers for both on-site parking within their projects, and for a proper contribution to the total requirement.

If new office developments provide parking on the basis of one space for every 2,500 square feet of Total Floor Area, the need for parking generated by such developments should be met. This would call for a total

parking provision by developers of about 6,000 spaces during the next ten years and a further 10,000 spaces during the following 20 years to the year 2000. The proportion of on site parking would vary according to the provisions of the Parking Control Code for New Development, and the remainder would be provided in other stations, mainly on the perimeter. On average, the Code provides for between one third and two thirds of parking for new development to be located on site, with the remainder being located on the perimeter or elsewhere.

Pedestrian Movement

All drivers, having arrived at perimeter parking stations, become pedestrians and must be able to move conveniently from the station to office and shopping centres in the central spine.

These paths of movement are an integral part of the pedestrian movement system and a prototype exists already in the walkway which links Council's Domain Parking Station to Hyde Park and St. James Railway Station.

Policy 8 of Council's adopted Strategic Plan states that Council will :

'Create an integrated city-wide pedestrian movement system, linking transport interchanges to each part of each Precinct'.

The first priority parking station is such a transport interchange and provision should be made to permit an uninterrupted passage of pedestrians at least as far as the eastern side of George Street, either by underpass or overpass, to provide a link into the Centrepoin Complex.

Figure No. 5 shows the desired character of a pedestrian network throughout the Central Spine Business District, as recommended in the Strategic Plan. Pathways have been schematically indicated connecting directly into different places and activity centres along the spine.

Land owners, builders, developers and architects who control property on the western slopes of the Central Spine will be required to cooperate in building the necessary parts of this walkway. Council can award plot ratio incentives and impose mandatory conditions on Development Consents to ensure this cooperation.

On the blocks between George Street and Sussex Street, walkways should be designated through the central part of each block to link each parking station along the shortest route to the nearest existing or planned act-

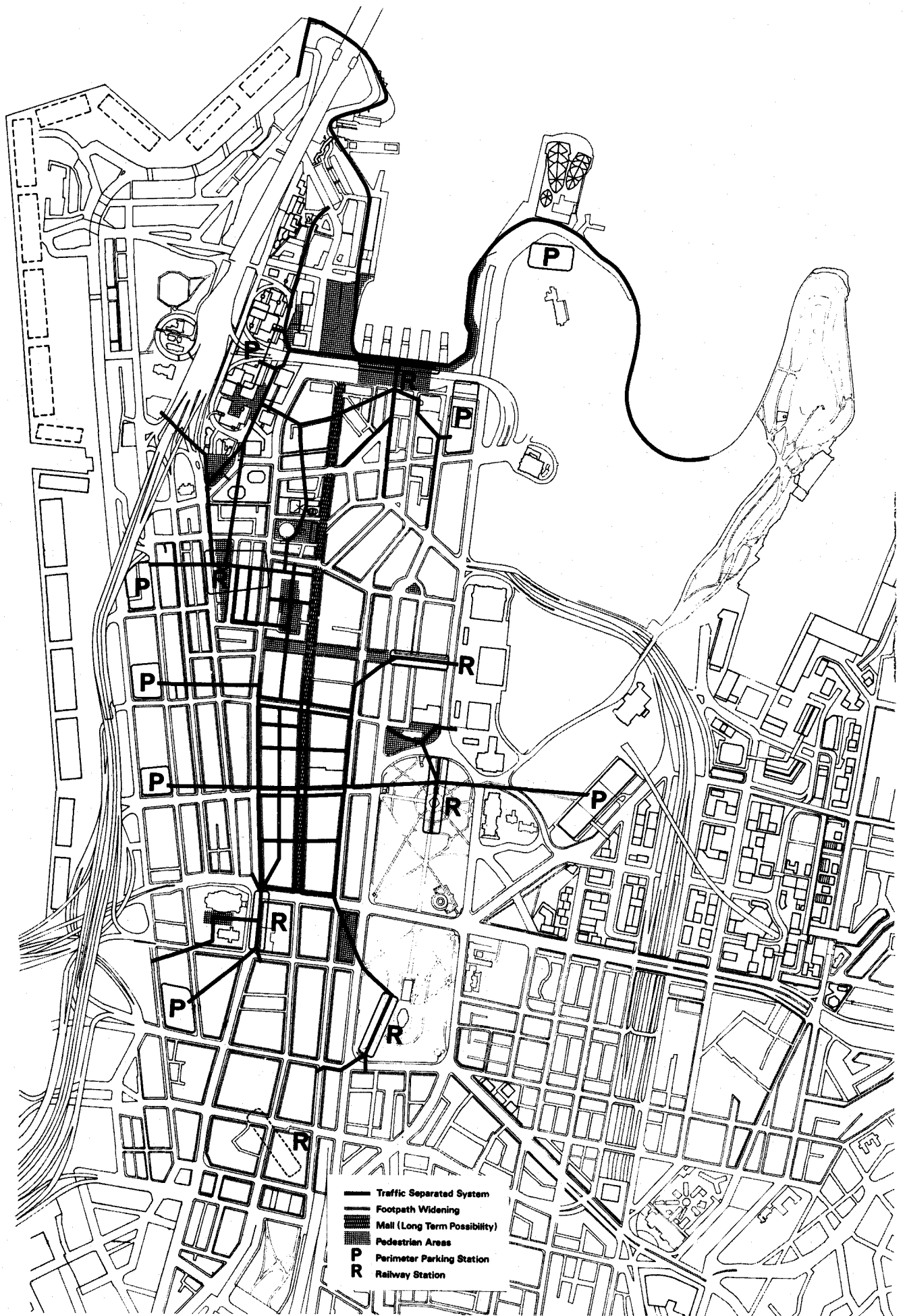


Fig. 5 Pedestrian Network — Central Spine Business District — Conceptual Diagram

ivity centre, with the fullest use being made of changes in level.

A level pathway could be designed to pass from the first priority parking station beneath Kent, Clarence and York Streets into an area approximating the basement of Nock and Kirby's Department Store. This can be connected to the Centrepont network and the retail core of the Midtown Hub Precinct.

The Strategic Plan, in emphasising the environmental performance requirements for the pedestrian system, states that it should provide :

- a microclimate free from excessive noise and wind
- a visually interesting experience for the visitor and lined with diverse activities
- a safe and comfortable environment capable of access at all times of the day or night
- ease of movement and understanding.

To provide uninterrupted pedestrian flow to and from the parking station, further action will be required from Council. Upon approval and adoption of Action Plan No. 4, it will be necessary for Council to prepare and adopt a scheme for the pedestrian network throughout the Midtown Hub Precinct, similar to the detailed Action Plan already prepared and adopted for the area around Wynyard Station.

First Stage to 1985

Maintenance of future supply to meet the projected demands would necessitate provision of about 3,500, 7,000 and 9,000 perimeter spaces by the years 1975, 1980 and 1985 respectively. The optimum distribution of these additional spaces has been studied in relation to -

- the origins of commuters and visitors to the CBD
- the destinations of commuters and visitors within the CBD
- the distribution of existing perimeter car parking around the CBD
- the capacity of existing and future individual approach roads serving the CBD.

Accordingly, it is estimated that about 80 percent of additional fringe car parking spaces should be located on the western perimeter of the CBD and about 20 percent on the eastern perimeter, subject to satisfactory sites being available. This indicates a need for up to 6,000 additional car spaces to be provided on the western perimeter over the next 10 years.

These can be accommodated within Precinct A5, the Western Parking and Business Precinct, within the sub-area bounded by Napoleon, Kent, Liverpool and Sussex Streets.

Longer Term 1985 to 2000

This Action Plan proceeds on the assumption that a policy to provide the estimated parking requirements for the CBD up till 1980 will be adopted. It also proceeds on the assumption that the land that would be required for further increases beyond 1980-1985 will be protected, for the time being, from development likely to prejudice future provision of parking within this Precinct. If the necessary protection is provided in the designated blocks, this area could be a valuable low cost addition to the supply of land for parking.

Such projects would be valuable, but would not remove the need for the parking provision recommended herein of 6,000 spaces over the next decade, in the Western Parking and Business Precinct.

It needs to be said that this analysis has focused on the needs of the CBD. It may be that the Sydney Area Transportation Study would indicate that some at least of future (1985-2000) parking needs should be located, in the medium to long term, outside the Western Perimeter Precinct, or even outside the limits of the City at, for example, suburban railway stations. However the need remains to protect this precinct, until the transportation study findings are known, from development likely to prejudice future provision of parking.

Special Short Term Visitor or Shopping Parking

There is a need to provide special parking within the Tank Stream, Midtown Hub and Brickfield Hill Precincts for short term visitors including tourists. In the Strategic Plan, it was noted that this should total 500, 1,000 and 2,000 spaces by 1975, 1980 and 2000 respectively. It is now proposed that the 1975 requirement would be best met by providing 500 spaces to serve the Midtown Hub Precinct and that a further 500 spaces

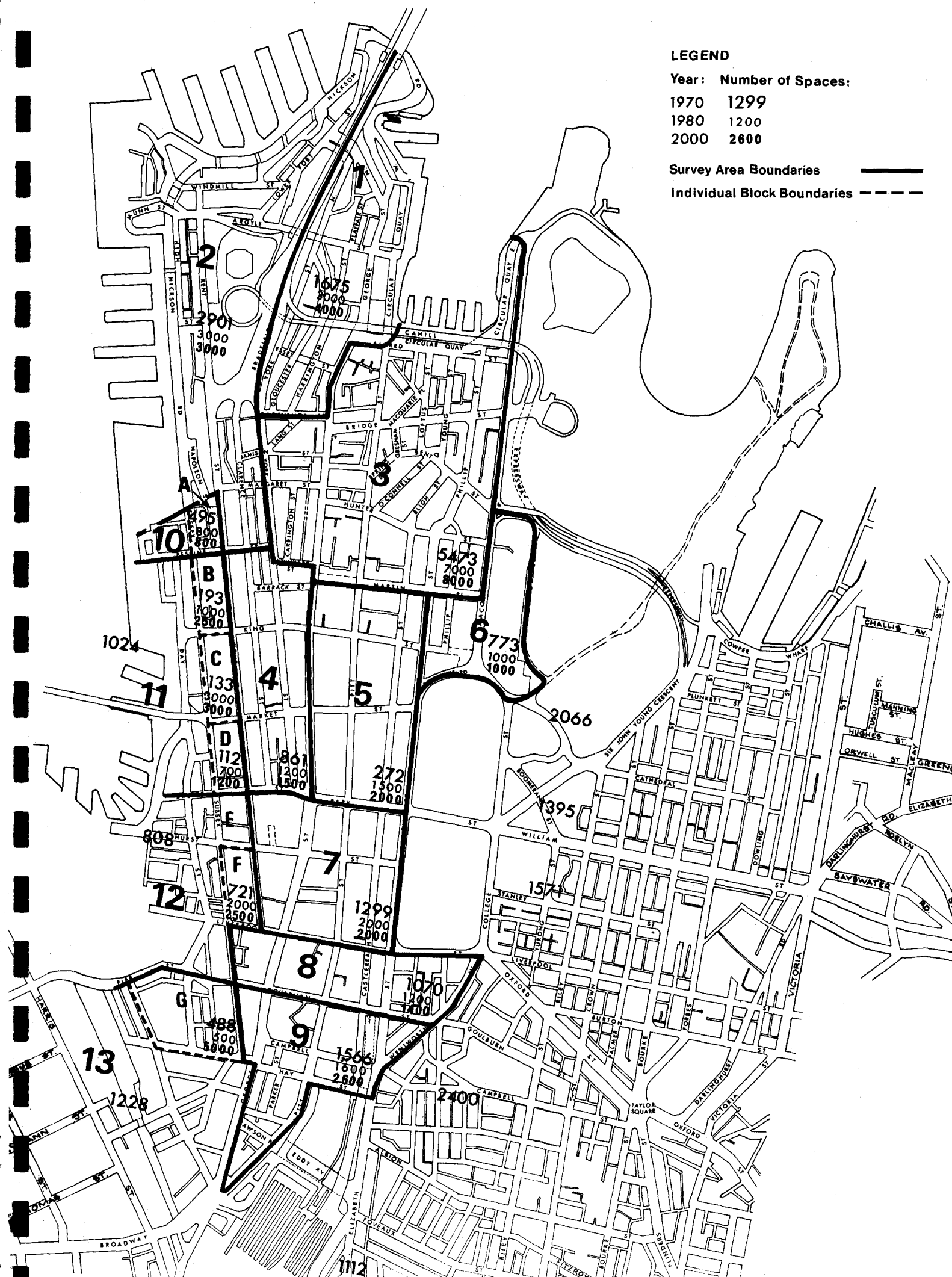


Fig. 6 Estimated Distribution of Parking within C.B.D.

be provided subsequently, following evaluation of the actual demand for spaces and the distribution of spaces in 1975. This 1975 requirement could be met either by -

- making provision for short term parking in the Lanray Hilton Hotel development which will have a total capacity for 500 cars
- making provision for short term visitor parking in the first priority major Western Perimeter parking station,
- or
- providing a special parking station exclusively for the use of short term parkers in the area between Market and Druitt Streets and west of York Street.

The second alternative is recommended. The first priority parking station on the Western Perimeter of the CBD is as recommended later in this report.

Principles of Location and Design

The prime consideration in location and design of parking stations anywhere close to the CBD is the need to minimise the impact of traffic on the adjacent street system. Ideally, direct ramp connections should be made between major perimeter parking stations and an adjacent expressway. This is strongly advocated by Professor Proudlove, Professor of Transportation Studies at the University of Liverpool, who worked with Council's Planning Consultant during 1970 on the basic concepts of the Strategic Plan. He independently confirmed the consultant's conclusion that, to help keep vehicles out of the inner city streets, parking should be served directly from the adjacent expressway. This was the principle adopted for the City of Liverpool.

However, in the case of the Western Distributor and Northwestern Expressway, this does not appear to be easily practicable, due to the close spacing of planned access ramps linking these expressways to the CBD and, to a lesser degree, the extent of building development already existing on the Western Perimeter of the CBD. Therefore, as a compromise, the next best solution, i.e. to locate major parking stations on blocks adjacent to the ramps serving the Western Distributor, is proposed for the parking stations west of Kent Street and north of Liverpool Street.

However, there is a possibility that, in the long term, direct connections could be made between the Western Distributor and a major parking station located between Goulburn and Hay Streets. This could be achieved only by a complete redevelopment of the area (see Figure 1) bounded by Sussex Street, the Western Distributor and the Goulburn Street and Hay Street ramps serving the Distributor. Redevelopment would need to be integrated with construction of the relevant sections of the Western Distributor and would require close liaison with the Department of Main Roads. Although such a proposal is not likely to be required for at least ten years, the area should be preserved as a low density area in the interim and should be protected from any redevelopment likely to prejudice any future integrated scheme that may allow comprehensive redevelopment associated with large-scale provision of off-street parking directly connected to the Western Distributor.

Figure 7 shows the optimum traffic circulation patterns between Western Perimeter parking stations and the Northwestern Expressway Stage I, the Sydney Harbour Bridge and the Park Street - William Street corridor, together with possible subsequent flow patterns between parking areas and the various entry and exit ramps serving the completed Western Distributor, plus the Goulburn Street and Campbell Street - Hay Street bypass roads across the southern end of the CBD. It is essential to provide adequate entry and exit points to serve parking stations. All major parking areas between Kent and Sussex Streets should have both ingress and egress facilities in both Kent and Sussex Streets to reduce circuitous and redundant traffic movements on the adjacent one-way street system.

A feature of the recommended system is the discouragement of extensive parking in the block immediately south of Druitt Street in an attempt to preserve Druitt Street - Park Street as a major through-route across the CBD, with minimum interference from crossing or turning vehicles adjacent to expressway ramps. Another element of the system is the need to incorporate a new vehicular right-of-way to replace the existing right-of-way via Druitt Place so to allow improved local circulation following completion of Stage 1 of the Northwestern Expressway.

Access to parking stations from east-west streets should be discouraged because of the short block lengths in the east-west direction. Any access that is provided should be restricted to emergency exits which would be available only late at night to allow rapid discharge from the station when the traffic on the adjacent street system is light.

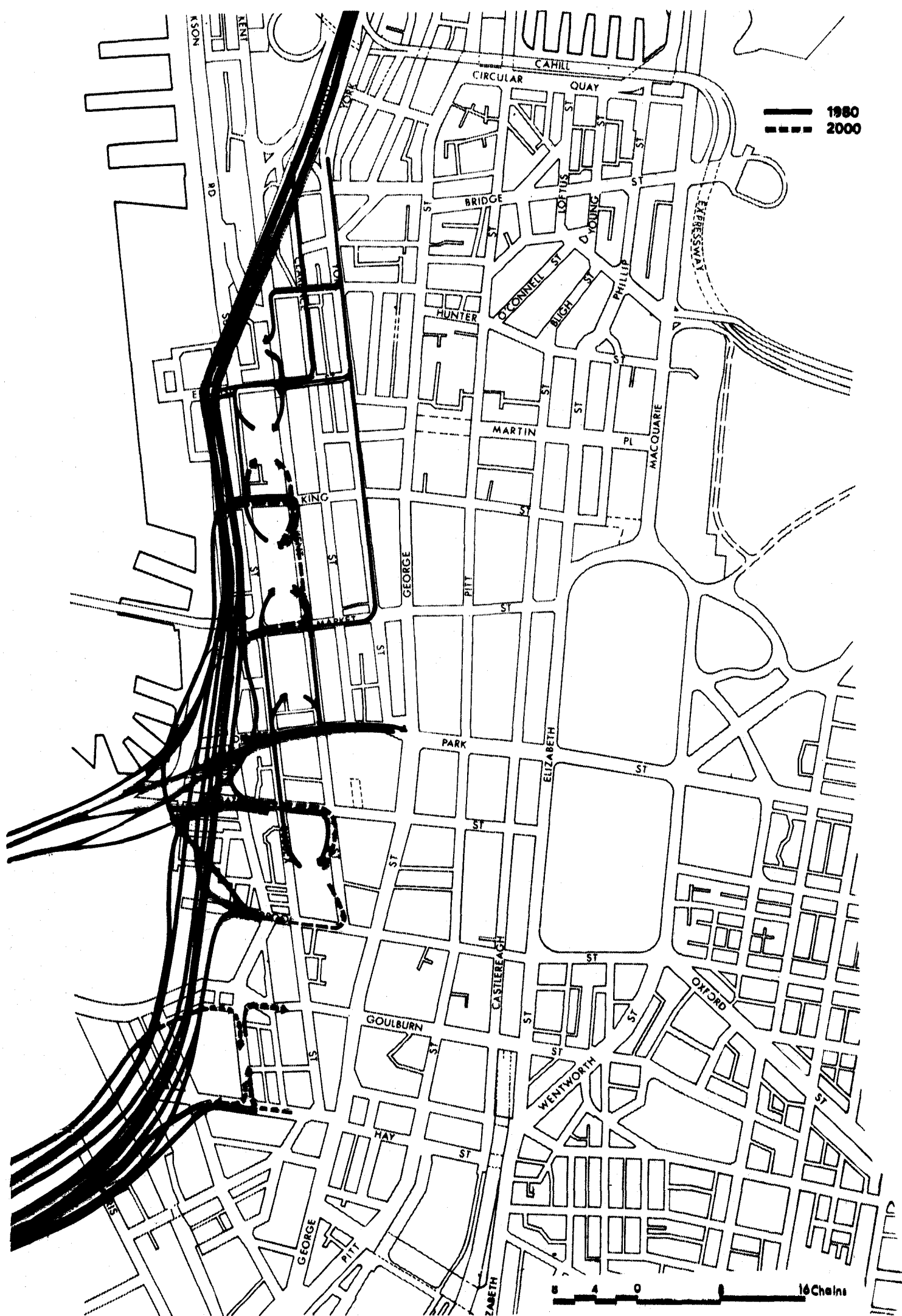


Fig. 7 Optimum Traffic Circulation Patterns.

Section V
COORDINATION OF THE
AMOUNT AND
DISTRIBUTION OF PARKING
WITH ROAD CAPACITY

Urban Systems Corporation

SECTION V

COORDINATION OF THE AMOUNT AND DISTRIBUTION OF PARKING WITH ROAD CAPACITY

It has been shown in the foregoing that the capacity of the approaches to the CBD can be increased in future, following implementation of the expressway program, but the capacity of the CBD street system as a whole could not similarly be increased. However, in determining the practicability of a perimeter parking system relying on surface streets instead of direct ramp connections, it was necessary to test the capacity of the street system west of York Street to carry the traffic generated by any proposed Western Perimeter parking stations, together with the estimated CBD oriented and through traffic, using the Western Distributor and Northwestern Expressway. These projections were made for the years 1980 and 2000.

Examination of existing conditions in the York Street - Sussex Street corridor indicates that, although these streets are generally extremely congested, the level of traffic actually carried is comparatively low. Peak hour traffic flows are of the order of only 1,500 vehicles per hour. This is attributable to delays caused by turning movements by all through traffic, whether it be east-west or north-south and, more particularly, to the delays caused by delivery vehicles either taking up kerb space or being double parked on-street, or backing and filling to reverse into or out of narrow off-street loading docks in old buildings.

However, there are a number of factors which will improve this situation within the next decade. These are :

- Completion of Stage 1 of the Western Distributor
- Completion of Stage 1 of the Northwestern Expressway
- Progressive restriction of kerbside loading and unloading of delivery vehicles within the CBD.

The beneficial effect of these major roadworks on the traffic flow within the area west of George Street should be quite substantial. Figures 8 and 9 show the estimated distribution of traffic entering the CBD from the Sydney Harbour Bridge during the morning peak hour for 1970 under existing conditions, and on the assumption that the Western Distributor Stage I and the Northwestern Expressway Stage I had been completed in that year. These estimates were obtained from an analysis of the distribution of through traffic on the Sydney Harbour Bridge and also of the 1970 distribution of parking spaces within the CBD.

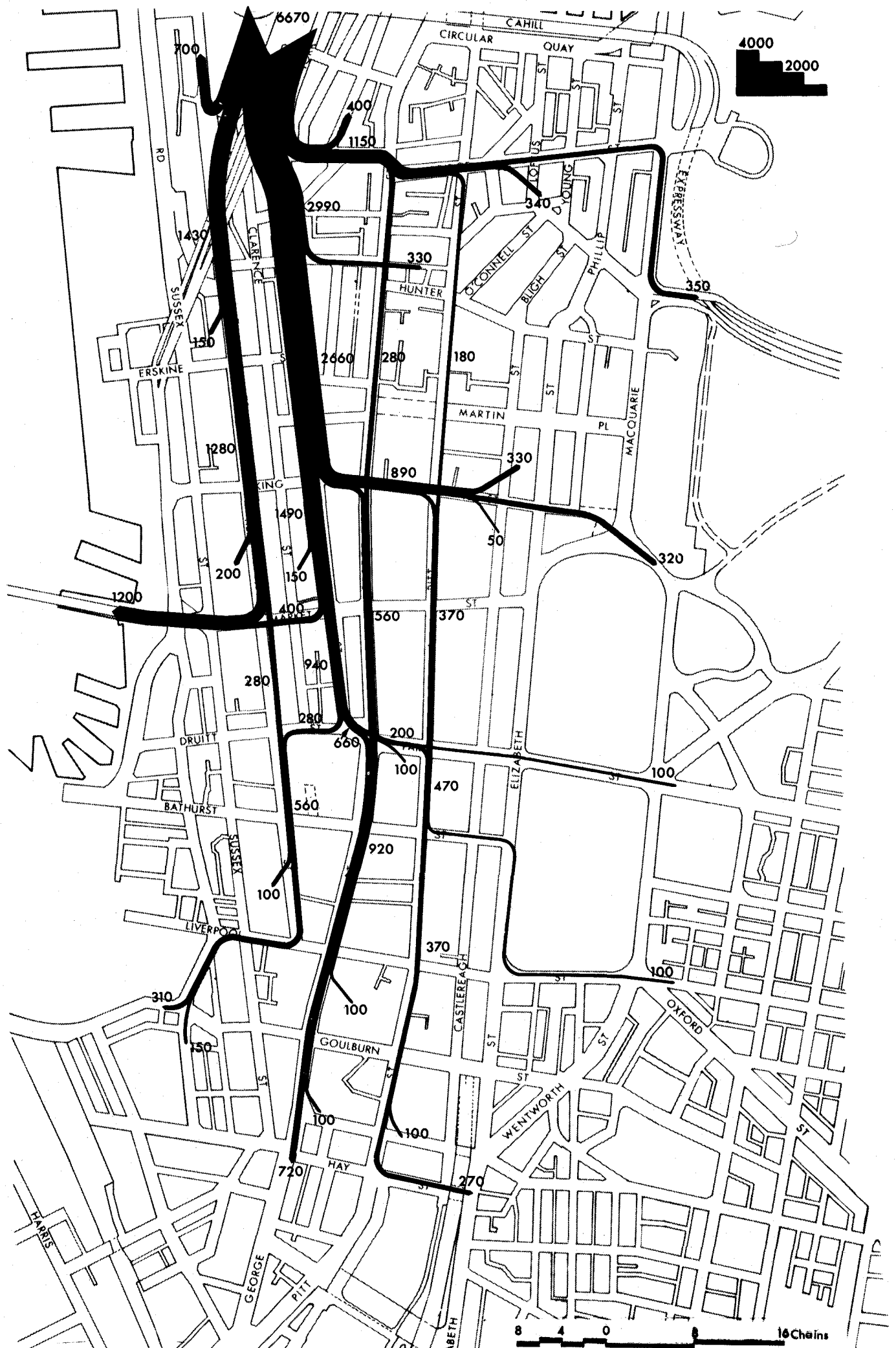


Fig. 8 Year 1970 – Estimated Distribution of Southbound Traffic from Sydney Harbour Bridge during Morning Peak Hour under Existing Conditions. (Vehicles per Hour)



Fig. 9 Year 1970 – Simulated Distribution of Southbound Traffic from Sydney Harbour Bridge during Morning Peak Hour on Basis of Western Distributor Stage I and Northwestern Expressway having been Completed. (Vehicles per Hour)

The principal conclusion drawn was that about 50 percent of the Sydney Harbour Bridge traffic now entering the CBD and filtering through the street system could be diverted to the Western Distributor, about 80 per cent of this diverted traffic being through traffic and the balance being oriented towards the Brickfield Hill Precinct of the CBD. Traffic diversion of this magnitude should considerably ease congestion within the York Street - Sussex Street corridor and, to a lesser extent, within the George Street - Pitt Street corridor.

However, these estimates should be verified by special 'before' and 'after' traffic studies, associated with the completion of Stage I of the Western Distributor and, subsequently, Stage I of the Northwestern Expressway. Such studies should also be related to the effects of the opening of the Eastern Suburbs Railway, to form the basis of action to improve the management and operation of all forms of traffic and transport within the City, as recommended under Action Priority 5C of the Strategic Plan.

Another source of relief in traffic congestion in the area west of George Street is the requirement, recently imposed and now being enforced, that all new buildings must have off-street loading and unloading facilities and that entry and egress be achieved without having to reverse. The Parking Policy and Parking Control Code for New Development endorses this, and goes even further in specifying the number of loading and unloading spaces that must be provided having regard to different permitted uses in new buildings.

As any new development within the York Street - Sussex Street corridor will be required to provide off-street loading and unloading facilities for delivery vehicles, it should be possible to begin phasing out kerbside loading zones on a block by block basis within 5 years. However, it may be necessary to retain them on one side of the street to provide service to those older buildings not having suitable off-street loading facilities.

It is assumed that, by 1980, Stage I of the Northwestern Expressway will have been completed and that Pyrmont Bridge will have been closed. This will provide an expressway link between Glebe and the CBD and provide considerable relief to the Parramatta Road approach to the City.

A study was made of the expected origins and destinations of traffic entering the CBD in the year 1980. Figures 10 and 11 show the estimated major directional desire lines to the various parts of the CBD derived from this origin and destination study. A complete summary is provided in Appendix 1. The study was divided into two parts; first, analysis of traffic likely to be generated within the Western Parking and Business Precinct and, second, of traffic generated by the other Precincts comprising the CBD.

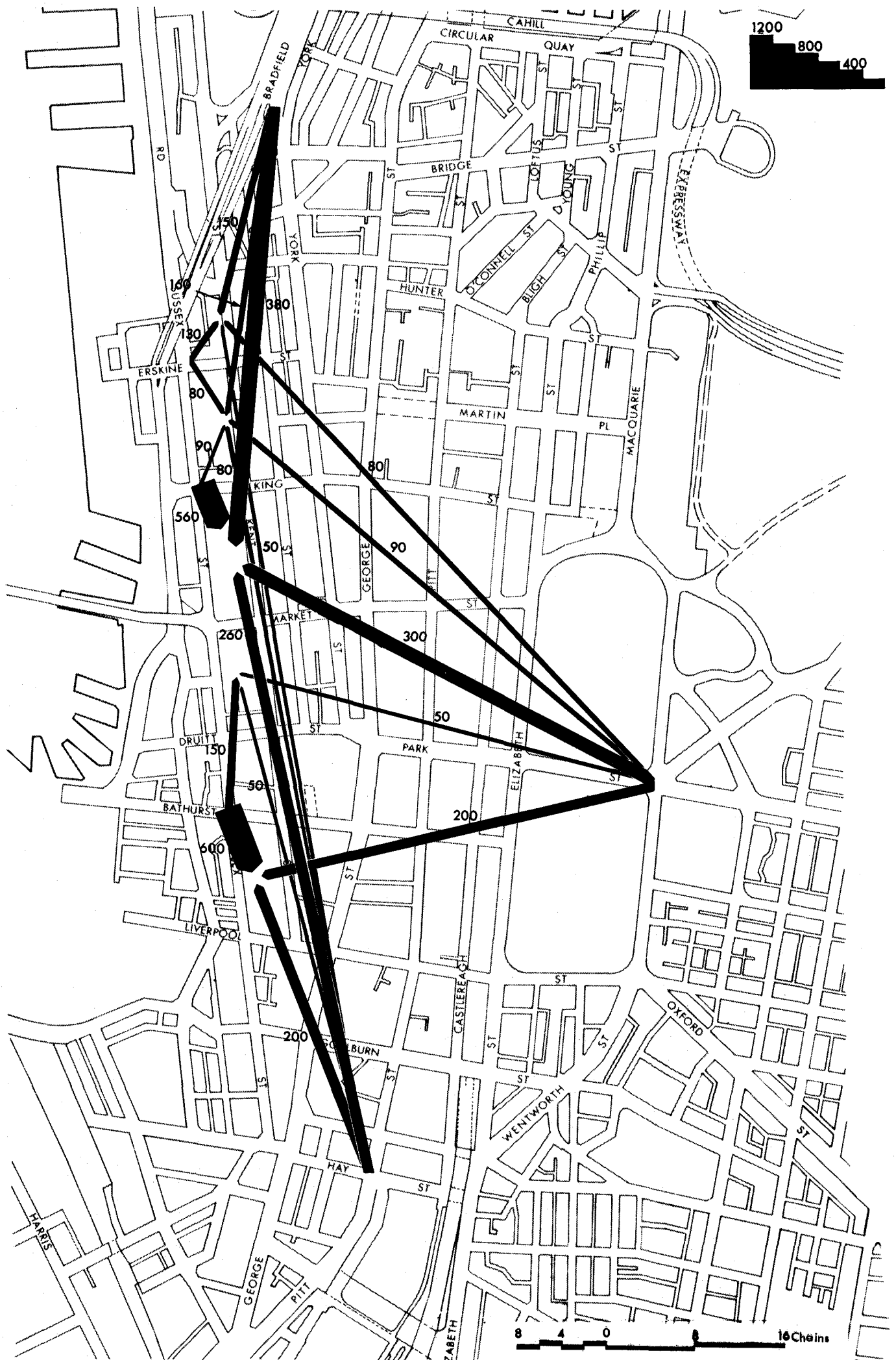


Fig.10 Year 1980 – Desire Lines for Peak Hour Traffic to Western Parking and Business Precinct (Vehicles per Hour)

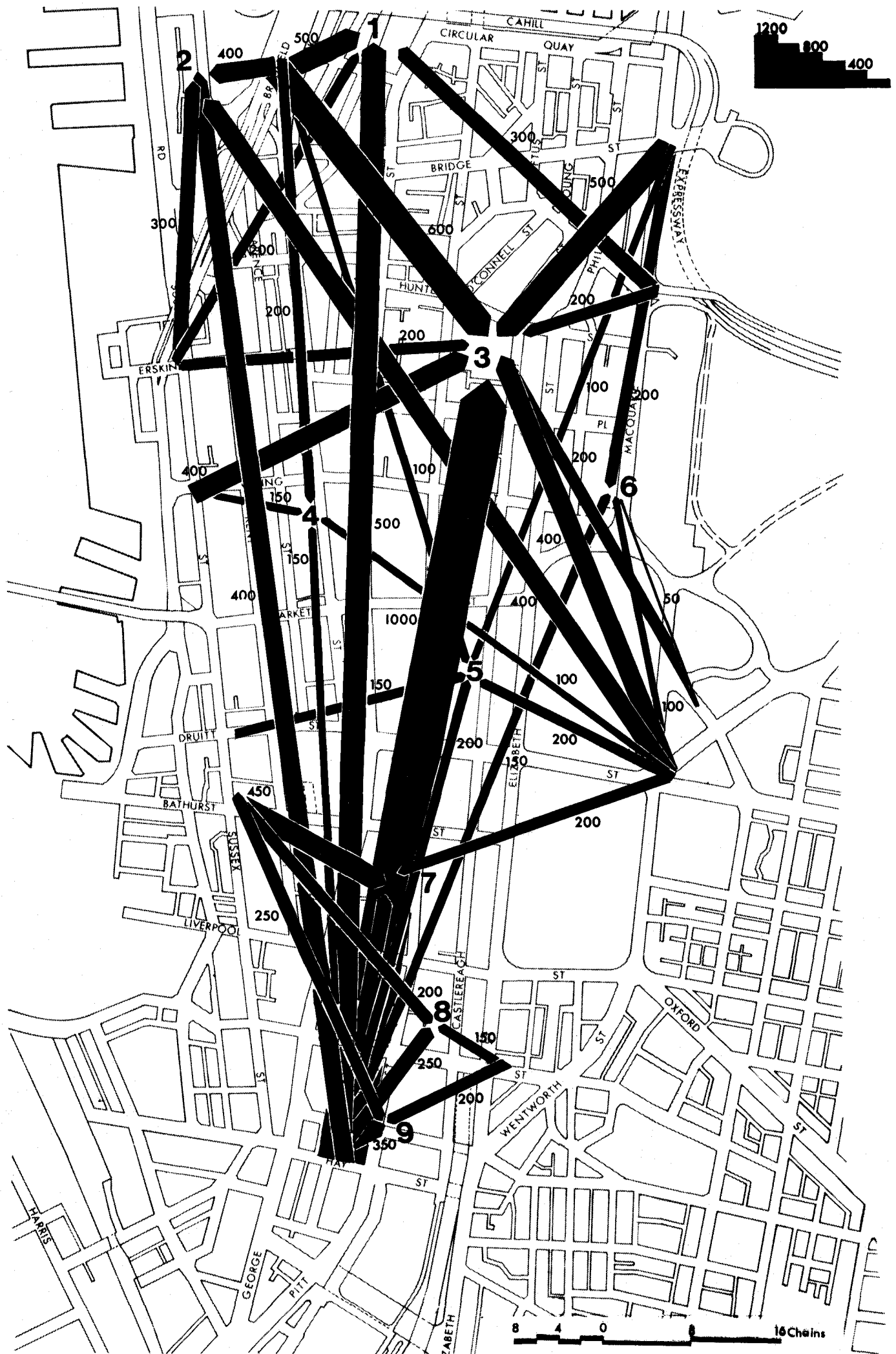


Fig. 11 Year 1980 – Desire Lines for Peak Hour Traffic to CBD. (Vehicles per Hour)

Figures 12 and 13 show the estimated major traffic flows generated by the perimeter parking stations for the morning and evening peaks. Figures 14 and 15 show this flow superimposed on the estimated major traffic flows generated by the other CBD Precincts, together with the estimated through traffic across the CBD. Checks were made on the capacity of each intersection within and adjacent to the Western Parking and Business Precinct to carry the estimated traffic. With suitable kerbside parking restrictions applied, these were found to be satisfactory for the year 1980. However, the subsequent completion of the Western Distributor should be accompanied by widening Bathurst Street between Sussex and Kent Streets to carry five lanes of traffic, because of the short block length and the heavy weaving movements likely to be encountered within that block. It is recommended that this widening be achieved by realignment of the frontages of new buildings.

As the concentration of traffic would decrease rapidly east of Kent Street, it was not necessary to check this area in respect of traffic generated by parking stations within the Western Parking and Business Precinct.

The study indicated that the peak hour directional loading on the North-western Expressway Stage I would be about 5,000 vehicles/hour into the CBD, with the distribution between the Perimeter Parking Stations, the balance of the CBD and through traffic being about 1,300, 1,750 and 2,000 vehicles per hour, respectively, including traffic proceeding directly to the Sydney Harbour Bridge. This approximates the capacity of the expressway including the auxiliary ramps linking Ultimo and Pyrmont with the CBD. Allowing for closure of Pyrmont Bridge, the analysis indicates that no more than about 6,000 spaces should be provided by 1980.

In preliminary planning for the year 2000, it has been assumed that the expressway system now planned to serve the City will have been completed. Appendices 2 and 3 show the estimated major directional desire lines of inbound traffic to the various parts of the CBD for the morning peak hour in 2000, and the estimated traffic flows within the Perimeter Parking Precinct for the morning and evening peak hours in that year.

The likely morning peak hour loadings for inbound traffic on the completed Western Distributor and Northwestern Expressway in the year 2000 would be as follows :

Northwestern Expressway	3,900 vehicles/hour
Western Distributor - Lower Deck	9,100 vehicles/hour

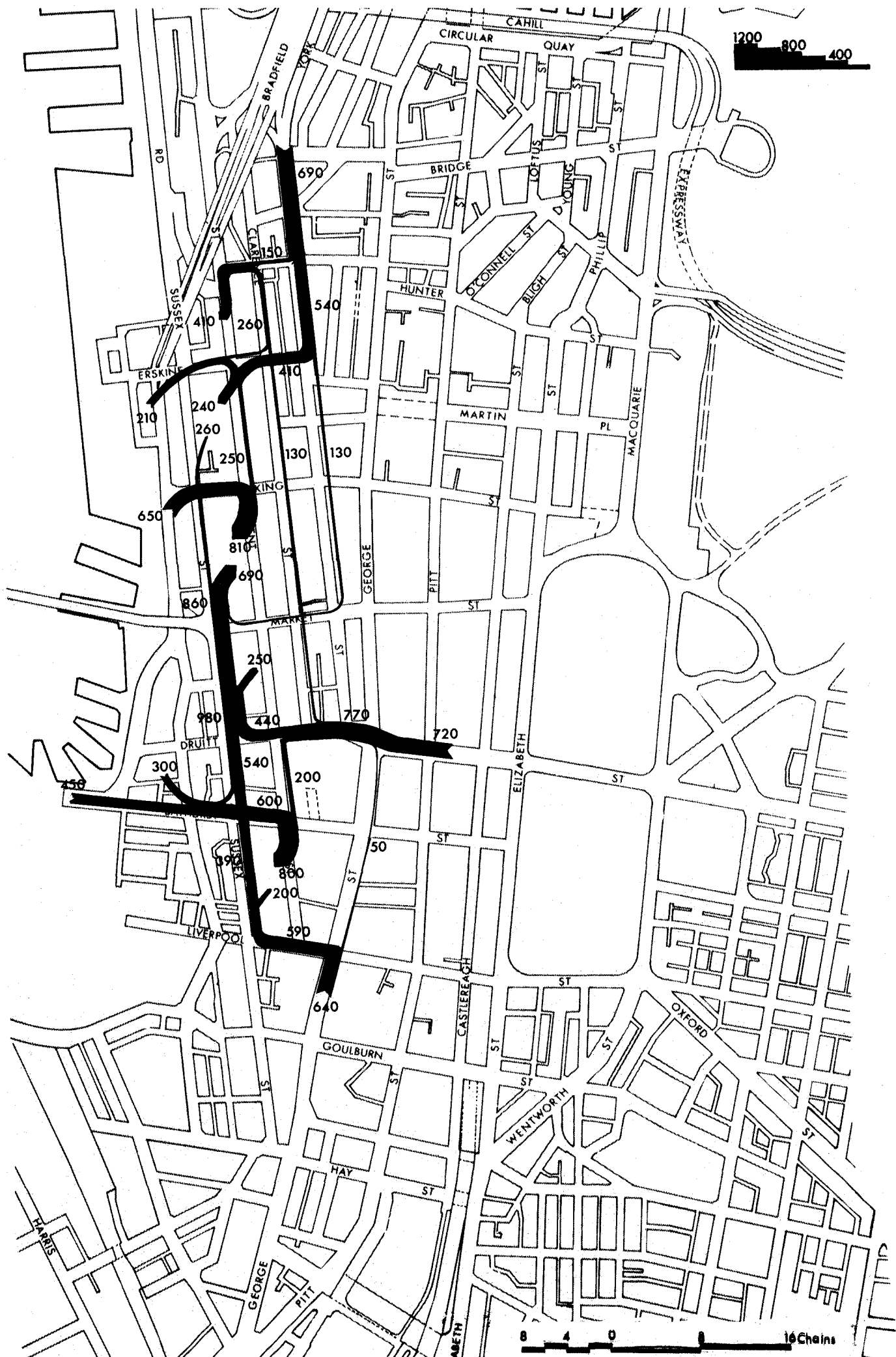


Fig. 12 Year 1980 – Estimated Morning Peak Hour Traffic Flow to Western Parking and Business Precinct. (Vehicles per Hour)

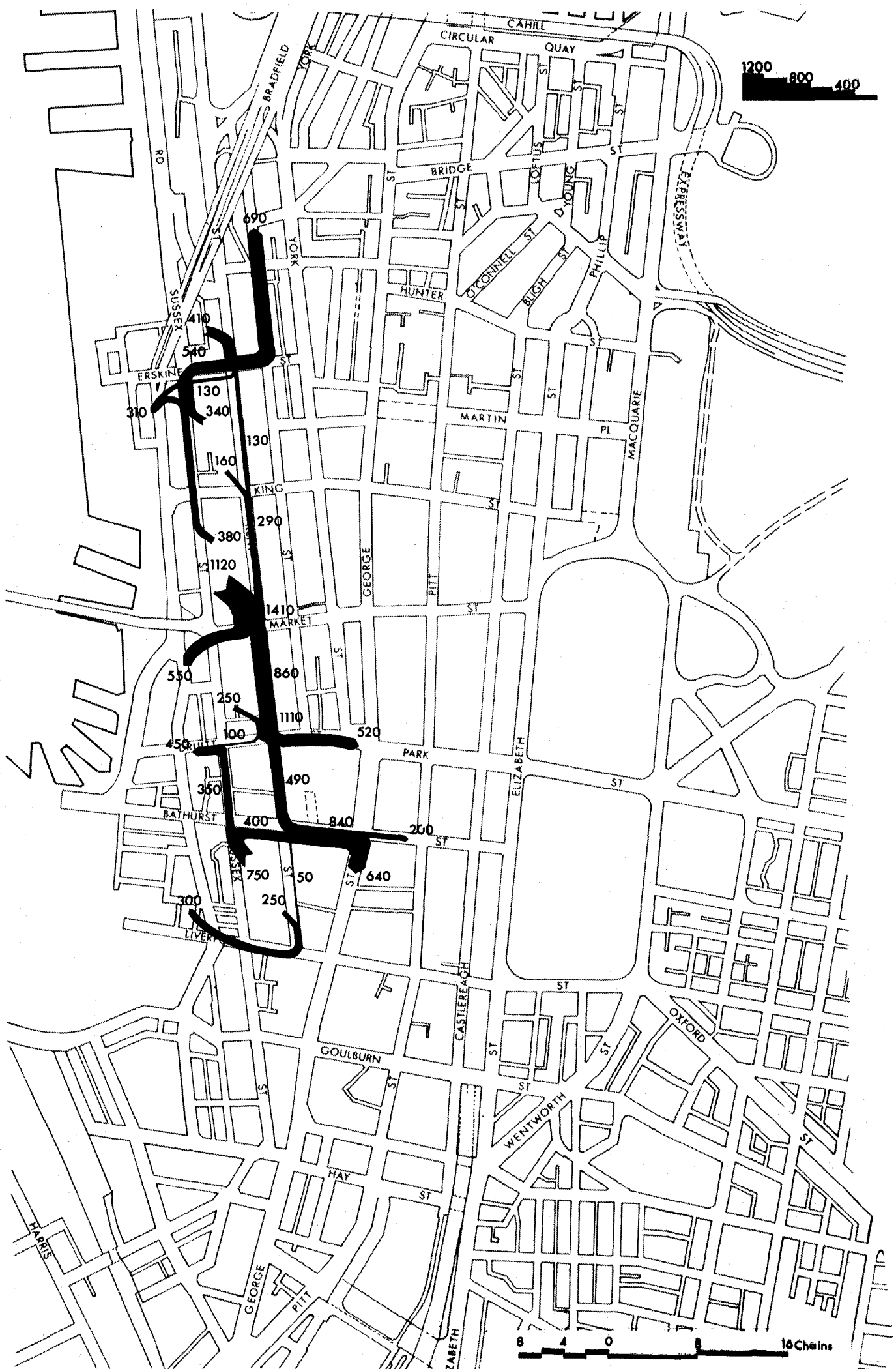


Fig. 13 Year 1980 – Estimated Evening Peak Hour Traffic Flow from Western Parking and Business Precinct. (Vehicles per Hour)



Fig. 14 Year 1980 – Estimated Total Morning Peak Hour Traffic Flow in Parking Precinct (Inbound and Through Traffic Only – Vehicles per Hour)



Fig.15 Year 1980 – Estimated Total Evening Peak Hour Traffic Flow in Parking Precinct (Outbound and Through Traffic Only – Vehicles per Hour)

Another factor requiring consideration in conjunction with this Action Plan is the provision of an alternative route for south bound traffic in the event of the section in George Street in front of the Town Hall being closed for civic ceremonies, festivals or similar activities. At present, traffic is diverted via a circuitous route, along Kent Street to Liverpool Street and thence via Harbour Street to Goulburn Street. An alternative would be to widen Liverpool Street on the northern side between Kent and George Streets to allow for two way traffic operation between these blocks with eastbound traffic turning either left or right at George Street. It is recommended that this widening be achieved by realignment of the frontage of new buildings.

Section VI

OBJECTIVES AND PRIORITIES FOR ACTION FOR INDIVIDUAL BLOCKS

SECTION VI

OBJECTIVES AND PRIORITIES FOR ACTION FOR
INDIVIDUAL BLOCKS

In the short to medium term, there is a need for about 3,000 spaces to be provided on the Western Perimeter by 1975, and an additional 3,000 spaces by 1980, with the balance of the required spaces being provided on the Eastern Perimeter. Parking of this magnitude could create traffic problems, unless the distribution is carefully planned in relation to the expected program of construction of the Western Distributor and Northwestern Expressway. A program for the next ten years has been formulated (subject to availability of funds) as follows :

Western Distributor Stage I
(linking the Sydney Harbour
Bridge to Day Street)

Late 1972

Northwestern Expressway
Stage I (Druitt Street, Sydney
to Bridge Road, Glebe)

- Stage 1A (providing access
to Bathurst and Erskine Streets)

1975

- Stages 1B and 1C (providing
access to King and Market
Streets and permitting closure
of Pyrmont Bridge)

1977 - 1978

- Stages 1D and 1E (providing
access to Druitt Street)

About 1980

First Priority : Block Bounded by Kent, Sussex,
Market and King Streets

The most desirable area for early provision of a major perimeter parking station is the block bounded by Kent, Sussex, Market and King Streets, as shown in Figure 16. This block is :

- a. Close to both Pyrmont Bridge and the Erskine Street ramps of the Northwestern Expressway, thus allowing access to these facilities during the period up to 1977-78.

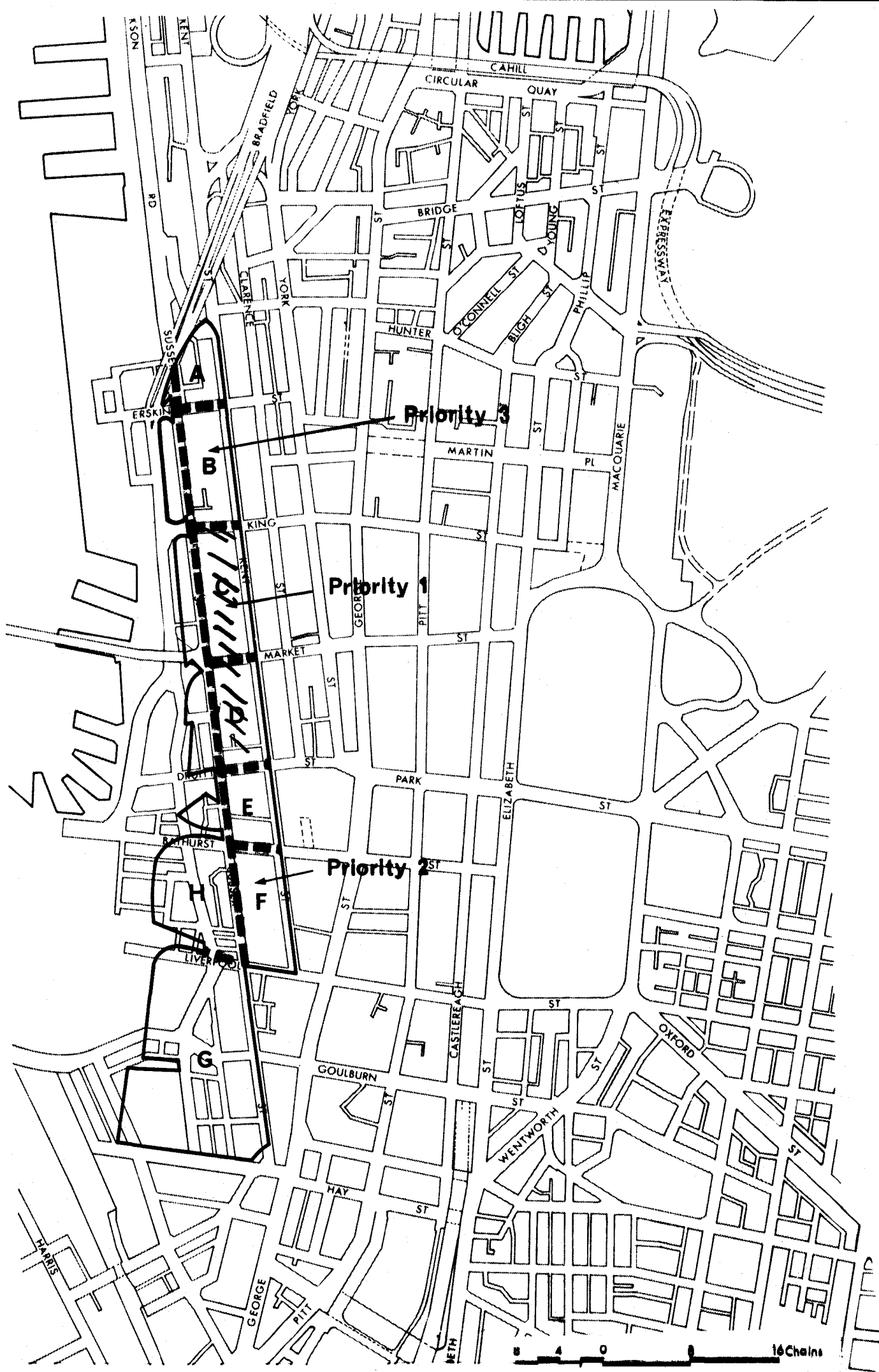


Fig. 16 Location of Priority Areas for Perimeter Parking

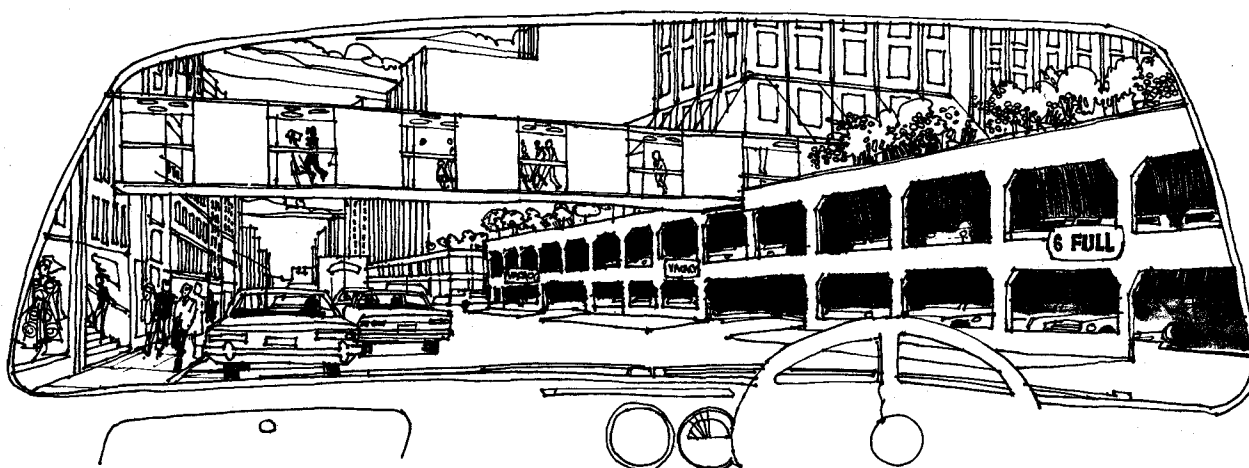
- b. Close to the Market Street-King Street ramps serving the Northwestern Expressway from 1977-78, and subsequently serving the Western Distributor
- d. Approximately equidistant from the existing Kent Street and King's Town Hall Parking Stations
- e. Particularly suitable for integrated redevelopment as there is only one new building (the ANZ Bank on corner of Market and Kent Streets) on the entire block, and several existing run-down properties are in large-area holdings.

Such a parking station should have a capacity of about 1,500 cars. It would have a grade-separated pedestrian link across Kent, Clarence and York Streets to Nock and Kirby's, Farmers and Centrepont and to the Queen Victoria Building and to Martin Place. The parking station itself would require almost two acres of land which represents about one half of the block.

Any design for such a parking station should be integrated with a redevelopment project incorporating several office buildings on the same site. Such a scheme should take full advantage of the slope between Kent and Sussex Streets by creating three parking levels below Kent Street and two parking levels above. This can generally be achieved throughout the section of the Precinct north of Liverpool Street. All five levels would be interconnected to ingress and egress points in both Kent and Sussex Streets.

This would allow for a roof deck for the parking stations at approximately RL 82'0", upon which provision should be made for a fully landscaped park overlooking Darling Harbour and Pyrmont. It would be necessary to allow the roof to support 30'0" high trees. This terrace garden would provide the setting for pedestrian activities for workers on this side of the Central Business District. Here, there could be a shopping arcade, plaza, fountain, a child minding centre, public toilets and outdoor restaurants. These activities could be linked across Kent Street to future redevelopment on the Clarence, King, Kent and Market Street site and thence to underpass York Street on the ridge line, as shown in the illustrations herein.

The five level parking station would thus constitute a podium surmounted by commercial development, including possible hotel accommodation, theatres and restaurants.



The parking station would be designed to allow for the possibility of either an underpass or overpass across Kent Street. This depends upon more detailed investigation of adjacent development in the line of pedestrian paths of movement towards the centre of the CBD. However, by separating pedestrian activity in this way from the fairly intense vehicular movement along Kent Street, pedestrian/vehicular conflict can be kept to a minimum and mixed uses along this harbourside edge of the City could be expected to flourish.

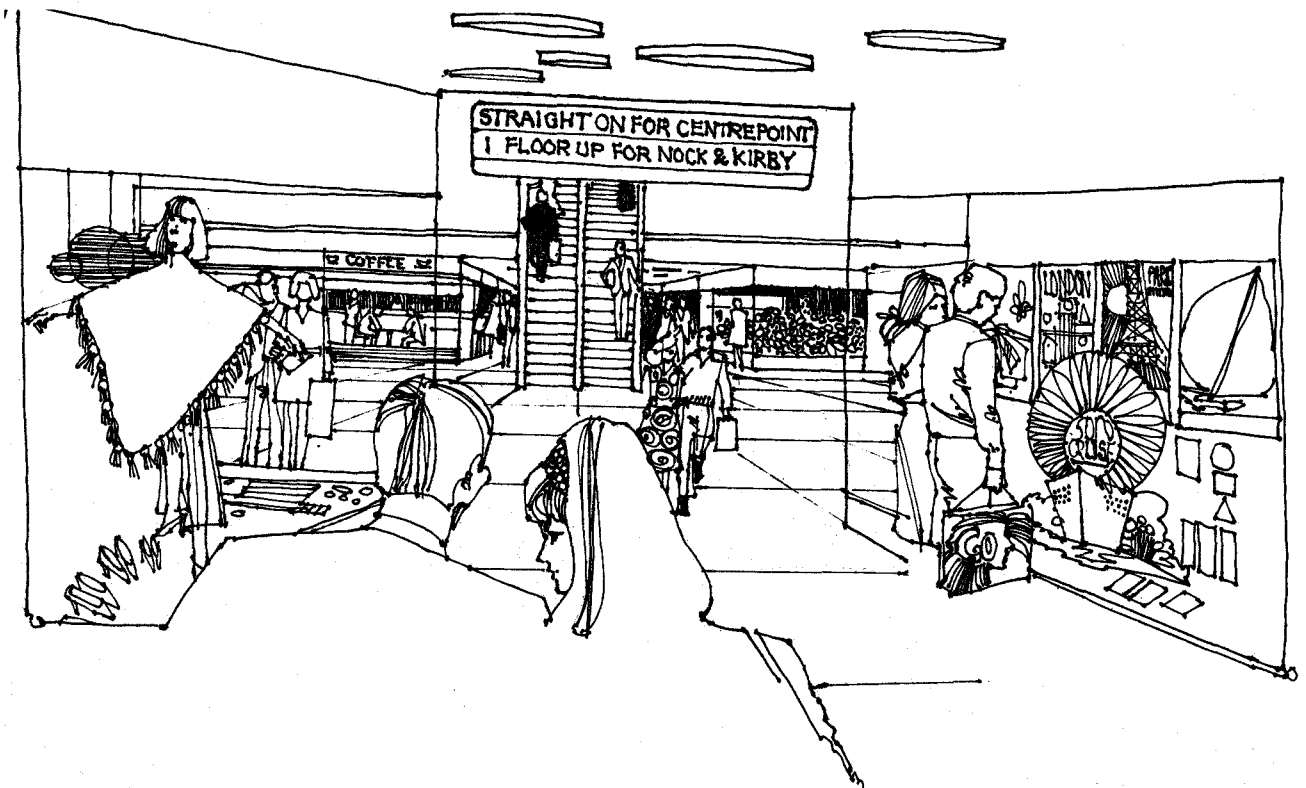
Incentive bonuses within the Western Parking Precinct would be provided so that it would be possible to achieve Floor Space Ratios of up to 11 to 1 under the FSR Code for this Precinct. Preliminary feasibility studies indicate that a mixture of parking and commercial development would be a viable economic proposition with plot ratios for commercial development in the range eight to ten. However, the likely availability of either private or public finance may dictate that several smaller developments with capacities in the range 500 to 1,000 cars may be more easily achieved.

Some developers will, of course, want to develop individual projects smaller than the minimum size necessary to incorporate a 500 car parking station with satisfactory access to both Kent and Sussex Streets. One such developer on a very small site has already suggested that Council permit him to proceed on condition that he provides, as part of an overall development control plan for the block, additional basement floors for future parking at levels to be determined by Council. It has been suggested that these floors would be subsequently connected to corres-

ponding floors in adjacent developments, to provide an integrated parking station with suitable ingress and egress in both Kent and Sussex Streets.

The Floor Space Ratio Code for this Precinct is designed to allow Council discretion in this, by giving bonus floor space for basement floors provided for future off-street parking in accordance with the provisions of the Parking Control Code, subject also to any other conditions required by Council.

Similar provisions could be made in the second and third priority blocks.



Second Priority : Block bounded by Bathurst, Kent, Liverpool and Sussex Streets

Another block in which early provision for parking should be made is that bounded by Bathurst, Kent, Liverpool and Sussex Streets. This block is very close to the cinema and entertainment heart of the CBD and could effectively serve major redevelopments which might expand entertainment and convention facilities within this area. The only new buildings in this block are a commercial parking station, with a capacity of over 600 cars and Federation House at 300 - 304 Sussex Street. The parking station has provision in its design for extension to accommodate up to 300 additional cars.

A major new development is being planned to occupy the site immediately south of this parking station, and incorporation here of a parking station with a capacity of about 200 cars would be most desirable. The block is suitable for early development with a major parking provision, as it will be well served in the short to medium term by the Western Distributor Stage I and Northwestern Expressway Stage I; and, in the long term, by the whole Western Distributor system, when completed. Where applicable, the same type of development as that envisaged for the First Priority Block would be envisaged. Scope for this exists in the southern half of the block.

Again, a grade-separated pedestrian connection should link this block to the Town Hall Railway Station and thence to the entertainment areas of the Brickfield Hill Precinct and to the shopping areas of the Midtown Hub Precinct.

Third Priority : Block Bounded by Erskine, Kent, King and Sussex Streets

This block is also suitable for ultimate redevelopment to include perimeter parking to serve the CBD. There are at present no new buildings on this block. The amount of parking to be provided in the future should be governed by the progress made on the Western Distributor in the medium to long term.

Due to a possible slowing down of office construction within the CBD over the next five years, there may not be any real need to proceed with any major redevelopment of this block within this period. However, there is a likelihood that, in the medium to long term, it will be required as a major perimeter parking area. Consequently, the desirable action is to plan for some perimeter parking to fulfil the needs of the CBD over the period to 1980 and to protect the area for the time being against de-

velopment which might prejudice orderly redevelopment as a major perimeter parking area integrated with commercial development.

Notwithstanding this, preliminary investigations should be made for the ultimate provision of major development as envisaged for the block between King and Market Streets. This would include a major podium at the one level with commercial development above. The final number of parking spaces to be provided should not alter the concept, but could affect the podium level. For example, if it were decided to allow only 1,500 cars in the block instead of the 2,500 tentatively planned for, the podium level could be at Kent Street level instead of approximately two parking decks above street level, as envisaged for the block between Kent and Market Streets.

Summary of Priorities for Action

The following is a summary, on a block by block basis, of the immediate and long term objectives that should be sought for each particular block, and the action necessary to achieve these particular objectives.

Appendix 4 shows the recommended Floor Space Ratio Code that would encourage the type of development, as outlined hereunder, within this Precinct. In order that this Code be effective, development controls for individual blocks would be necessary in order to establish satisfactory levels for future floors for parking within each block, and also to provide satisfactory ingress and egress for each parking station within each block. The definition of Bonus Elements and other terms used in the Floor Space Ratio Code applicable to this Precinct would be the same as in the Development Control and Floor Space Ratio Code for the City of Sydney as a whole.

BLOCK A

Bounded by Kent, Erskine, Sussex and Napoleon Streets

Objective :

Provide for the following levels of off-street parking over the next 30 years -

Existing	495
1975	800
1980	800
2000	800

Recommended

Action :

1. Provide a parking station, to hold about 300 cars, immediately north of the existing Council-owned Kent Street Station, with internal connections between the two
2. Provide for the balance of the block to be developed in a manner similar to the Tank Stream Precinct

BLOCK B

Bounded by Kent, King, Sussex and Erskine Streets

Objective :

Provide for the following levels of off-street parking over the next 30 years

Existing	193
1975	500
1980	1,000
2000	2,500

**Recommended
Action :**

1. Encourage large-scale development of major parking stations, integrated with commercial development, so that two to four parking stations each with capacities of 500 to 1,000 cars may be developed over a 30 year period concurrently with the development of the Western Distributor system
2. Discourage fragmented development likely to prejudice the future orderly provision of parking in this block

BLOCK C

Bounded by Kent, Market, Sussex and King Streets

Objective :

Provide for the following levels of off-street parking over the next 30 years

Existing	133
1975	1,500
1980	3,000
2000	3,000

**Recommended
Action :**

1. Encourage two to four major parking stations, integrated with commercial development, each holding up to 1,500 cars to be constructed within the next 10 to 15 years
2. Promote, as a first priority, for the entire Western Parking and Business Precinct, a major development project incorporating parking provision for at least 600 cars; this project to be implemented in the immediate future
3. Discourage fragmented redevelopment likely to prejudice the future orderly provision of parking in this block
4. Provide for a pedestrian link, grade separated from Kent, Clarence, York and George Streets, between this block and the Centrepoint complex.

BLOCK D

Bounded by Kent, Druitt, Sussex and Market Streets

Objective :

1. Provide for the following levels of off-street parking over the next 30 years

Existing	112
1975	200
1980	700
2000	1,200

2. Provide an east-west public vehicular and pedestrian way through the centre of the block to allow for more efficient circulation of traffic following completion of Stage I of the Northwestern Expressway

3. Close Druitt Place at the Kent Street end, concurrent with completion of Stage I of the Northwestern Expressway

Recommended
Action :

1. Encourage at the northern end of the block one parking station, integrated with commercial development and having a capacity of 500 cars
2. Allow the balance of the block to redevelop to an overall density of about 300 cars per acre of site area
3. Encourage integrated redevelopment of the central section of this block to provide a public vehicular and pedestrian way, passing through the site and linking Sussex and Kent Streets, and close Druitt Place to through traffic following completion of Stage I of the Northwestern Expressway.

BLOCK E

Bounded by Kent, Bathurst, Sussex and Druitt Streets

Objective :

Restrict off-street parking within the block to avoid creating bottlenecks on the adjacent roads, particularly the Druitt Street approaches to the Northwestern Expressway, due to vehicles turning at major intersections.

**Recommended
Action :**

1. Restrict parking to a maximum of one space per 2,500 square feet of gross floor area and prohibit access to Sussex, Druitt and Bathurst Streets
2. Plan for a grade-separated pedestrian link from this block across Kent Street to the Civic Precinct between Town Hall and St. Andrew's Cathedral.

BLOCK F

Bounded by Kent, Liverpool, Sussex and Bathurst Streets

Objective :

Provide for the following levels of off-street parking over the next 30 years

Existing	721
1975	1,500
1980	2,000
2000	2,500

**Recommended
Action :**

1. Encourage large-scale development of major parking stations, integrated with commercial development so that several additional stations, each with a capacity of about 500 vehicles, would be provided over the next 30 years, concurrently with the development of the Western Distributor system
2. Discourage fragmented redevelopment likely to prejudice the future orderly provision of parking to this block
3. Provide for the ultimate widening of Bathurst Street between Sussex and Kent Streets to allow for five traffic lanes in that block.

BLOCK G

Bounded by Liverpool, Sussex and Hay Streets and the Western Distributor

Objective :

1. Provide ultimately for major off-street parking facilities with provision for up to 5,000 cars as part of a long range program that would be integrated with the completion of the proposed Western and Southern Expressways, and completion of the major road connections via Goulburn and Hay Streets linking the proposed Eastern Expressway to the Western and Southern Expressways

2. Provide for integration of a diversified mixture of retail and entertainment activities into the area as part of an overall comprehensive redevelopment program to be integrated with the expressway and parking plans.

**Recommended
Action :**

1. Discourage, at least until the recommendations of the Sydney Area Transportation Study are known, any fragmented development likely to prejudice integrated redevelopment of this block

2. Prepare, following the adoption in principle of the recommendations of the Sydney Area Transportation Study, a comprehensive redevelopment plan for this area.

BLOCK H

Bounded by Sussex and Liverpool Streets and the
Western Distributor

Objective :

Preserve, as a buffer zone
with medium density office,
warehousing or parking
buildings.

**Recommended
Action :**

Allow moderately intensive
redevelopment, but
discourage highly intensive
redevelopment.

Section VII

FINANCING

SECTION VII

FINANCING

Provision of an additional 6,000 car parking spaces on the Western Perimeter of the CBD will require a continuing capital investment on a large scale.

The cost of construction of all the required parking stations could amount to between \$800,000 and \$1,000,000 per annum for the next ten years. Land costs would be additional to this. If the land has to be purchased outright, this could add a further \$2,000,000 per annum.

Council may wish to consider the following sources of potential finance.

1 Contributions from Developers in lieu of On-site Parking and for Floor Space Bonuses

The recommended Parking Policy and Control Code for the City would require that developers be responsible for meeting parking needs likely to be generated by their developments. However, the policy would specifically limit provision of on-site parking in the densely and heavily congested areas of the City.

Thus, each developer would be directly responsible for parking permitted on his site and would be indirectly responsible for providing parking spaces in major parking stations on the perimeter of Precincts. It is therefore reasonable that developers meet this obligation by assisting to finance, or by contributing to the cost of, these spaces. Bonus floor space, up to the limits set out in the Development Control and Floor Space Ratio Code, will be made available in return for these financial contributions.

It will be necessary to provide about 500 additional car spaces per annum to serve the CBD. About one half of these spaces would be required on the perimeter; and developers' contributions at the rate of, say, \$3,000 per car space, would yield on average about \$750,000 per annum.

However, if there is a slow down in new Development Applications and Consents within the CBD over the next five years, the availability of funds from this source will be significantly less than the assumed average for this period, but this would be balanced by a need for less spaces than the average assumed.

2 Imposition of Special Parking Rates on Property within the Tank Stream, Midtown Hub, Brickfield Hill and Western Parking and Business Precincts

The provision of well placed and adequate parking is of benefit to all those who use the City. The unimproved capital value of rateable land within the CBD is about \$412,000,000. Imposition of a special rate of 0.1 cents in the dollar would yield about \$400,000 annually, if such were applied to all rateable CBD land.

3 Increasing Fees at Parking Meters

As part of Action Priority 7E of the Strategic Plan, it is proposed that kerbside parking be gradually reduced. However, while kerbside parking spaces remain, they should bear a larger share of the costs they impose on traffic, and charges should be set to provide a reasonable yield to Council's revenue.

Fees have been based on the 5 cent unit since their introduction in 1956, and have not been altered since. This source of revenue was specifically allocated to construction of parking stations and contributed much to the financing of the three existing Council-owned parking stations.

However, collection costs have risen constantly over the years to about two thirds of the gross revenue of the meters. Continuation of this trend will lead to collection costs equalling gross revenue in several years time, thereby eliminating revenue.

Doubling the rate could raise net revenue from less than \$200,000 per year to over \$600,000 per year. Kerbside parkers block traffic, and impose costs on that traffic.

There is a good economic and social case for increasing the return from kerbside spaces, to approach the return which could be obtained from the land in some alternative use; for example, for building or for foot-path widening.

4 Increasing Parking Fees at Council-Owned Parking Stations

Parking fees at commercial parking stations throughout the CBD vary considerably from \$1.00 to \$1.20 per day at the perimeter, to \$2.80 to \$3.00 per day in the core area. These higher levels are generally prevalent throughout the Tank Stream Precinct.

By contrast, the fees at each of the three Council-owned parking stations are constant with a maximum daily rate of \$1.60 per day. Analysis of the effect of the increase in parking fees at the Council Parking Stations in March 1970 and of the current distribution of fees at commercial stations throughout the CBD, indicates that scope exists for increasing the fees at the Kent Street Station, where the demand has been found to be the least elastic. The Goulburn Street and the Domain Parking Stations appear to be fully priced at present, but scope will undoubtedly exist for future increases in line with City growth and inflation.

An increase in fees at the Kent Street Station, consistent with a daily maximum of \$2.00, would yield an additional \$50,000 per annum.

In Summary, sources 1 to 4 above could yield up to \$1.8 million per annum.

5 Metering of Loading Zones

Delivery vehicles considerably worsen congestion through occupying kerbside loading zones. The recommended Parking Control Code would require the provision of adequate off-street loading docks in new developments, and the gradual provision of these docks should allow progressive reduction in kerbside delivery spaces.

However, this will take time. Meanwhile, action is needed to control the current usage of kerbside loading zones by delivery vehicles, and to adopt and enforce a more stringent policy against vehicles double parked. A preliminary survey indicated that a high proportion of light commercial vehicles, now permitted to use kerbside loading zones, were probably not engaged in the bona fide business of delivering goods. As the kerbside space occupied by any delivery vehicle is a scarce and valuable commodity, special parking meters could be installed in Loading Zones for use by delivery vehicles. This would have the additional benefit of encouraging a quicker turnover of those vehicles legitimately engaged in the collection and delivery of goods and parcels.

6 State or Commonwealth Financial Assistance

Parking stations built on the perimeter of the CBD as an integral part of the expressway-distributor road system, and planned so as not to overload the expressway or the City street system, should be regarded as part of the total transportation system. Consequently, it would be appropriate for Council to seek State Government assistance in the form

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of grants or loans or Commonwealth Government assistance in the form of special allocations from the Urban Roads Fund as part of the 1974-79 Commonwealth Aid Roads (CAR) Act and subsequent CAR Acts.

Section VIII

LIAISON BETWEEN PUBLIC AND PRIVATE ENTERPRISE IN MAJOR DEVELOPMENT PROJECTS INCORPORATING PARKING STATIONS

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Even with application of all these new fees and increased charges, there could still be a considerable gap between the funds raised and the costs of providing the parking stations, if Council is to acquire all necessary land as well as be fully responsible for construction.

Council could accordingly consider ways of working jointly with private enterprise to finance car parks.

Because of the rising land prices within the City and, in particular, in the CBD, it will generally be uneconomic to acquire land solely for the purpose of construction of parking stations. A suitable compromise would be a joint development of a site to provide the necessary parking, together with commercial development.

Financing, construction and operation of the parking station component could be undertaken either by the City Council or by private enterprise.

This type of development is recommended for the first priority parking station in the block bounded by King, Kent, Market and Sussex Streets.

In determining policy for the construction of a major parking complex, it is necessary to determine whether it is more feasible to plan for -

- Construction of a parking station component plus commercial development above (Full Development)
- Construction of a parking station component only as the first stage (Partial Development).

In the case of full development, most or all of the land cost could be absorbed by the commercial development above the parking station, with little or no land cost being attached to the parking station.

Under these conditions, construction of a commercial car parking station would be financially feasible but it does presuppose a commercial development.

The Floor Space Ratio Code for the Western Parking and Business Precinct has been specifically designed to encourage such developments. However, the extent of commercial development resulting from the application of the Code is such that over 4 million square feet of office space would have to have been approved if 6,000 car spaces were to be provided.

Under the present and foreseeable future supply and demand situation, there is not likely to be a market for this amount of office space within this Precinct over the next decade.

It is therefore necessary to evolve a system under which construction of parking space could be carried out ahead of any total development, while at the same time attempting to:

- Prevent speculation in land uses as a result of such policy
- Prevent fragmented development precluding long term objectives
- Safeguard the interests of the present owners in regard to a return equivalent to the modest rates of return currently being obtained from existing properties
- Provide sufficient inducements to permit the parking development to commence independently.

Since it may be necessary to proceed with a proposal to construct the parking station only as the first stage to be followed at a later date by commercial development above, Council may need to intervene to support the land costs over the period, pending commercial feasibility of the full development.

This support from Council could be in one of three ways :

- a. Providing loans, repayable over a long term
- b. Leasing from the developer the car park structure including land - the car park to be operated as a public utility
- c. Purchasing a site and leasing the site to a commercial car parking operator.

a. Loan

Council could grant a loan to the developer or operator to acquire the site and erect a parking station. Such a loan, which would be of the order of \$3 million, could carry interest consistent with the current borrowing rate for semi-government institutions, and repayment could be over a 20 to 25 year period from completion of the parking station component of the development.

The rate of repayment could be reviewed at periodic intervals. It might be influenced by subsequently increased profitability of the parking station and by increased cash flow, and hence profits resulting from subsequent completion of commercial development.

It has the disadvantage of requiring a Council to provide a large initial sum of money.

b. Lease of Parking Station from a Developer

An alternative would be for Council to take over, from the developer, the part or all of a car park structure including land on an agreed rent and operate it as a public utility. This agreement would terminate on completion of the full development.

This scheme has the advantages of not requiring Council to provide a large initial sum of money, and of allowing Council to have the maximum control over its operation. Upon completion of the agreement following full development, Council could then negotiate to take over another car park structure, thereby maintaining continuity of control over at least one of the parking stations that would be provided as part of this Action Plan.

c. Lease of Parking Station Site to
 Commercial Operator

Another alternative would be for Council to purchase a site and lease it out to a developer or commercial operator. He would then erect and operate the parking station structure in the initial instance, and subsequently erect commercial development over the parking station when this became financially viable. A condition of the lease could be that the title to the site be transferred to the developer at some future date, following payment of a lump sum to Council. Alternatively, it could be transferred at no cost on the basis of a higher lease during the intervening period. This approach may be necessary to attract loans from lending institutions for the completion of the commercial development

component. If the lease is to be a long term one, provision for periodic lease payment reappraisals would be required.

This is the basis of the practice of the Melbourne City Council who, in conjunction with Kings Parking, have provided a number of projects in this manner. However, it should be noted that the cost of land in Sydney is generally much higher than in Melbourne. Consequently, it has the disadvantage of requiring Council to provide a large initial sum of money.

APPENDICES

ESTIMATED DISTRIBUTION OF INBOUND TRAFFIC (Morning peak hour - Year 1980)

APPENDIX 1

Zone Number	Harbour Bridge	Erskine Street	King Street	Druitt Street	Bathurst Street	Pier Street, Broadway and Elizabeth Street	Goulburn and Liverpool Streets	Park Street	Cathedral Street	Bent Street	Bridge Street
1	500	200 NW				500*				300*	
2	400	300 NW				400		400			
3	600	200 NW	400 NW			1,000*		400*	200*	200*	500*
4	200		150 NW			150		100			
5	100			150 NW		200*		200*			100*
6						150*		100*	50*		200*
7					250 N 200 NW	350*		200*			
8					150 N 50 NW	250*	150*				
9					150 N 100 NW	350*	200*				
Sub-Total	1,800	700	550	150	900	3,350	350	1,400	250	500	800
Through				1,000 Edb	500 Edb		400 Wbd	800 Wbd			
Western Perimeter	690	210 NW	650 NW		300 N 450 NW	640		720			
TOTAL	2,490	910	1,200	1,150	2,150	3,990	750	2,920	250	500	800

NOTE: N (from Sydney Harbour Bridge via Day Street)
 NW (from Northwestern Expressway)
 * Not shown on Traffic Flow Diagram.

ESTIMATED DISTRIBUTION OF INBOUND TRAFFIC (Morning peak hour – Year 2000)

APPENDIX 2 (i)

Zone Number	Harbour Bridge	Jamison Street	Erskine Street	King Street	Druitt Street	Bathurst Street	Goulburn Street	Railway Square and Elizabeth Street	Hay Street	Park Street	Cathedral Street	Bent Street	Bridge Street
1	600	600 W	200 NW					200*				400*	
2	350	450 W	150 NW					150*		400			
3	500	600 W	200 NW	600 W 300 NW				400*			300*	600*	500*
4	200			220 W 50 NW	50 NW			80*		150			
5	100			190 W 50 NW	100 NW	100 W		110*		150*	100*		100*
6				110 W 50 NW				40*			150*		150*
7						300 W 200 N 150 NW		150*		200*			
8						100 N 100 NW	170 W	180*	150*				
9						250 N 150 NW	300 W	300*	300*				
Sub-Total	1,750	1,650	550	1,570	150	1,350	470	1,610	450	900	550	1,000	750
Eastern Perimeter Through					200 NW 1,000 NW		500 W 2,000 W		1,500	750			
Sub-Total					1,200		2,500		1,500	750			
Western Perimeter	930	100 W	330 NW	910 W 300 NW		700 W 960 N 560 NW	1,250 W		500	980			
TOTAL	2,680	1,750	880	2,780	1,350	3,570	4,220	1,610	2,450	2,630	550	1,000	750

NOTE: W (from lower deck of Western Distributor)
N (from upper deck of Western Distributor)

NW (from North-Western Expressway)
* Not shown on Traffic Flow Diagram.

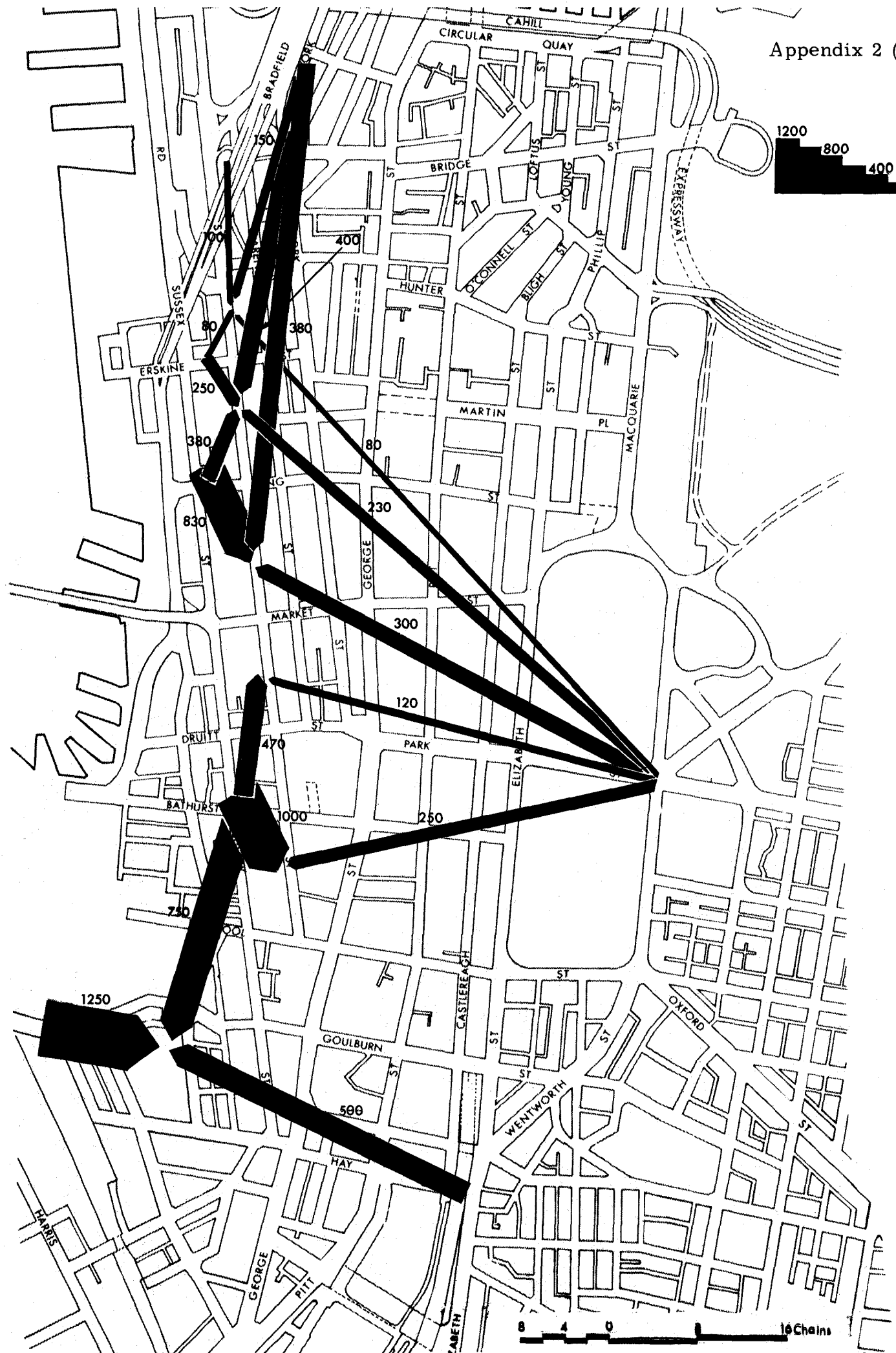


Fig. 1 Year 2000 – Desire Lines for Peak Hour Traffic to Western Parking and Business Precinct. (Vehicles per Hour)

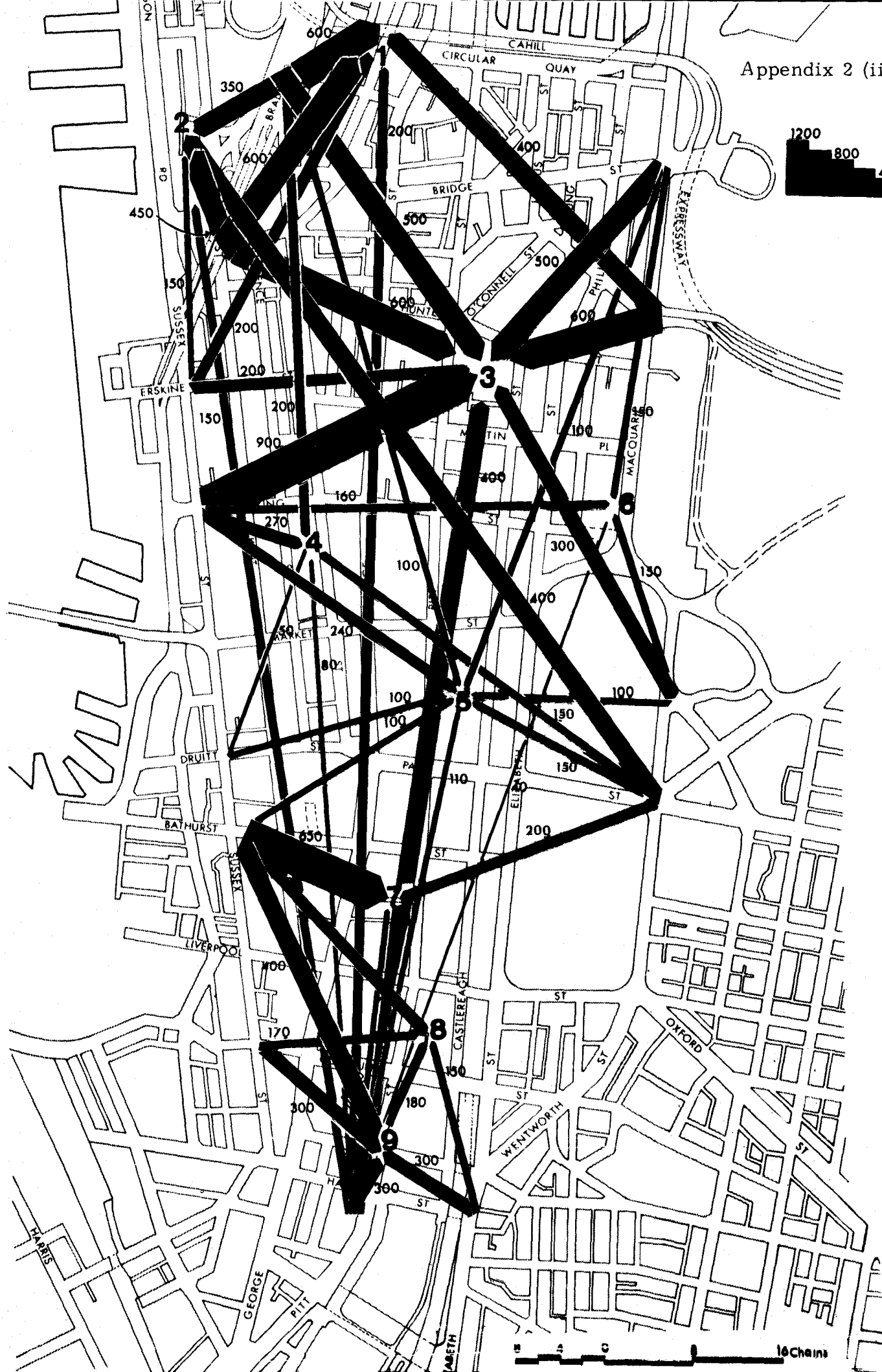


Fig. II Year 2000 – Desire Lines for Peak Hour Traffic to CBD (excluding Western Parking and Business Precinct – Vehicles per Hour)

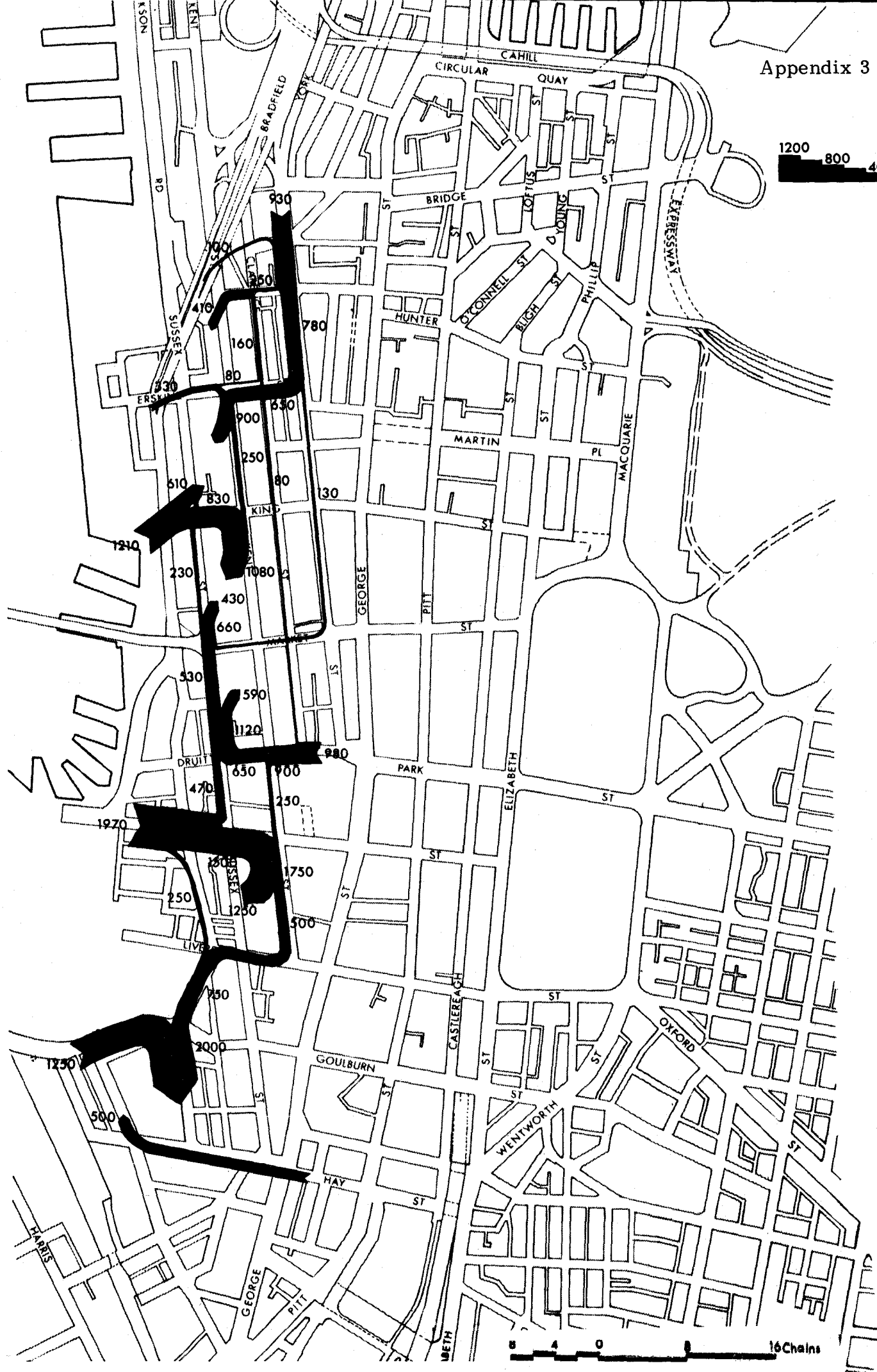


Fig. III Year 2000 – Estimated Morning Peak Hour Traffic Flow to Western Parking and Business Precinct. (Vehicles per Hour)

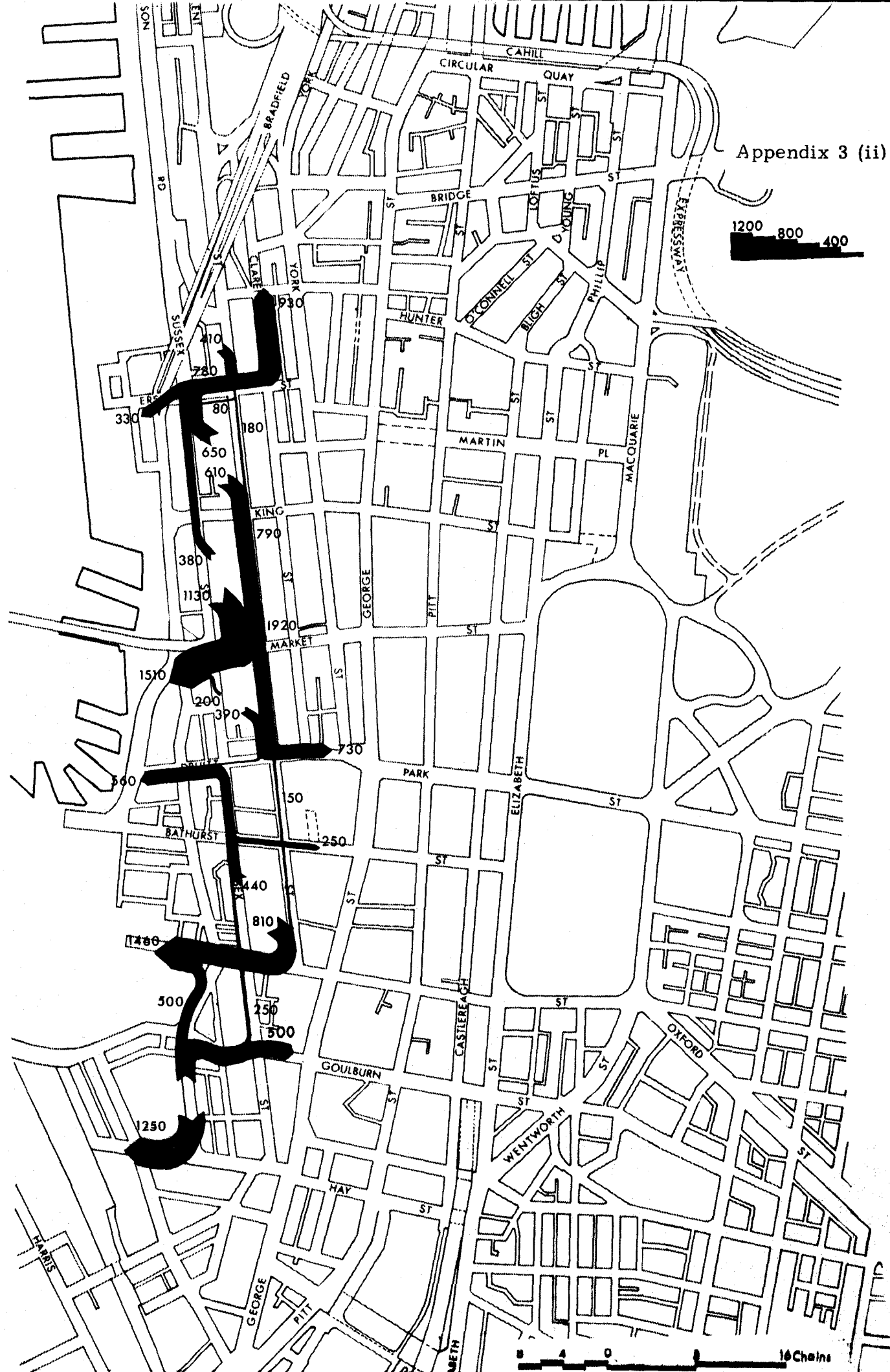


Fig. IV Year 2000 – Estimated Evening Peak Hour Flow from Western Business and Parking Precinct. (Vehicles per Hour)



Fig. V Year 2000 – Estimated Total Morning Peak Hour Traffic Flow in Parking Precinct (Inbound and Through Traffic Only – Vehicles per Hour)

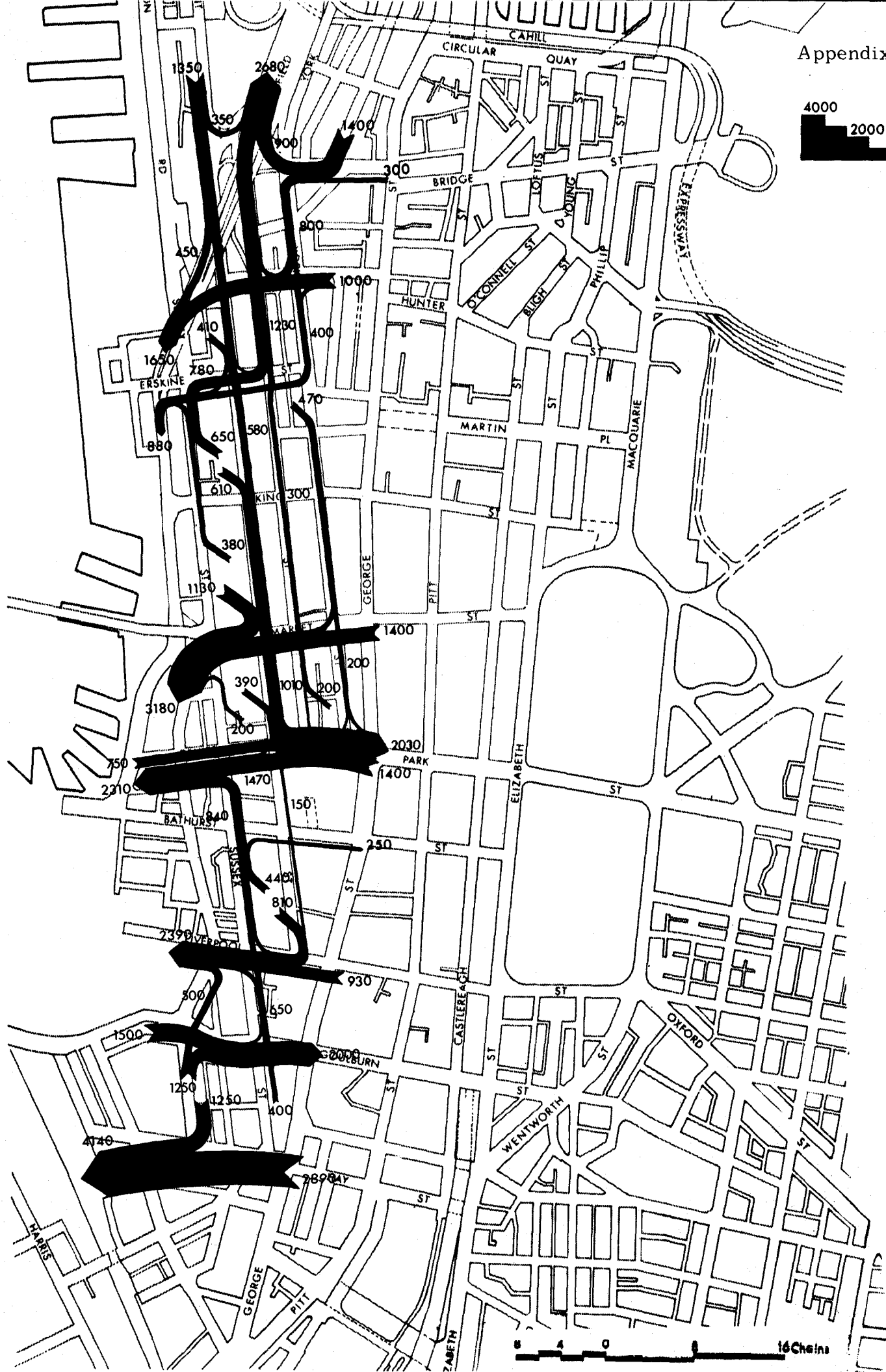


Fig. VI Year 2000 – Estimated Total Evening Peak Hour Traffic Flow in Parking Precinct (Outbound and Through Traffic Only – Vehicles per Hour)

PERMISSIBLE FLOOR SPACE RATIOS AND USES

— Western Parking and Business Precinct A5

1971 Statutory Zoning : County Centre Zone 3d

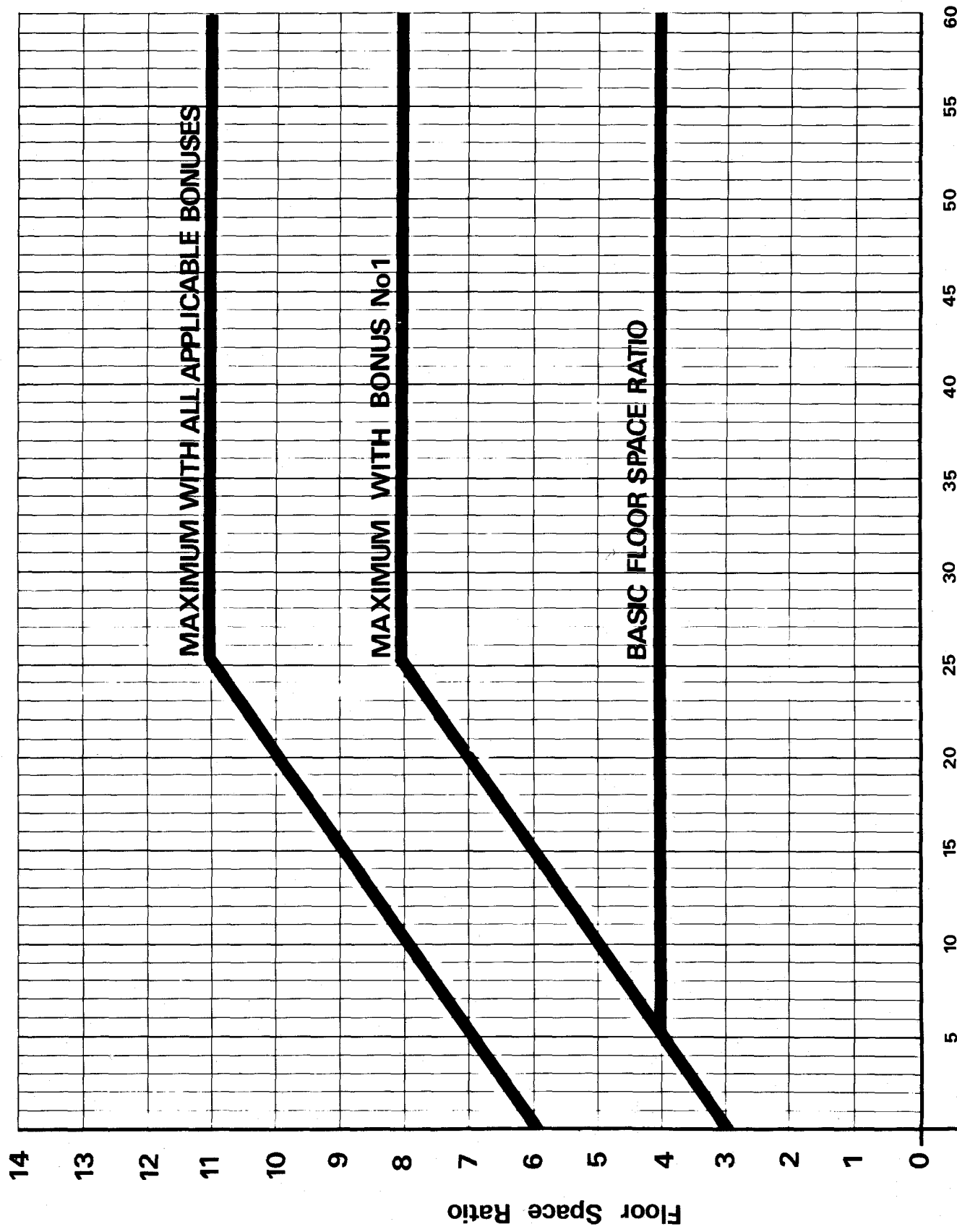
BASIC FSR and PURPOSES for which it may be used:	For any approved purposes. For sites less than 5,000 sq. ft. — Basic FSR is defined by attached graph. For sites 5,000 sq. ft. or more, BFSR 4.0	
BONUS ELEMENTS (see detailed definitions)	BONUS FLOOR SPACE WHICH MAY BE AWARDED	MAXIMUM BONUSES
1. Provision for Vehicular Traffic	a. 1 sq. ft of Bonus FS per every square ft of area provided for an approved Public Parking Station with approved ingress and egress facilities in both Kent and Sussex Streets b. 6 sq. ft per sq. ft of approved through site public vehicular and pedestrian way linking Kent and Sussex Streets and being no closer than 200 ft from the nearest intersection with another street	For sites less than 5,000 sq. ft — No bonus For sites between 5,000 and 25,000 sq. ft — Maximum limit defined by graph For sites of 25,000 sq. ft and more — FSR 4.0
2. Required or Approved Through Site Link Plaza or Terrace	Nil 4 sq. ft of Bonus FS per sq. ft of Plaza set at a level to be determined by Council	Maximum Bonus for Bonus Elements 2 - 6 inclusive shall not exceed FSR 3.0
3. Required or Approved Underpass (off-site) Overpass (off-site) Escalators (on or off-site)	20 sq. ft of Bonus FS per sq. ft 10 sq. ft of Bonus FS per sq. ft 10,000 sq. ft of Bonus FS per single run up/down pair	
4. Required or Approved Public Amenity	10 sq. ft Bonus FS per sq. ft	
5. Contributions to Parking Stations Fund	400 sq. ft Bonus FS per unit of financial contribution per car space	
6. Preservation of Historic Place or Structure	Bonus FS up to a limit of 2.0 may be added by approved purchase or transfer from a preserved place or structure on Council's register.	
PURPOSES FOR WHICH FLOOR SPACE MAY BE USED :	Any purpose permissible under Zoning. For sites less than 25,000 sq. ft in area, Maximum Total FSR is defined by attached graph. (For sites of 25,000 sq. ft or more,) Basic FSR plus all Bonus FS shall not exceed 11.0.	

BFSR 3.0/2.0

MAX 2.0

2.0 1.0

5.0



Total Site Area in Thousands of Square Feet

PRECINCT A5 Western Parking and Business

NOTES ON THE FLOOR SPACE RATIO CODE
FOR
PRECINCT A5 - WESTERN PARKING AND BUSINESS PRECINCT

1. a) Bonus Element 1a, would be available to developments within the blocks bounded by -
 - i. Kent, King, Sussex and Erskine Streets
 - ii. Kent, Market, Sussex and King Streets
 - iii. Kent, Druitt, Sussex and Market Streets
 - iv. Kent, Liverpool, Sussex and Bathurst Streets

b) It would not be available to the block north of Erskine Street as access to both Kent and Sussex Streets would not be obtainable, due to physical limitations of the block; nor would it be available to the block between Druitt and Bathurst Streets due to the restriction of access to Sussex Street imposed by the Parking Control Code.

c) It would not be available to areas west of Sussex Street or south of Liverpool Street as no access would be available to Kent Street.
 2. Bonus Element 1b. is intended to apply only to APPROVED through site public vehicular and pedestrian ways, and not to those NOT APPROVED by Council. The only block in which this is recommended for approval is that bounded by Kent, Druitt, Sussex and Market Streets.
 3. Bonus Elements 2 to 6 would be available anywhere, provided the feature was required and APPROVED by Council. In practice, these would be most readily available in the blocks in which Bonus Element 1a. is available and in the block bounded by Kent, Druitt, Sussex and Market Streets.
 4. For the purposes of calculation, the area of parking space qualifying for Bonus Element No. 1 shall be deemed to be that exceeding a gross area devoted to parking equal to the site area. This latter area shall be deemed to satisfy the requirements of the building.
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Action Plan No. 4

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