

D. Gazzard

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COMMERCIAL STRATEGY - LOWER BLUE MOUNTAINS
Commission No. 5

Prepared for
THE COUNCIL OF THE CITY OF BLUE MOUNTAINS

By
URBAN SYSTEMS CORPORATION
2nd Floor MLC Building
105 Miller Street
North Sydney NSW 2060

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CONTENTS

	Page
1. INTRODUCTION	1
1.1 Aim of the Study	1
1.2 Definitions and Terminology	1
1.3 Background to the Study	4
1.4 Summary of Findings and Recommendations	6
2. EXISTING COMMERCIAL STRUCTURE OF THE LOWER BLUE MOUNTAINS	12
2.1 Retail Structure	12
2.2 Shopping Behaviour	13
2.3 Office Space Distribution	14
3. BLAXLAND AND SPRINGWOOD: CENTRE STRUCTURE	16
3.1 Springwood	16
3.2 Blaxland	16
4. FUTURE DISTRIBUTION OF COMMERCIAL FACILITIES	18
4.1 Population Distribution and Growth	18
4.2 Alternative Futures	20
5. BLAXLAND AND SPRINGWOOD CENTRES: FUTURE PHYSICAL STRUCTURE	28
5.1 Springwood	28
5.2 Blaxland	32
6. EVALUATION OF OPTIONS AVAILABLE UNDER ALTERNATIVE FUTURE 4	36
7. RECOMMENDATIONS AND DESIGN CONCEPTS	28
7.1 Alternative Future 1	38
7.2 Alternative Future 2	38
7.3 Alternative Future 3	40
7.4 Alternative Future 4	41
8. EVALUATION OF CURRENT DEVELOPMENT APPLICATIONS	43
8.1 Springwood	44
8.2 Blaxland	46
APPENDIX A	Population Distribution under Alternatives
APPENDIX B	Commercial Space Provision Standards



LIST OF TABLES

		Page
1	Recommendations concerning Commercial Centres in the Lower Blue Mountains, 1974 Strategy Plan	5
2	Lower Blue Mountains Commercial Centres: Distribution of Retail and Office Floor Space, April 1974	12
3	Proportion of Respondents Shopping Regularly in Penrith, Sydney and Parramatta	14
4	Dates at which Population Capacities of Alternative Futures will be achieved	19
5	Recommended Distribution of Commercial Floor Space by Centre - Alternative 2	21
6	Recommended Distribution of Commercial Floor Space by Centre - Alternative 3	22
7	Recommended Distribution of Commercial Floor Space by Centre - Alternative 4	24
8	Springwood: Estimate of Future Commercial Floor Space and Parking Provision	28
9	Blaxland: Estimate of Future Commercial Floor Space and Parking Provision	32
10	Evaluation of Options Available under Alternative 4	36
11	Recommended Floor Space and Parking Provision, Springwood and Blaxland Centres, Alternatives 2 to 4	39
12	Current Development Applications - Springwood Centre	43
13	Current Development Applications - Blaxland Centre	44



LIST OF FIGURES

		Behind Page
1	Retail Structure of Blue Mountains Centres	12
2	Trade Areas of Lower Blue Mountains Centres	13
3	Land Use - Springwood Business Centre	16
4	Land Use - Blaxland Business Centre	16
5	Alternative Future 1 - Population Distribution	18
6	Alternative Future 2 - Population Distribution	18
7	Alternative Future 3 - Population Distribution	18
8	Alternative Future 4 - Population Distribution	18
9	Trade likely to be Captured by Springwood under Option 4Z	26
10	Planning Scheme Zoning Proposals - Springwood Business Centre	29
11	Land Ownership - Springwood Business Centre	29
12	Development Opportunities and Constraints - Springwood Business Centre	29
13	Planning Scheme Zoning Proposals - Blaxland Business Centre	33
14	Land Ownership - Blaxland Business Centre	33
15	Development Opportunities and Constraints - Blaxland Business Centre	33
16	Design Concept - Springwood Town Centre, Alternative Future 2	38
17	Design Concept - Blaxland Neighbourhood Centre, Alternative Futures 2, 3 and 4	38
18	Design Concept - Springwood Town Centre, Alternative Future 3	40
19	Design Concept - Springwood District Centre, Alternative Future 4	41
20	Sites affected by Development Applications, Springwood Centre	44
21	Sites affected by Development Applications, Blaxland Centre	46

1. INTRODUCTION

1.1 AIM

The aim of this Action Study is to make recommendations on "short term action in respect of commercial areas in the Lower Blue Mountains, pending completion of detailed Action Planning, particularly in respect of any applications for development consent which may be received by Council".* The brief further states that "decisions here depend on threshold populations for Commercial area demands, but recommendations should be made on concept designs for the important commercial centres". Advice is also required on the appropriate course of action in respect of current development applications in the Springwood and Blaxland centres.

Accordingly, this report discusses :

- (i) the appropriate size of commercial centres in the Lower Blue Mountains under different populations levels postulated in the Strategy Plan Alternative Futures;
- (ii) design concepts for accommodating such development; and
- (iii) the appropriate future of development applications in the Lower Blue Mountains.

At the request of Council, attention is focussed upon Blaxland and Springwood, the two most important commercial centres within the Lower Mountains. Submissions from Chamber of Commerce in both centres have been taken into account in formulating proposals for future development.

1.2 DEFINITIONS AND TERMINOLOGY

(a) Centre Status

As a result of the recent spate of reports on retail and commercial facilities within the Blue Mountains, as detailed below in section 1.3, some inconsistency has arisen in terminology used in respect of shopping centres of varying status. The terms 'town centre', 'district centre' and so on have been used interchangeably and thus the distinction between them has become confused. To clear up this confusion, this report will use definitions and terminology employed in the recently completed Blue Mountains Strategy Plan. These are as follows :

* Extract from brief for the Action Study



Neighbourhood Centre

A Neighbourhood Centre is differentiated from higher order centres in that it does not generally provide sufficient range or depth of merchandise to fully cater for the major weekly or fortnightly household shopping trip. These centres do not include a department store, variety store, large discount store or major supermarket. Neighbourhood centres normally provide less than 1,860 square metres* of rentable shopping space, have less than 20 stores and their merchandise mix is highly biased toward food lines. In the Neighbourhood Centres, household goods are generally limited to chemist, newsagent and domestic hardware and personal services are generally limited to hairdressing, dry cleaning and medical services. Specialist clothing outlets are normally rarely represented although a drapery store may be included.

Town Centre

A Town Centre serves a series of neighbourhoods and provides facilities needed for the major weekly shopping trip. They are usually located to serve 25,000 to 30,000 people and include the following shop types :

- Major supermarket (1,400 to 1,840 square metres)
- A full range of food stores
- Domestic hardware
- Chemist (2)
- Full range of personal services
- Newsagent
- Women's clothing
- Girls' and boys' clothing
- Shoe store
- Men's clothing store
- Other specialty stores or a variety store or discount store
 - Mini K or small Target (2,800 to 4,650 square metres).

Rentable area could be in the order of 9,300 to 11,000 square metres. One such Town Centre may be of a major discount store type with some ancillary shops.

District Centre

A District Centre offers a comprehensive range of specialty comparison merchandise. They usually serve populations of

* Square metres are used as the areal measure throughout this report. To convert square metres to square feet multiply by 10.764.

from 50,000 up. A District Centre would normally have at least a major supermarket (1,860 to 2,800 square metres), a department store (11,000 to 15,000 square metres), a household goods discount store (3,700 square metres) and a broad range of other specialty stores and service establishments. At present, there is no centre large enough to fulfil all of the District Centre functions in the Blue Mountains.

(b) Retail Floor Space Measures

In commercial centre analyses, three measures of floor space are commonly used. They are :

- **Net Selling Area**
Net Selling Area includes those areas within a store which are directly involved in the merchandising of goods. It excludes escalators, lifts and stairs, storage space, preparation areas and staff amenity areas.
- **Net Rentable Area**
Net Rentable Area is the area usually rented if a shop is on lease. It includes all the area within the store, including storage and preparation areas, and internal staff amenities. Lifts, escalators and stairs within stores are also covered. It does not, however, include arcade areas, public toilets, landscaping, or other areas in communal use. It does not include parking areas.
- **Gross Floor Area**
Gross Floor Area is the total area occupied by the retail complex, exclusive of parking areas. It includes the actual area of the building to its outer walls and areas integral to it, eg. arcade and other paved pedestrian areas, public conveniences, landscaped areas, access and external storage space. It does not include customer parking space.

Net Selling Area is the measure most readily obtainable by field survey. It affords a realistic measure for comparison between merchandise lines and between centres, and is used to describe space provision. Net Selling Area commonly comprises about 70 to 75% of Net Rentable Area.

Net Rentable Area is the measure upon which the returns from shopping centre development are most conveniently calculated. Sales turnover and rentals are usually associated with Net Rentable Area. The relationship between Net Rentable Area



and Gross Floor Area varies considerably with the design of centres, but on average, Net Rentable Area makes up 70 to 85% of Gross Floor Area.

Gross Floor Area is used in calculations of the total land requirements of development centres, exclusive of parking.

1.3 BACKGROUND TO THE STUDY

There have been a number of reports completed in recent years concerning, or relevant to the future of, commercial centres in the Lower Blue Mountains area. The first of relevance to this report - "Recommendations on the Future Development of Blaxland Shopping Centre" - was carried out by Urban Systems Corporation in 1970. This report recommended that the status of the Blaxland centre should remain as 'Neighbourhood' owing to the 'size and depth of merchandise available in Springwood and Penrith' with a maximum commercial space of 7,400 square metres (gross). This recommendation was based on an assumption that the population of the Blaxland 'trade area' (which was drawn to include Warrimoo, Mt Riverview and Blaxland) would reach a population of 15,000, a figure judged to be the capacity of the residential zones in the area.

In late 1973, Council commissioned a report by Sinclair Knight & Partners on "A Commercial Strategy for the Lower Blue Mountains Area". This report carried out an analysis of the existing distribution of floor space, the trading patterns of the Lower Mountains area and traffic and parking problems. The report drew particular attention to the low existing sales retention levels in the area: 61% of all retail purchases by the local population were estimated as occurring outside the area (ie. local shops' share or penetration of the market was judged at 39%). A large proportion of this expenditure is directed to Penrith, which is the largest centre that is readily accessible to the Lower Mountains area. It has expanded rapidly in recent years with the addition of departmental and specialist stores, and offers a range of merchandise unmatched anywhere within the Mountains.

The Sinclair Knight report examined two alternative strategies for the future development of commercial facilities within the Lower Mountains area, assuming an ultimate population level of 42,500.

- (i) Marginal expansion of all existing commercial centres in relation to expected population growth, aiming at maintaining existing overall penetration rates;
- (ii) Development of a new comprehensive commercial centre on a new site at Blaxland to serve the need for higher order goods. The strategy aimed at lifting the overall sales penetration to 55% by the year 2000. Existing centres were to be only marginally expanded to afford the new centre every opportunity to capture trade.

The report considered this second strategy as most viable since "it would provide the Lower Blue Mountains with a true District Centre that could serve the entire population efficiently". The new site at Blaxland was chosen owing to site constraints at Springwood, and the conclusion that Blaxland was the prime location for capturing trade directed towards Penrith. This conclusion is discussed further in section 4 of this report.

In any case, the report's assumptions concerning population expansion are now out-dated owing to the completion of the Blue Mountains Strategy Plan by USC in July, 1974. The study put forward five "Alternative Futures" for the development of the Mountains. At one extreme, Alternative Future 1 envisages a complete moratorium on all further development; whilst Alternative Future 5 envisages expansion to the full capacity available. Thus, each Alternative Future is related to a different level of population and social and economic facility provision. Since the level of population largely determines the appropriate distribution of commercial facilities, this must be considered a primary variable. In the Lower Mountains, this ranges from 24,500 under Alternative 1 to 132,000 under Alternative 5. In recognition of the differential needs for commercial space under each alternative, the Strategy Plan summarised the implications for commercial facilities as shown in Table 1 below:

Table 1
RECOMMENDATIONS CONCERNING COMMERCIAL CENTRES IN
LOWER BLUE MOUNTAINS, 1974 STRATEGY PLAN

	ALTERNATIVE FUTURE					
	1	2	3	4A	4B	5
Population	25,000	34,000	45,000	69,500 Option I*	69,500 Option II*	131,700
Description of Retail Development	Essentially maintain existing situation: <u>No District Centre</u> and high escape to Penrith. Some <u>Town Centre</u> functions performed at Springwood.	<u>District Centre</u> role performed by Penrith. Springwood as <u>Town Centre</u> , approx. 6,500 sq.m., but considerable escape to Penrith. Expansion of existing centres and development of those already planned.	<u>District Centre</u> role performed by Penrith. One strong <u>Town Centre</u> , say 9,300 sq.m. developed. Expansion of existing <u>Neighbourhood Centres</u> would cope with added demand.	* This option involves utilisation of Penrith for <u>District Centre</u> needs, and avoids a highly competitive situation. <u>District Centre</u> role performed by Penrith. Two <u>Town Centres</u> , 13,000 and 9,300 sq.m., 2-4 new <u>Neighbourhood Centres</u> required.	* This option involves development of <u>District Centre</u> facilities in the Lower Mountains, and aims at retaining the maximum amount of potential expenditure. <u>District Centre</u> at 37,000 sq.m. involving department store, 9,300 sq.m. One <u>Town Centre</u> , 9,300 sq.m., 2-4 new <u>Neighbourhood Centres</u> required.	<u>District Centre</u> , 55,000 sq.m. incl. department store of about 14,000 sq.m. Three <u>Town Centres</u> , one at 12,000 sq.m. others around 9,300 sq.m. 10-14 new <u>Neighbourhood Centres</u> required.
Description of Office Development	Present situation to remain unchanged, except for completion of buildings under construction.	Springwood to increase office space to 6,500 to 7,400 sq.m. in lines with its development as a <u>Town Centre</u> .	<u>Town Centre</u> to contain 7,400 sq.m. No significant expansion of office space in <u>Neighbourhood Centres</u> .	Major <u>Town Centre</u> to contain 11,100 sq.m. Lesser <u>Town Centre</u> to contain 1,860 sq.m. <u>Neighbourhood Centres</u> to average 186 sq.m.	<u>District Centre</u> to contain 18,600 sq.m. <u>Town Centre</u> to contain 1,860 sq.m. <u>Neighbourhood Centres</u> to average 186 sq.m.	<u>District Centre</u> to contain 37,000 sq.m. Large <u>Town Centre</u> to contain 1,860 sq.m. <u>Neighbourhood Centres</u> to average 186 sq.m.

Clearly, the adoption of one of these Alternatives is a precursor to a decision on the long term future of the centres in the Lower Mountains. In the meantime, however, it is necessary to specify the likely or desirable level of commercial development under each Alternative and to examine the implications of current applications for development within the major commercial centres. A major question requiring resolution is the appropriate location of increments to commercial floor space given different population levels. This is dealt with under Section 4 below.

A final report that is relevant to this Study is the 1971 report on Penrith Town Centre produced by the State Planning Authority, Urban Design Associates, and Sinclair & Knight in 1971. This report considers that Penrith has a "logical role as a comparative retail centre for the Blue Mountains area". Accordingly, it considers the Mountains, particularly the area west of Blaxland to be an important part of the Penrith Trade Area. The recommendations for a centre containing up to 93,000 square metres of retail space at Penrith are based on the assumption that the centre will capture up to 45% of specialists goods trade from the Lower Mountains area. This appears to be on a par with existing penetration into the area. The implication of these recommendations can be interpreted in two ways :

- (i) If the Penrith centre did achieve such penetration rates into the Lower Mountains area, it would not be feasible to develop a sub-regional centre, even given a large population such as that envisaged under Alternative Future 4.
- (ii) If a major centre was developed in the Lower Mountains area, it would have to siphon off from Penrith a sizeable proportion of its trade. This would result in a smaller centre at Penrith.

These implications are pursued further in Section 4.

1.4 SUMMARY OF FINDINGS AND RECOMMENDATIONS

FINDINGS

The major findings of this Action Study can be summarised as follows :

(a) Economic Structure and Viability

* The Lower Blue Mountains' commercial structure is clearly distinct from that of the Upper Mountains. It is currently dominated by Springwood, particularly in terms of retail space. The centres are all dominated by lower-order functions, with some higher-order functions served by

Springwood. Springwood draws custom from a wider area than does Blaxland.

* The provision of commercial space is clearly influenced by the relatively small current population of the Lower Blue Mountains (around 23 to 25,000) and its scattered nature. Population is relatively evenly split between the Springwood and Blaxland areas.

* The whole of the Lower Blue Mountains is heavily dependent upon centres outside the area for its major shopping needs. It is estimated that some 60% of total expenditure is currently directed to commercial centres outside the area. Penrith captures a major proportion of this 'escape expenditure' owing to its proximity to the area and its containing a Department Store, many specialty stores, as well as large food stores. The degree of shopping dependence upon Penrith increases with proximity to the centre.

* Plans for expansion of Penrith centre, drawn up under the auspices of the SPA, call for a continuance of its role as a major District Centre for a wide area, including the Lower Mountains area, particularly that portion east of Warrimoo. The development of a District Centre in the Lower Mountains can only be supported with a population of over 50,000, and with a carefully-located centre capturing a good deal of trade otherwise destined to Penrith.

* The appropriate future distribution of commercial facilities within the Lower Mountains is primarily dependent upon future population numbers and distribution. Hence, the commercial strategy appropriate for the Lower Mountains varies under each Alternative Future posed in the Blue Mountains Strategy Plan. Major growth is likely to occur in the vicinity of both the Blaxland and Springwood centres with the proportion varying under each Alternative.

* If rates of population growth that prevailed in the Lower Mountains over the 1966-71 and 1971-73 periods (5.7% plus per annum) are restored after the current building recession abates, the population capacity of Alternative Future 2 will be reached by 1981, that of Alternative Future 3 by 1986 and that of Alternative Future 4 by 1994.

* Under Alternative Future 1, the distribution and size of commercial facilities would remain essentially at existing levels. Under Alternative Futures 2 and 3, commercial facilities could be significantly expanded in Springwood to levels appropriate



to its function as a Town Centre although population is not sufficient to support a District Centre. Thus, Penrith would retain its role as a District Centre for the area under these Alternatives. Outside of Springwood, Neighbourhood Centres would be developed in accordance with population growth. Blaxland would retain its status as an enlarged Neighbourhood Centre under these Alternative Futures 2 and 3.

* Under Alternative Future 4 there are several options available with regard to the expansion of commercial facilities. These options basically revolve around the question of the appropriate level of provision of local commercial facilities. The population level of the Lower Mountains under Alternative Future 4 is sufficient to support a District Centre. This would improve the range of local shopping facilities considerably with the provision of a relatively comprehensive range of specialty stores, possibly a Discount Store, and at least a junior Departmental Store. Such facilities would clearly reduce dependence upon Penrith and the amount of 'escape expenditure' from the area. If such a centre is desired within the Lower Mountains the major questions to be resolved are concerned with the timing and location of the development.

With regard to timing, it appears that if a new District Centre is to be constructed, it would best be developed as the population of the Lower Mountains approaches the threshold level of 50,000. Given current growth rates this would point to commencement of development in the mid 1980's.

In respect of location, and notwithstanding the recommendations of previous reports, currently available information on commercial location and shopping behaviour indicates that the location of such a District Centre in the Blaxland area would be a marginal proposition. This is in view of the proximity of an expanded Penrith centre containing possibly two major departmental stores. For this reason, Springwood appears to be a superior location for a District Centre, although a centre of only 25 to 28,000 square metres could be supported at this location.

(b) Development Considerations

* Springwood centre is currently too linear to function at full efficiency: any future development should aim at consolidation within the zoned area in preference to further extension.

Factors of topography and land ownership currently militate against this aim. This points to the need for an overall development concept for the centre, particularly in the event of large-scale expansion.

- * Blaxland's functional efficiency and future development potential is seriously constrained by its Highway location. Future development should have restricted access from the Highway and be encouraged to orientate towards rear parking areas.

- * The Neighbourhood Centre on the Great Western Highway at Faulconbridge (the Coomassie Centre) should not be allowed to expand unless arrangements can be made for the diversion of the Great Western Highway to the rear of existing development.

- * In terms of availability of zoned land, the scale of development suggested for Springwood and Blaxland under Alternative Future 2 presents no major developmental problems, provided development is approved in accord with concepts put forward in this report. The scale of development involved under this Alternative Future would generally result in only minor additions to the existing scale and character of the two centres. Zoned land is well in excess of commercial requirements in both centres.

- * Under Alternative Future 3, the larger scale of the Springwood centre would involve some redevelopment of existing business premises in addition to development at the rear of that existing. This, together with increased parking requirements and the necessity to open up Springwood Avenue underlines the need for development to proceed in accord with an integrated concept as outlined in principle in this report. The scale and form of development at Blaxland would be similar to that envisaged under Alternative Future 2, with zoned land again being well in excess of requirements.

- * In the case of Alternative Future 4, the area currently zoned for business purposes in both Springwood and Blaxland is sufficient to allow for expansion of both centres to Town Centre status. If a District Centre is required, however, some problems emerge in respect of available land given the high amounts of commercial space and attendant parking space involved.

Land zoned for commercial purposes at Blaxland is clearly insufficient to support a District Centre, and in any case such a development on the site adjacent to the Highway would be undesirable from a traffic and pedestrian safety point of view. Although an alternative site is available within the Blaxland area, the economic analysis has pointed to the marginality of a Blaxland location.



A District Centre at Springwood thus becomes the most realistic alternative. It must be recognised, however, that this presents certain problems in terms of site availability and coordinated development. The total gross building area involved in a District Centre at Springwood is 59 to 65,000 square metres, with only 41,000 square metres of zoned commercial area. This means a multi-storey development is inevitable. In addition, the equivalent of six-storey parking stations would be required on the area zoned for parking purposes.

In view of the poor design solution such a development offers, a total redevelopment concept would need to be developed for the whole centre, with commercial and parking requirements integrated into a multi-level development.

RECOMMENDATIONS

The following is a summary of the major recommendations of this report :

- * No significant additions should be made to commercial floor space in case of the adoption of Alternative Future 1, with the exception of that under construction or approved.
- * Under Alternative Futures 2 and 3, Springwood should be developed as a Town Centre with appropriate levels of commercial floor space to serve the increased population of the Lower Mountains - a maximum of 13,900 square metres of floor space (net) under Alternative Future 2 and 16,700 square metres under Alternative Future 3. Penrith would remain as the District Centre for the area. Some 20,500 square metres of parking space would be required at Springwood under Alternative Future 2 and 24,200 square metres under Alternative Future 3. Development should proceed in accord with a specified Design Concept, which involves consolidation of the centre as far as possible, multi-level decking, and closure of Macquarie Road become feasible under Alternative 3.
- * Neighbourhood Centres should be developed under Alternative Futures 2 and 3, in accord with increased population levels, in various localities, to provide a good range of local facilities. Development should be restricted at Faulconbridge, however, unless provision is made for diversion of the Highway. Development at Blaxland should be restricted to a maximum total net floor space of 3,900 square metres, with 2,300 square metres of parking space. Every effort should be made to consolidate development to allow for an integrated centre. A Design Concept for the centre under each Alternative Future is included in this report.



* Under Alternative Future 4 a major District Centre should be developed at Springwood, in order to provide a centre of maximum viability and range of merchandise. This would help increase the provision of local shopping facilities and reduce the level of dependence upon Penrith, without producing a possibly marginal development as could occur if a District Centre was developed at Blaxland. The centre should contain a total commercial floor space of 44,000 square metres (net) and 67,000 square metres for parking purposes. It must be recognised, however, that given the inherent site constraints of the zoned commercial area the development of such a centre at Springwood would be a costly proposition. Multi-level decking of parking and commercial facilities is inevitable, and development would have to proceed in accord with a detailed development control plan. An overall design concept which could form the basis of such a plan is included in this report. Despite the complexity of implementing such a plan, it is believed that this development solution is by far the best for the Lower Mountains area in terms of commercial facility provision.

* Elsewhere within the Lower Mountains under Alternative Future 4, Neighbourhood Centres should be developed in accord with population growth in order to provide a good range of local facilities, while affording the District Centre at Springwood maximum viability. Development at Blaxland should proceed to a total net floor space of 5,600 square metres with 6,700 square metres of parking space in accordance with the Design Concept included in this report. This includes provision of a barrier along a widened Great Western Highway, partial closure of Station Street and the remainder of development away from the Highway. Consolidation of development to the west of Station Street, with a multi-level concept, involving a commercial deck over parking, is also sought at Blaxland.

* Consent should only be granted in the immediate future to those Development Applications which do not prejudice the recommended floor space levels and Design Concepts specified under the various Alternative Futures. Others must be deferred pending a final decision on the adoption of a particular Alternative Future.

2. EXISTING COMMERCIAL STRUCTURE OF THE LOWER MOUNTAINS AREA

2.1 RETAIL STRUCTURE

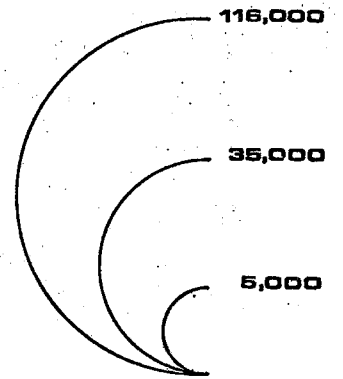
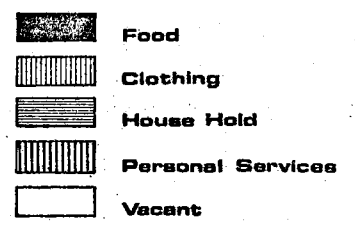
As shown in the Strategy Plan, the commercial structure of the Lower Mountains shows a complete distinction from that of the Upper Mountains, reflecting the different character of the two areas. In general, the two commercial systems operate independently, although Katoomba draws some trade from the western portions of the Lower Mountains. The present retailing structure of the Lower Mountains can be summarised as follows :

- * Springwood is the major centre in terms of floor space and customer drawing power (see Table 2 and Figures 1 and 2). It functions as the 'capital' of the Lower Mountains area, with strong provision of food, clothing and household goods. It draws custom from its immediate environs most strongly, but also attracts custom from North Springwood (Winmalee), Linden, Faulconbridge and Warrimoo localities. The population of this area is currently around 11,000 (see Figure 5). It is of significance that the trade area of Springwood overlaps with that of Blaxland in the Warrimoo area (see Figure 2).

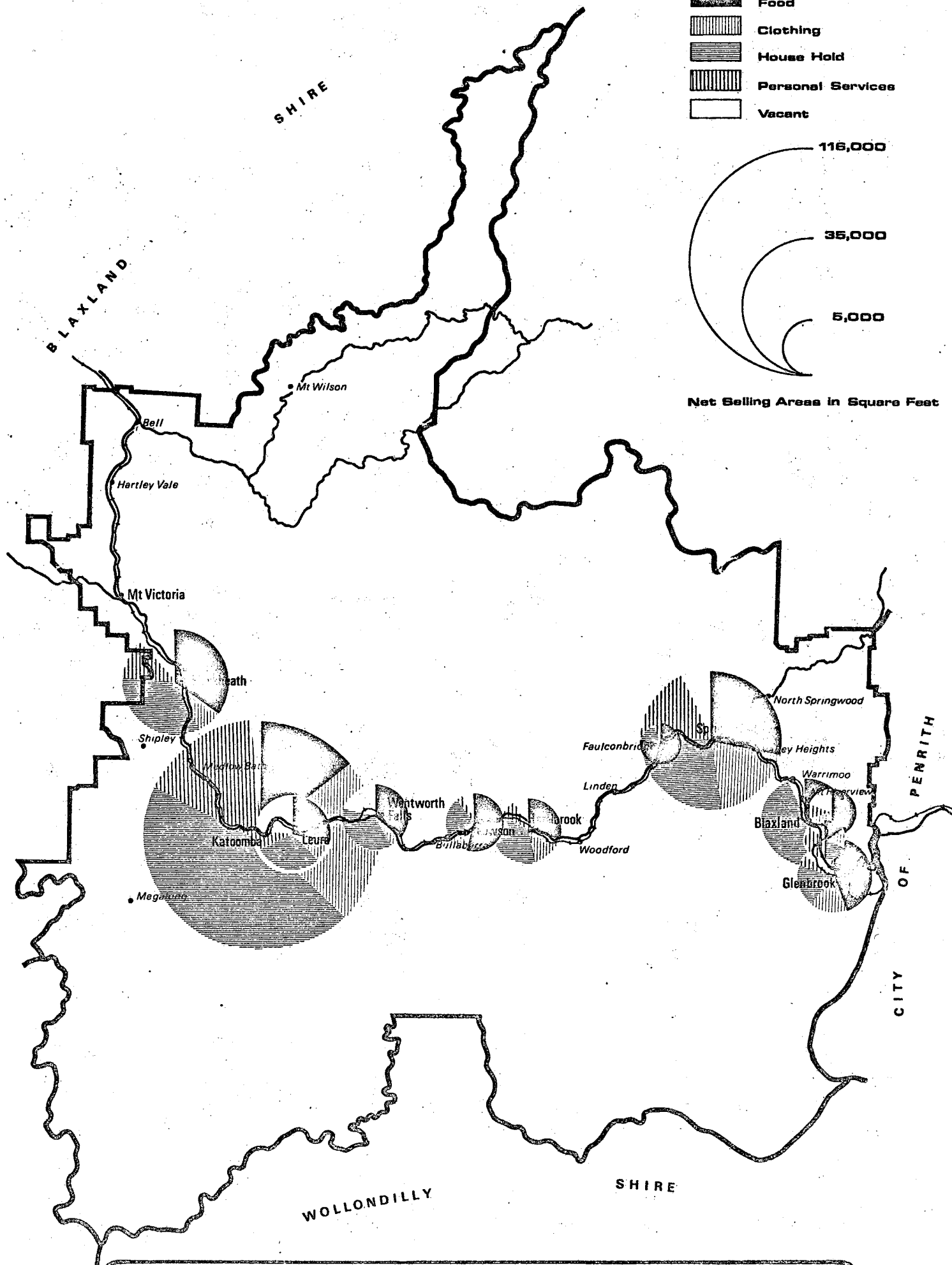
Table 2
LOWER BLUE MOUNTAINS COMMERCIAL CENTRES:
DISTRIBUTION OF RETAIL AND OFFICE FLOOR SPACE, APRIL 1974

FLOOR SPACE CATEGORY	COMMERCIAL CENTRES												LOWER MOUNTAINS TOTAL (rounded)
	Springwood		Blaxland		Glenbrook		East Blaxland		South Blaxland		Faulconbridge		
	Net Selling Area (sq.m.)	No. of Shops	Net Selling Area (sq.m.)	No. of Shops	Net Selling Area (sq.m.)	No. of Shops	Net Selling Area (sq.m.)	No. of Shops	Net Selling Area (sq.m.)	No. of Shops	Net Selling Area (sq.m.)	No. of Shops	
RETAIL													
Food	1,050	12	530	9	521	7	237	4	65	2	279	6	2,680
Clothing	655	9	79	3	195	2	-	-	74	1	-	-	1,000
Small household items	830	15	669	8	214	4	98	2	88	3	51	2	1,950
Large household items	218	4	47	1	-	-	-	-	-	-	-	-	265
Personal Services	451	11	112	3	37	1	37	1	163	3	19	1	820
Hotels and Liquor	2 hotels + 1 liquor st.	3	1 liquor st.	1	1 liquor st.	1	-	-	1 hotel	1	1 liquor st. 33	1	
Total Retail Space	3,200	54	1,440	25	970	15	370	7	390	10	350	10	6,720
Net Rentable Vacant Shop Space	251	3	-		195	4	93	1	56	1	-		595
% of Total Space	7.7%		0%		19.4%		20%		9.5%		0%		
OFFICES													
Government	242	1	214	2	-	-	-	-	-	-	-	-	456
Finance	716	4	163	4	-	-	-	-	-	-	-	-	879
Business	442	9	558	8	74	1	42	1	88	2	130	4	1,334
Medical/Dental	93	1	93	1	121	2	93	1	-	-	-	-	400
Vacant	84	1	-	-	-	-	-	-	-	-	-	-	84
Total Office Space	1,576	16	1,028	14	195	3	135	2	88	2	130	4	5,152

Source: USC and Plant Location International Field Surveys, April 1974.



Net Selling Areas in Square Feet





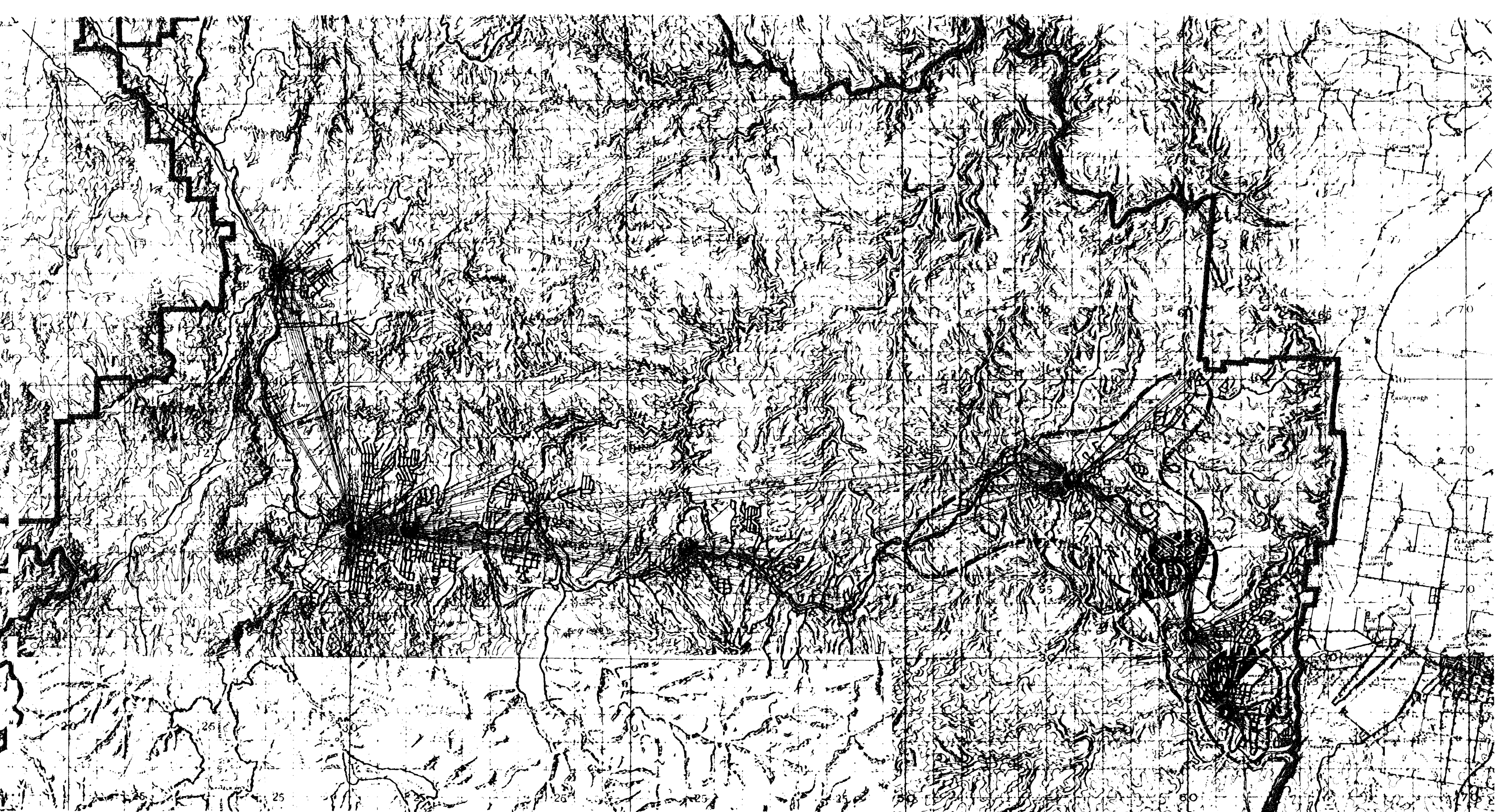
- * Blaxland, the second largest centre in terms of floor space with higher proportions of food and household goods lines, acts as more than a Neighbourhood Centre: its drawing power is considerably less than that of Springwood, being confined to Mt Riverview, South Blaxland and parts of Warrimoo. However, despite the limited geographical extent of this area, the population of the area is currently around 9 to 10,000 (see Figure 5). Blaxland also has a relatively large office component.
- * The centres at Glenbrook, Baulconbridge, East and South Blaxland are Neighbourhood in status only, having a restricted range of goods and spheres of influence serving only their immediate localities.

2.2 SHOPPING BEHAVIOUR

As noted above, and as a result of the relatively low population levels and the restricted range of shopping facilities in the Lower Blue Mountains area, there is a high degree of 'escape spending' from the area. This has been estimated at 60% by Plant Location International.** In other words, only 40% of the total shopping expenditure within the Lower Mountains area is spent at local retailing centres. This is a reflection of the relative paucity of existing shopping facilities within the area, the relatively low total population, and the presence of larger competing centres, such as Penrith, within fairly easy reach of the Lower Mountains.

In-centre surveys (conducted in early 1974) indicated, as could be expected, that the drawing power of the Penrith centre increases with increasing proximity to that centre. Thus, as Table 3 below shows, Penrith is mentioned as an alternative shopping location by around 35% of respondents in the Blackheath, Katoomba and Lawson districts of the Upper Mountains, rising to 40% in Wentworth Falls. In the Lower Mountains, 79% of Springwood shoppers mention Penrith as an alternative location: this rises to 90% in Blaxland and 93% in Glenbrook. Thus, it is clear that the proportion of shopping expenditure directed to Penrith is higher within the trade areas of the Blaxland and Glenbrook centres than it is within that of the Springwood Centre. This appears to be a result of the increased accessibility of Blaxland and Glenbrook to Penrith, their natural 'orientation' to that centre, and the relative scarcity of local shopping facilities in comparison to Springwood. It is also clear from Table 3 that Parramatta and Sydney draw a good

** Plant Location International: The Location of Commercial Centres in the Lower Blue Mountains Area, December 1973.



1 0 1 2 3 4 5 miles

Urban Systems Corporation

Trade Area Boundaries



Commercial Centres

BLUE MOUNTAINS CITY COUNCIL

Commercial Strategy : Lower Blue Mountains
Trade Areas



deal of trade from the Lower Mountains area, particularly from the Blaxland area. Analysis of trip purposes of these external centres shows that clothing and household goods purchases are the major draw: in other words, more food shopping is transacted locally than is specialist goods shopping. This is a reflection of the low availability of the latter goods within the Lower Mountains area. Any large scale expansion of Lower Mountains centres would include a high component of specialist goods shopping in order to increase the range of goods within the area.

Table 3
PROPORTION OF RESPONDENTS SHOPPING REGULARLY IN
PENRITH, SYDNEY AND PARRAMATTA FROM SELECTED
BLUE MOUNTAINS CENTRES

Centre	Road Distance from Penrith (kilometres)	Proportion Shopping Regularly in		
		Penrith	Sydney	Parramatta
Blackheath	68.6	30%	31%	NS
Katoomba	56.5	36%	15%	NS
Leura	53.6	35%	NA	NS
Wentworth Falls	48.3	44%	25%	NS
Lawson	41.4	38%	34%	NS
Springwood	21.6	79%	25%	14%
Blaxland	13.4	91%	55%	22%
Glenbrook	10.1	93%	16%	11%

NA - Not Available

NS - Not Significant

Source: In-centre surveys, April 1974.

2.3 OFFICE SPACE DISTRIBUTION

With regard to the distribution of office space, the following comments from the Strategy Plan* summarise the situation (see Table 2) :

- Springwood does not dominate the office space market to the same degree as it does in retailing, as Blaxland also has a significant amount of space.
- The present provision of office space is not in line with population growth trends. The current provision of office space, related to population, is 0.326 square metres of net

* See Blue Mountains Strategy Plan: Volume 2, Technical Analysis, p E10.



rentable area per head in the Upper Mountains, but only 0.130 square metres per head in the Lower Mountains. This points to the present under-supply of office space in the Lower Mountains, a situation which should be corrected as further population growth and development occurs.



3. BLAXLAND AND SPRINGWOOD: CENTRE STRUCTURE

The land use arrangement within the Blaxland and Springwood centres is shown in Figures 3 and 4.

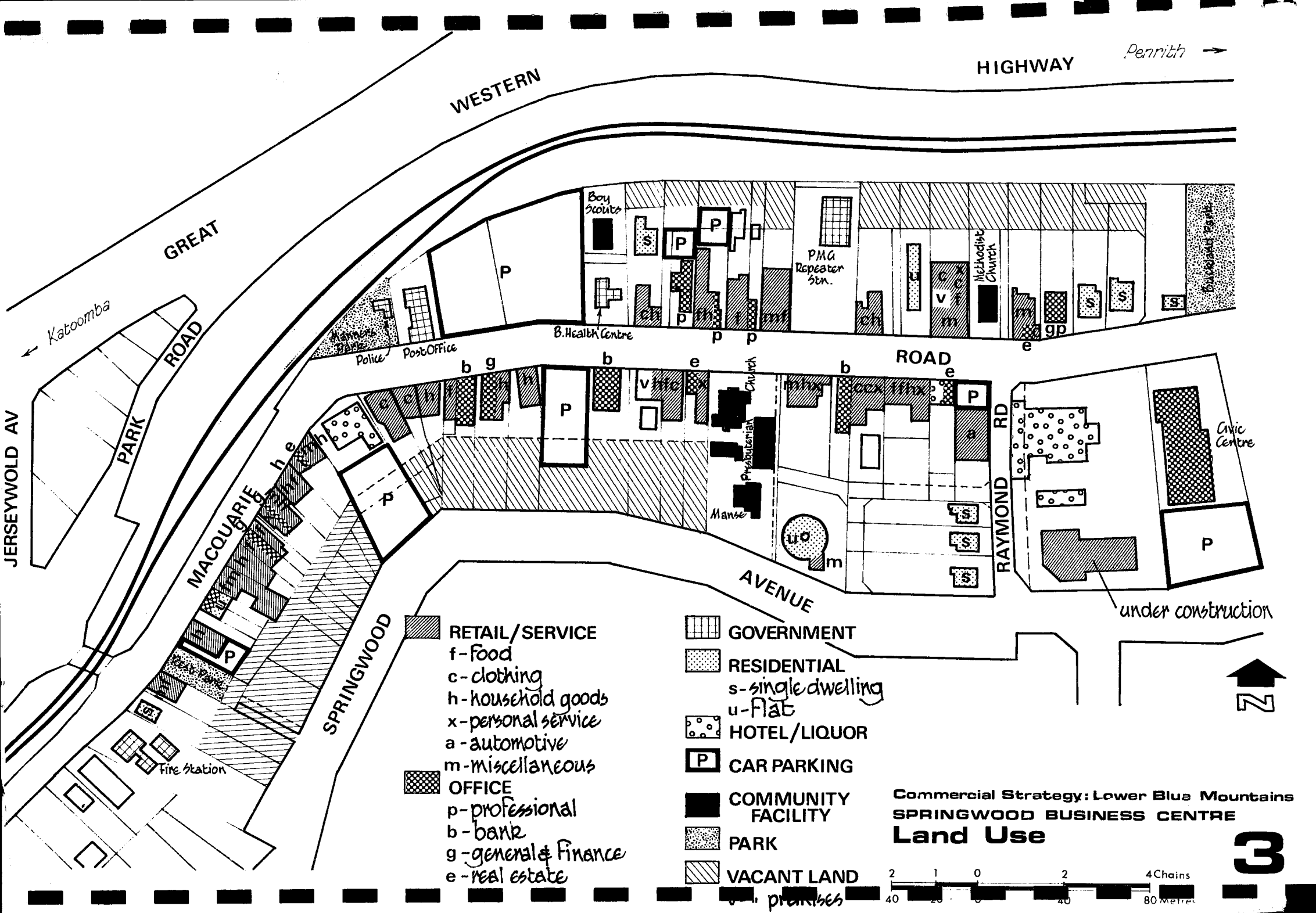
3.1 SPRINGWOOD

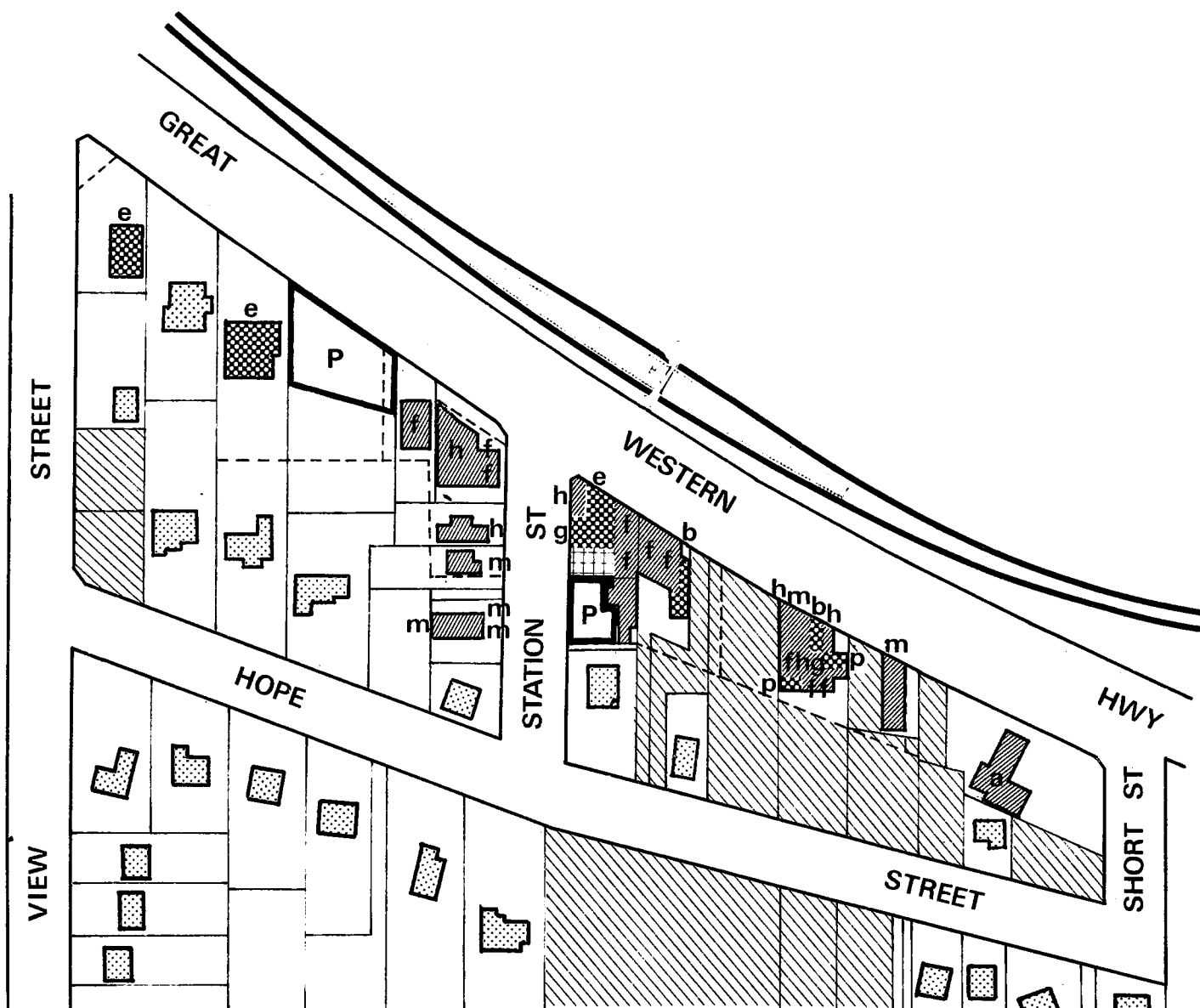
The linear structure of the Springwood centre points to its operational inefficiency; the retail frontages along Macquarie Road, west of Raymond Road, stretch for over 150 metres which tends to make the centre difficult for the pedestrian to negotiate. Any future planning, therefore, should aim to consolidate the centre in preference to further elongation.

In functional terms, the Springwood centre is focussed on the central section of the Macquarie Road frontages (see Figure 3) with a strong clustering of food stores and clothing outlets in the locality. In this area business activity and pedestrian flows are at a peak. To the east and west of this cluster, activity intensity diminishes, with household goods stores predominating towards the peripheries (particularly the western extremities of the centre). Most recent development, however, has been concentrated in the eastern ends of the centre, causing the focus of activity within the centre to move in this direction. Most recent DA's have also been in the vicinity of the Raymond Road/Macquarie Road intersection - this is likely to further reinforce the easterly drift of the centre. This trend is likely to assist in the aim of consolidation, and should, therefore, be encouraged provided it meets with requirements of any comprehensive development concept for the entire centre (see Section 5). The relatively steep drop of the land surface to the rear of existing development, together with the fragmented pattern of land ownership, emphasise the need for a comprehensive development concept if large-scale expansion of the centre is envisaged.

3.2 BLAXLAND

Blaxland, being a much smaller centre than Springwood has little defined structure (see Figure 4). The main focus of activity occurs between Station and Short Streets in a concentration of food stores and offices. The large number of vacant frontages along the Highway gives the centre an overall fragmented appearance. The block to the west of Station Street is dominated by a hardware store and temporary real estate offices. The functional efficiency and future development of the centre is seriously hampered by its Highway location. The concept plan for the centre (as one of Neighbourhood





 RETAIL / SERVICE

a - automotive
f - Food
h - household goods
m - miscellaneous

 OFFICE

p - professional
b - bank
g - general & finance
e - real estate

 GOVERNMENT

 RESIDENTIAL - single dwelling

 CAR PARKING

 VACANT LAND



Commercial Strategy: Lower Blue Mountains
BLAXLAND BUSINESS CENTRE
Land Use

usc

2 1 0 2 4 Chains
40 20 0 40 80 Metres

4



status) put forward by USC in 1970 suggested a rationalisation of the centre's frontages along the Great Western Highway by closure of Station Street and reorientation of development away from the Highway at the rear of existing development. This concept has not yet been implemented but remains an important priority for future development.



4. FUTURE DISTRIBUTION OF COMMERCIAL FACILITIES

The appropriate future distribution and scale of commercial space provision within the Lower Blue Mountains is dependent upon a number of factors, most important being :

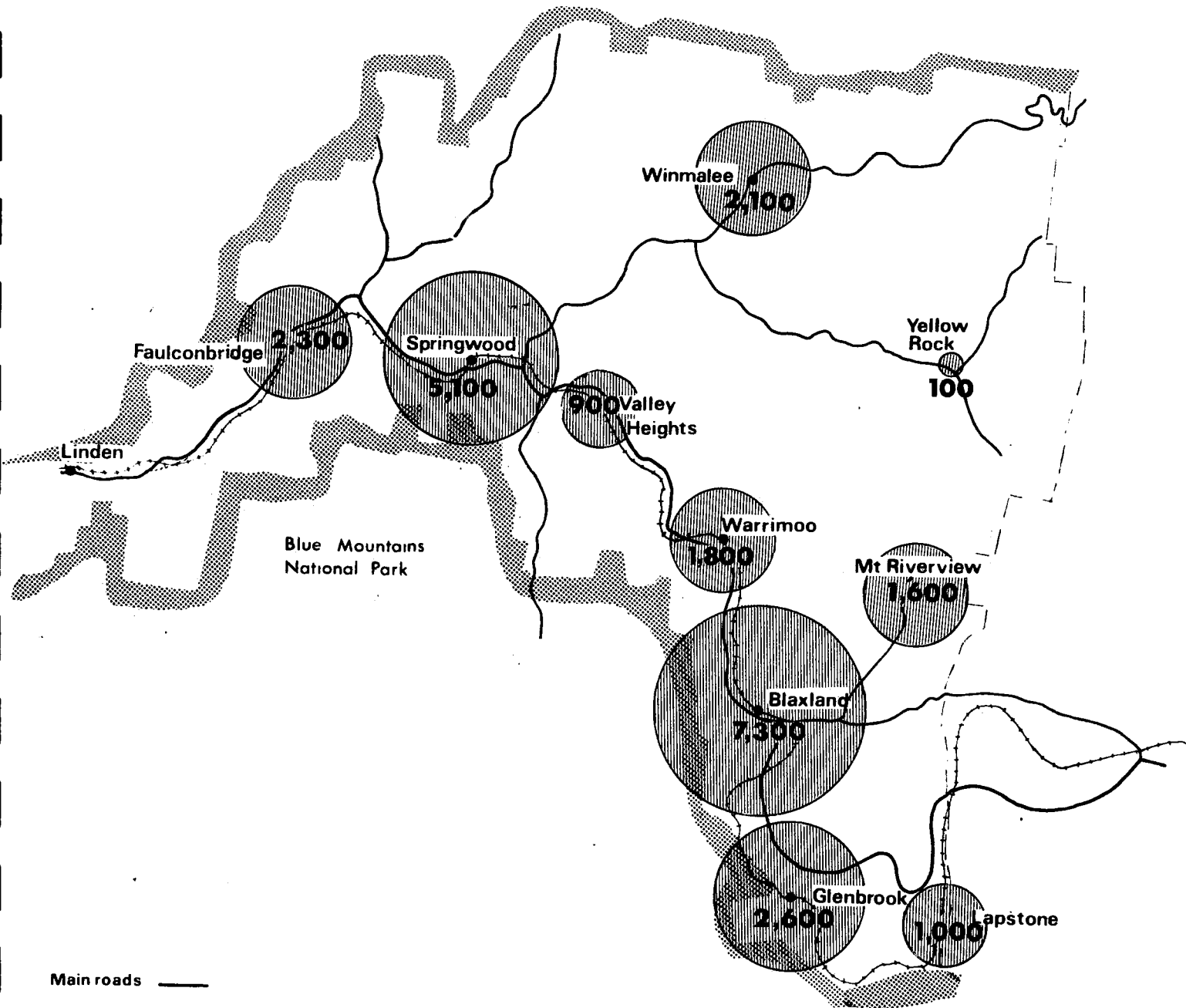
- the existing distribution of commercial facilities within the Lower Blue Mountains;
- the future population numbers and distribution within the area;
- the desired provision of local shopping facilities and level of expenditure retention within the Lower Blue Mountains area;
- the development of competitive facilities at other locations, eg. Penrith, and the improvements in accessibility to these locations.

4.1 POPULATION DISTRIBUTION AND GROWTH

The future population size and distribution is clearly the dominant factor and, as outlined earlier, this is contingent upon the adoption of a particular alternative. The likely distribution of population within the Mountains under Alternative Futures 1 to 4 is shown in Figures 5 to 8 (see also Table A1, Appendix A). As may be seen, the existing (Alternative Future 1) population is located largely within the immediate vicinity of the two major centres at Springwood and Blaxland. Under Alternative Future 2, the overall population distribution changes somewhat with major growth occurring in the eastern portions of the area at Mt Riverview, Blaxland and Glenbrook: these localities' share of the total Lower Blue Mountains' population rises from 47% to 51%. Under Alternative Future 3, however, the major population expansion occurs in the west at Springwood and Winmalee, causing the western localities' share of the 45,000 population to rise from 38% to 48%. This situation persists under Alternative Future 4, although considerable population expansion also occurs around Blaxland. This means that the population distribution as between the western Springwood trade area and the eastern area around Blaxland becomes approximately even under this option.

Another important factor to consider in relation to the development of commercial facilities in the area, is the rate of future population growth. Between 1966 and 1971 the population of the Lower Mountains

Blue Mountains National Park



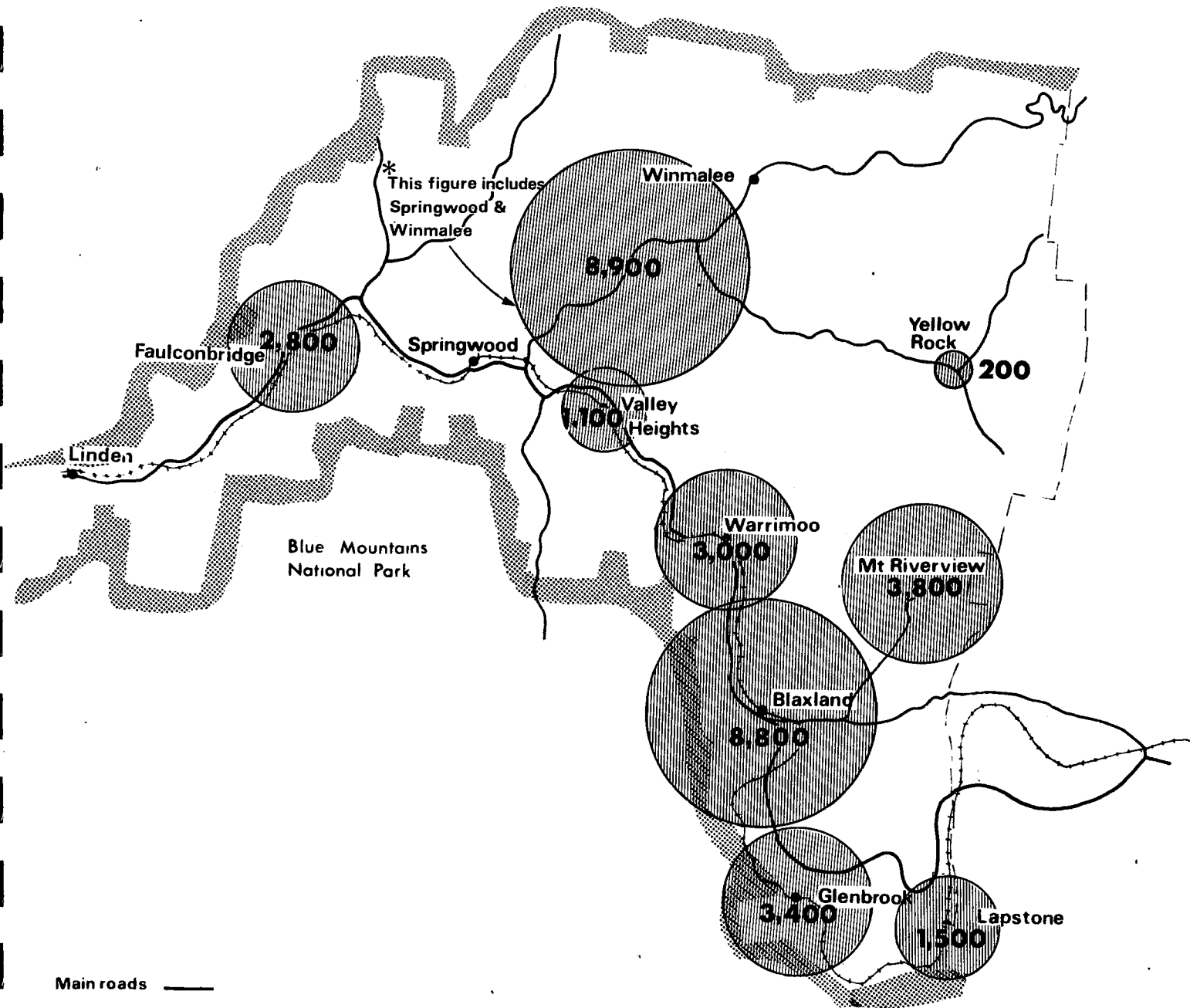
Main roads —



1 1/2 0 1 Mile

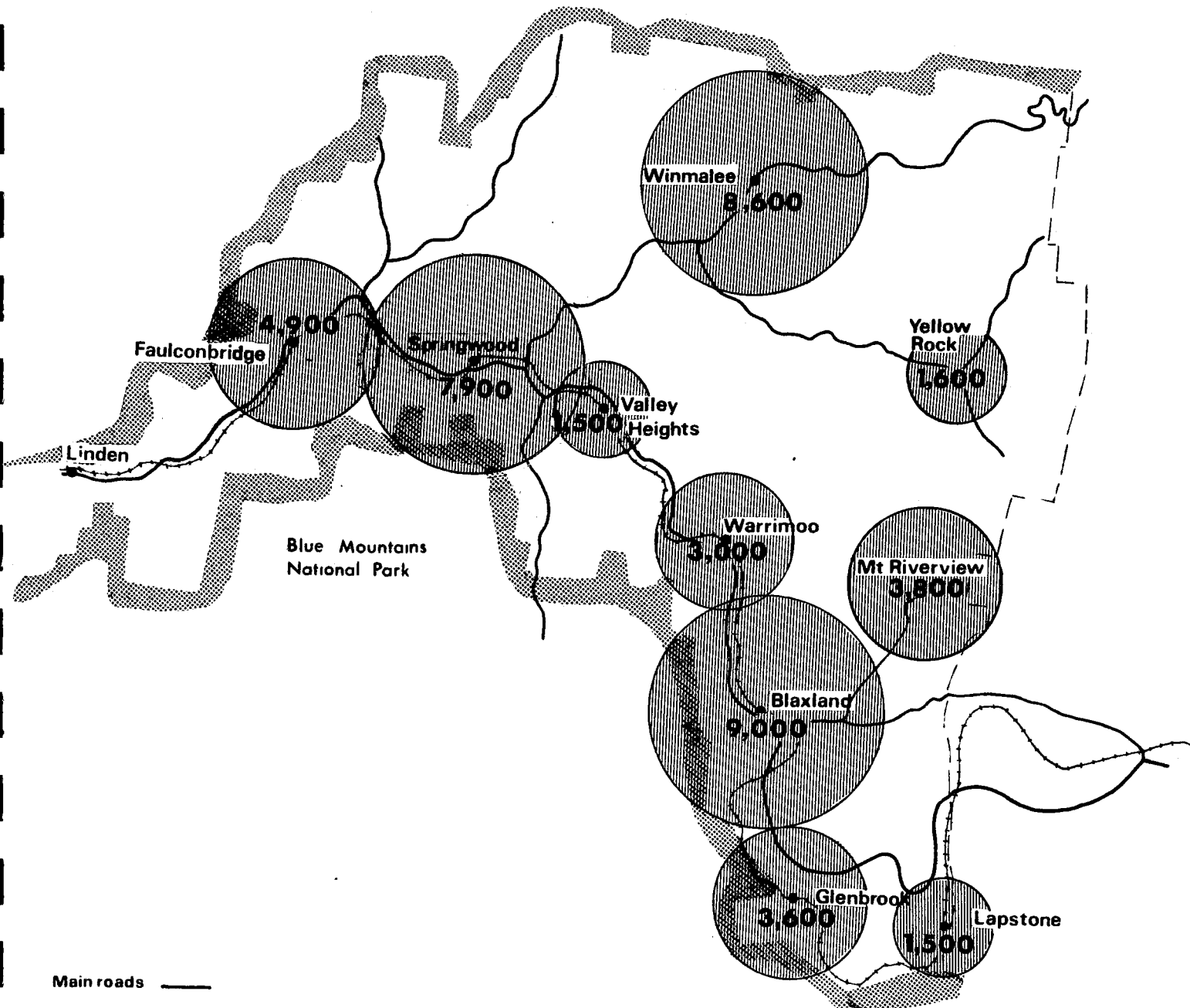
**COMMERCIAL STRATEGY
LOWER BLUE MOUNTAINS
Population Distribution
under Alternative 1**

Blue Mountains National Park



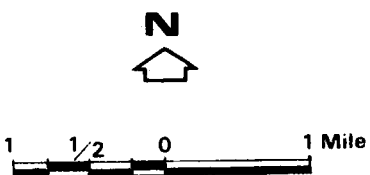
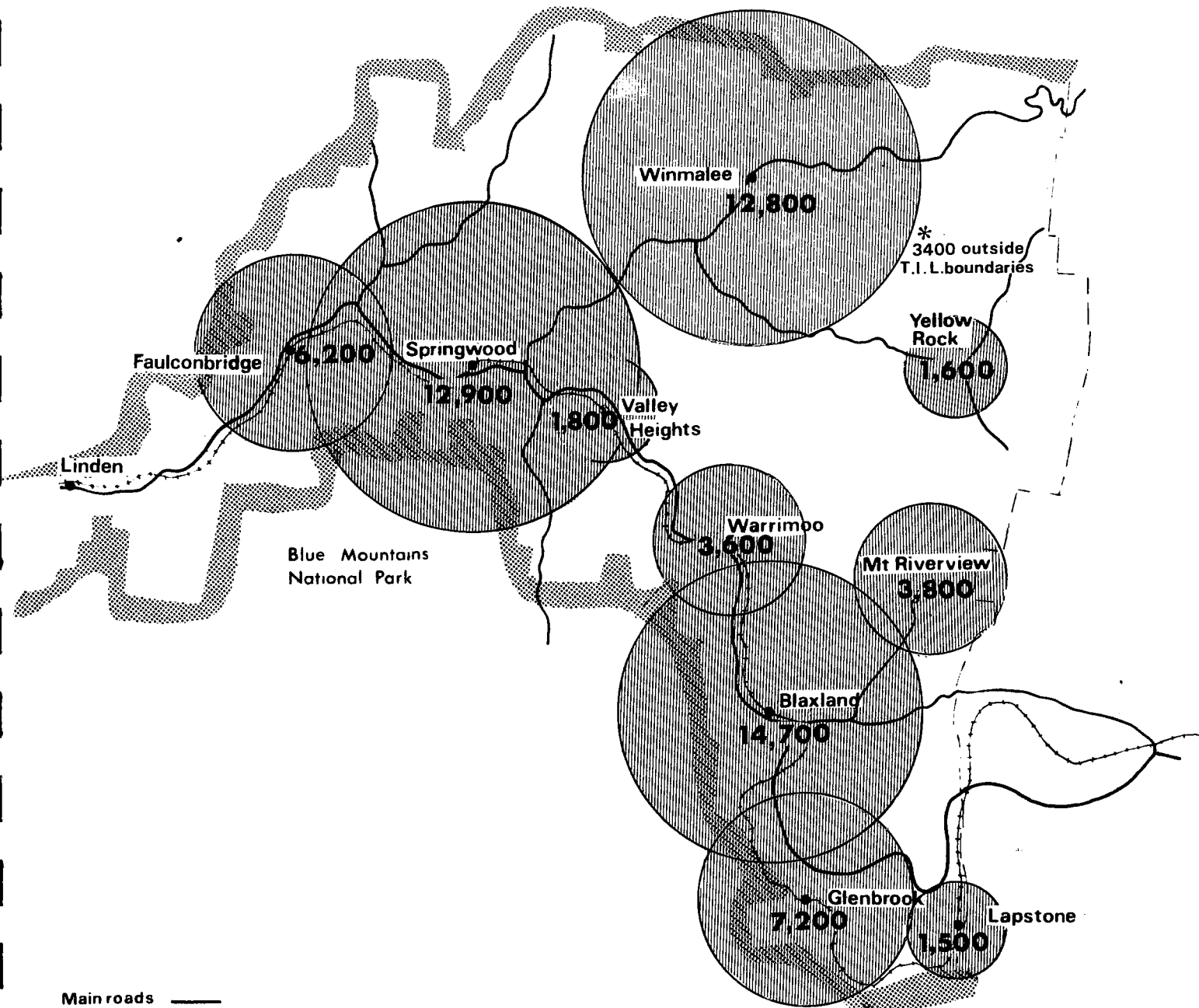
COMMERCIAL STRATEGY
LOWER BLUE MOUNTAINS
Population Distribution
under Alternative 2

Blue Mountains National Park



**COMMERCIAL STRATEGY
LOWER BLUE MOUNTAINS
Population Distribution
under Alternative 3**

Blue Mountains National Park



COMMERCIAL STRATEGY LOWER BLUE MOUNTAINS Population Distribution under Alternative 4



area grew at a compound rate of 5.7% per annum. Growth appears to have increased further since that date, judging by the high rate of housing approvals since 1971. Indications are that the growth rate has been around 8% per annum since 1971 - assuming the population of Alternative Future 1 will be achieved by mid-1975 (this appears likely given the recent economic downturn). Dates at which population capacities of the other alternatives would be reached are shown in Table 4 below, assuming differential growth rates.

Table 4

DATES AT WHICH POPULATION CAPACITIES OF ALTERNATIVE FUTURES WILL BE REACHED, ASSUMING VARIOUS GROWTH RATES

Alternative	Population	Dates at which achieved			
		3%	5%	5.7%	8%
1	24,800	1975	1975	1975	1975
2	33,600	1986	1982	1981	1980
3	45,400	1996	1988	1986	1983
4	69,500	2010	1997	1994	1989
5	131,700	2032	2010	2006	1997

It is likely that the growth rate will vary between extremes. However, assuming an overall average growth rate of 5% is maintained once development recovers from the present slump, Alternative Future 2's capacity population could be reached by the early 1980's, that of 3 by the late 1980's, and 4 by the mid 1990's. Thus we are planning for a 20 to 30 year time horizon: unless severe restrictions are placed on future development, it is likely that the population capacity of Alternative Futures 2 and 3 will be exceeded within 20 years.

If a major District Centre is to be developed, it would be wisest policy to commence it as the population approaches the threshold level of around 50,000: this appears likely in the mid 1980's. Thus, a start could be made on the centre in the early 1980's, so that it could be fully operative by the time the threshold population is reached.

The location of commercial facilities within the area should, therefore, respond population expansion and distribution. However, account must also be taken of the existing distribution of facilities, with Springwood acting as the major draw for custom within the area and Penrith acting as the major specialist goods shopping centre for the Lower Mountains area.



4.2 ALTERNATIVE FUTURES

Alternative Future 1 :

Under this Alternative Future, no addition to the existing population is envisaged, and hence there would be no significant additions to commercial floor space other than that already approved or under construction. This involves some 600 square metres of floor space under construction in Springwood and 2,300 square metres approved as the first stage of a Neighbourhood Centre at Winmalee. No other construction would take place, and thus the floor space distribution would remain as shown in Figure 1. The existing drift of retail expenditure from the area, as outlined in the previous section would, therefore, continue.

Alternative Future 2 (see Table 5) :

As indicated in Table 1, expansion of commercial facilities within the Lower Mountains area would under this option be most logically located at Springwood. Springwood is already the focus of commercial and social facilities within the area. The total population level under this Alternative (33,600) is not sufficient to support any sort of District Centre. Hence, Springwood's role would be as a Town Centre, catering predominantly to weekly shopping needs, with some provision of specialist clothing stores and the like. Penrith would thus maintain the role as the major District Centre serving the Lower Mountains area.

However, there appears to be sufficient potential expansion available under Alternative Future 2 to expand Springwood's retail floor space to 6,500 square metres and its office component to 6,500 to 7,400 square metres.* As shown in Table 4, this represents an increase of 3,000 square metres of retail selling area and 4,900 to 5,800 square metres of office space (net) over and above existing levels. The large increase in office space is warranted in view of the current under-supply situation within the Lower Mountains. There is currently 630 square metres of retail space under construction and a further 1220 square metres in the pipeline in the form of development applications (DA's), plus 1,700 square metres of office space. Thus approximately 40% of the incremental retail space requirements for Alternative Future 2 is already committed or under consideration. Recommendations on the future disposition of commercial space and on these DA's are made in ensuing sections.

In the vicinity of Springwood, Neighbourhood facilities would be developed at Winmalee (where 2,300 square metres of retail selling area, including a supermarket, has already received approval in the White Cross centre).

* For details of standards used in calculating levels of space provision, see Appendix B. Figures quoted in ensuing sections refer to net office floor space and net selling (retail) areas, unless otherwise specified.



Limited Neighbourhood facilities would also be developed at Valley Heights and Warrimoo. Facilities at the Coomassie Centre, Faulconbridge should not, however, be encouraged to expand, and arrangements could be made to divert the Highway to the rear of existing development. The existing Neighbourhood Centre straddling the Highway should not be allowed to develop further without such improvements.

Blaxland would maintain its existing role as a local commercial centre, serving the local population plus that at lower Warrimoo, parts of Mt Riverview, and South Blaxland. The expanded population in these areas would allow retail floorspace to expand to 2,300 square metres (see Table 5), as compared to existing levels of 1,440 square metres. Of this increase, 940 square metres is already accounted for by current development applications: the implications are discussed in Section 8. The proximity of Penrith, and the low overall population level in the area render uneconomic the build-up of retail space in Blaxland beyond these levels. No significant increase in office space, other than that currently in the pipeline, would be allowed for this would take total office space to 1,600 square metres as compared to present levels of 1,000 square metres.

Local Neighbourhood facilities would be encouraged to develop in Mt Riverview (400 square metres), with existing facilities at East and South Blaxland and Grenbrook being adequate to serve the needs of the marginal population expansion likely in these areas. Such dispersal of facilities within the eastern sections of the Lower Mountains would be in the best interests of the population by providing facilities at accessible locations.

Table 5
RECOMMENDED DISTRIBUTION OF COMMERCIAL FLOOR SPACE
BY CENTRE - ALTERNATIVE 2

	Proposed Floor Space (m ²)			Existing Floor Space (m ²)			Additional Net Floor Space Required (m ²)		
	Retail (net selling)	Office (net)	Total (net)	Retail (net selling)	Office (net)	Total (net)	Retail (net selling)	Office (net)	Total (net)
Faulconbridge*	350	130	480	350	130	480	NIL	NIL	NIL
Springwood	6,500	6,500 to 7,400	13,000 to 13,900	3,450	1,600	5,050	3,050	4,900 to 5,800	8,200 to 9,100
Winmalee	1,200	NIL	1,200	NIL	NIL	NIL	1,200	NIL	1,200
Valley Heights	210	NIL	210	NIL	NIL	NIL	210	NIL	210
Warrimoo	280	NIL	280	NA	NA	NA	NA	NA	NA
Blaxland	2,300	1,600	3,900	1,440	1,000	2,440	860	600	1,460
South Blaxland	450	90	540	450	90	540	NIL	NIL	NIL
East Blaxland	370	135	505	370	135	505	NIL	NIL	NIL
Mt Riverview	390	NIL	390	NIL	NIL	NIL	390	NIL	390
Glenbrook	1,160	280	1,440	1,160	280	1,440	NIL	NIL	NIL

Note: For details of space standards for provision of commercial space see Appendix B.

* Expansion could occur if Great Western Highway was diverted to rear of existing premises.



Alternative Future 3 (see Table 6) :

The large population expansion that occurs around Springwood under this Alternative Future (see Figure 7) renders this area the most logical location for expansion of commercial facilities, given the existing distribution. The total Lower Mountains population of 45,000, however, is still insufficient to support a District Centre - it appears that a total population of over 50,000 is necessary for such a centre to become viable. Hence, as was the case for Alternative Future 2, it does not appear possible to significantly increase the existing expenditure retention level of 40%.

The expanded Springwood centre would contain a total of 9,300 square metres of retailing space (net selling area), in comparison to existing provision of 3,500 square metres, in line with its expansion as a Town Centre. Office space could increase to 7,400 square metres - this is a considerable increase over the existing 1,600 square metres which is made possible by the expanded status of the centre and the present under-supply of office space within the Lower Mountains.

As under Alternative Future 2, Neighbourhood Centres would be encouraged to develop at Winmalee, and to a limited extent at Warrimoo and Valley Heights. In the latter two areas, however, development would have to be strictly controlled to avoid conflict with traffic on the Great Western Highway. As under Alternative Future 2, expansion of Neighbourhood facilities at Faulconbridge (the Coomassie Centre) could not be justified without diversion of the Great Western Highway to the rear of existing development.

The population surrounding Blaxland increases only marginally under this Alternative Future as compared to Alternative 2, reflecting the low number of subdivided unserviced blocks in these areas. For this reason, little further retail expansion beyond levels specified under Alternative 2 is warranted - as shown in Table 6, retail space would

Table 3
RECOMMENDED DISTRIBUTION OF COMMERCIAL FLOOR SPACE
BY CENTRE - ALTERNATIVE 3

	Proposed Floor Space (m ²)			Existing Floor Space (m ²)			Additional Floor Space Required		
	Retail (net selling)	Office (net)	Total (net)	Retail (net selling)	Office (net)	Total (net)	Retail (net selling)	Office (net)	Total (net)
Faulconbridge*	350	130	480	350	130	480	NIL	NIL	NIL
Springwood	9,300	7,440	16,440	3,500	1,600	5,050	6,800	4,740	11,640
Winmalee	1,630	NIL	1,630	NIL	NIL	NIL	1,630	NIL	1,630
Valley Heights	290	NIL	290	NIL	NIL	NIL	290	NIL	290
Warrimoo	290	NIL	290	NA	NA	NA	NA	NA	NA
Blaxland	2,400	1,600	4,000	1,440	1,000	2,440	960	1,600	1,560
South Blaxland	450	90	540	450	90	540	450	90	540
East Blaxland	370	135	505	370	135	505	NIL	NIL	NIL
Mt Riverview	490	NIL	490	NIL	NIL	NIL	490	NIL	490
Glenbrook	1,160	280	1,440	1,160	280	1,440	1,160	280	1,440

Note: For details of space provision standards, see Appendix B

* Expansion could occur if Great Western Highway was diverted to rear of existing development.



expand to 2,400 square metres and office space would expand to 1,600 square metres to take account of developments currently in the pipeline. These would be in line with the continuation of Blaxland as a local retailing and commercial centre. Elsewhere within the Blaxland area, expansion of neighbourhood retail facilities would occur at Mt Riverview to service the increased population in the area.

Alternative Future 4 (see Table 7) :

The distribution of commercial facilities under Alternative Future 4 is not as easily resolved as under Alternative Futures 2 and 3, owing to the increased total population of the Lower Mountains. As shown in Table 1, the population of 69,500 in the area under Alternative Future 4 opens up the possibility of providing a District Centre containing up to 37,000 square metres of retailing space, within the area. Such a centre would clearly improve both the range and depth of merchandise available locally within the Lower Mountains through provision of multiple specialty stores, a Discount Store and at least a junior Departmental Store. It would reduce the dependency of the area upon Penrith considerably and increase the retention of retail expenditure within the area. If such a centre is developed, a major question to be resolved is the appropriate location of such a facility in view of the population distribution (see Figure 8) which shows an almost even split between the areas surrounding Springwood and those adjacent to Blaxland. In broad terms, there are three options available in respect of the location of retail facilities. These have been termed Options X to Z :

Option X - Expand both Springwood and Blaxland centres to Town Centre status.

Option Y - Develop a District Centre in the Blaxland area.

Option Z - Expand Springwood to the status of District Centre.

These are summarised in Table 7 and evaluated below.

Option X - Expansion of Both Centres :

This option would involve the continuation of Penrith as District Centre with expansion of existing facilities within the Lower Mountains concentrated largely at Springwood and Blaxland (see Table 7). Owing to Springwood's existing dominance within the Lower Mountains shopping hierarchy, it could be expected to expand to 13,000 square metres of retailing space, with Blaxland expanding to 9,300 square metres. Both would act as Town Centres for their respective trade areas. Neighbourhood Centres could be developed on a relatively substantial level at Winmalee, Mt Riverview and Glenbrook. These



Table 7
RECOMMENDED DISTRIBUTION OF COMMERCIAL FLOOR SPACE
BY CENTRE. - ALTERNATIVE 4

	OPTION 4X			OPTION 4Y			OPTION 4Z			Existing Floor Space (square metres)			TOTAL ADDITIONAL FLOOR SPACE REQUIRED		
	Proposed 4X Floor Space (square metres)			Proposed 4Y Floor Space (square metres)			Proposed 4Z Floor Space (square metres)			Retail Office Total (net selling) (net) (net)			4X 4Y 4Z		
Faulconbridge* Springwood	1,200 13,000	170 11,100	1,370 24,100	1,200 9,300	170 7,400	1,370 16,700	350 25,600- 28,000	130 16,300	480 41,900- 44,300	350 3,450	130 1,600	480 5,050	890 19,050	890 11,650	NIL 36,850 39,250
Winmalee	1,600	NIL	1,600	1,600	NIL	1,600	1,200	NIL	1,200	NIL	NIL	NIL	1,600	1,600	1,200
Valley Heights	350	NIL	350	350	NIL	350	290	NIL	290	NIL	NIL	NIL	350	350	290
Warrimoo	350	NIL	350	290	NIL	290	350	NIL	350	NA	NA	NA	NA	NA	NA
Blaxland	9,300	1,900	11,200	37,000	13,000	50,000	3,700	1,900	5,600	1,440	1,000	2,440	8,760	47,560	3,160
South Blaxland	1,100	120	1,220	450	90	540	1,100	120	1,220	450	90	540	680	NIL	680
East Blaxland	1,500	210	1,710	370	135	505	1,500	210	1,710	370	135	505	1,205	NIL	1,205
Mt Riverview	750	100	850	470	NIL	470	750	100	850	NIL	NIL	NIL	850	470	850
Glenbrook	1,700	280	1,980	1,160	280	1,440	1,700	280	1,980	1,160	280	1,440	540	NIL	540

Note: For details of space provision standards see Appendix B.

* Development at Faulconbridge would be dependent upon diversion of the Great Western Highway under options 4X and 4Y.

centres could include small supermarket facilities. Facilities could also be expanded at Faulconbridge provided the Great Western Highway could be diverted.

The overall effect of this option would be a lower level of provision of local shopping facilities than the population of the Lower Mountains under this Alternative (69,500) could support, and a continuance of the drift of 60% of trade to centres such as Penrith, Parramatta and Sydney. Expansion of centres to levels specified above would cater predominantly to lower order goods such as food, with some marginal expansion of specialist shopping. However, the levels of expansion envisaged would not produce any conflicts with available zoned land within the centres (see Section 5).

Option Y - District Centre at Blaxland :

This option involves provision of the maximum level of local retail facilities within the Lower Mountains that is possible, given the population envisaged under this Alternative. According to previous studies, the maximum level of expenditure that it is possible to retain within the Lower Mountains is around 60%. It has been argued that the only way to effectively achieve this objective is to locate a District Centre in the vicinity of the Blaxland area,* where it would be accessible to the entire Lower Mountains trade area. It has been argued that the Blaxland location is clearly superior to Springwood in this regard as it would be in a position to draw trade

* Sinclair Knight & Partners "Strategy for Commercial Centres in the Lower Blue Mountains", 1974.



from the Blaxland/Mt Riverview/Glenbrook/Warrimoo area, and to intercept trade from the Springwood/Winmalee/Faulconbridge area destined for Penrith. The trade area is then such that a full-scale District Centre containing 50,000 square metres of retail and office space, and including a department store, could be supported provided an overall penetration rate of 55% was achieved.

The achievement of such a penetration rate, however, assumes about one-half of the specialist goods trade in the entire Lower Mountains area would be retained locally, as compared to the existing 20 to 30%. Although it is possible that such a level of penetration could be achieved by an expanded centre, it must be recalled that an expanded Penrith centre would likely absorb up to 45% of specialist goods trade from the eastern portions of the Lower Mountains area* in line with its projected role as the major retail centre for this area. Such a penetration as is projected for the new Blaxland centre seems unlikely to be achieved without its siphoning off of a good deal of Penrith-bound trade. This would be extremely difficult to achieve given a Penrith centre of 93,000 square metres containing possibly two department stores, only 13 kilometres away from Blaxland. Penrith is more than likely to capture the majority of trade in the Glenbrook and Lapstone areas below Blaxland and it could also capture a good deal from Blaxland, Mt Riverview and even the Springwood area, particularly once the expressway is constructed as far as Blaxland: this will further improve the accessibility of the Lower Mountains to Penrith. This reduces available expenditure for the Blaxland centre and means that the centre would be most unlikely to achieve the 55% penetration rate necessary for its survival. This renders it a marginal economic attraction.

Although it is possible that an aggressive marketing policy could overcome this marginality, this conclusion points to the inadvisability of attempting the development of a large District Centre at Blaxland. Data at present available suggests that Option Z (discussed below), involving the expansion of Springwood, would be a more advisable policy. The construction of a District Centre at Blaxland could not, we believe, be justified without a detailed assessment of shopping behaviour and attitudes. This could only be gained through a home interview survey. Present evidence suggests Springwood would be a superior location for a smaller District Centre as discussed under Option Z below.

A further complicating factor involved in the development of Blaxland as a major retailing centre is the site constraints of the existing area, and its Highway location. An alternative site is, however, available to the north of the railway as discussed in

* SPA Report on "Penrith Town Centre" 1971, p 15.



earlier reports.* Nonetheless, from an economic feasibility viewpoint this site does not overcome any of the disadvantages of the Blaxland location discussed above.

Option Z :

This option involves the expansion of Springwood to District Centre status with a wide range of specialist goods outlets. This is logical from a number of viewpoints. The town is already the major focus of commercial and community facilities in the Lower Mountains area. As noted earlier, it acts as the "capital" of the area. For this reason, it already has a good drawing power for custom. Expansion of commercial facilities could proceed from a solid foundation of existing facilities. Against the inherent advantages, however, it must be pointed out that under Alternative Future 4, a good proportion of the population (50%) would be located east of Warrimoo in relatively close proximity to Penrith (see Figure 8).

An expanded Springwood centre would be capable of drawing a certain amount of trade from the Blaxland/Mt Riverview area, but owing to the close proximity of Penrith and its likely increased future availability of facilities, it is clear that this amount of trade would be, at best, small.

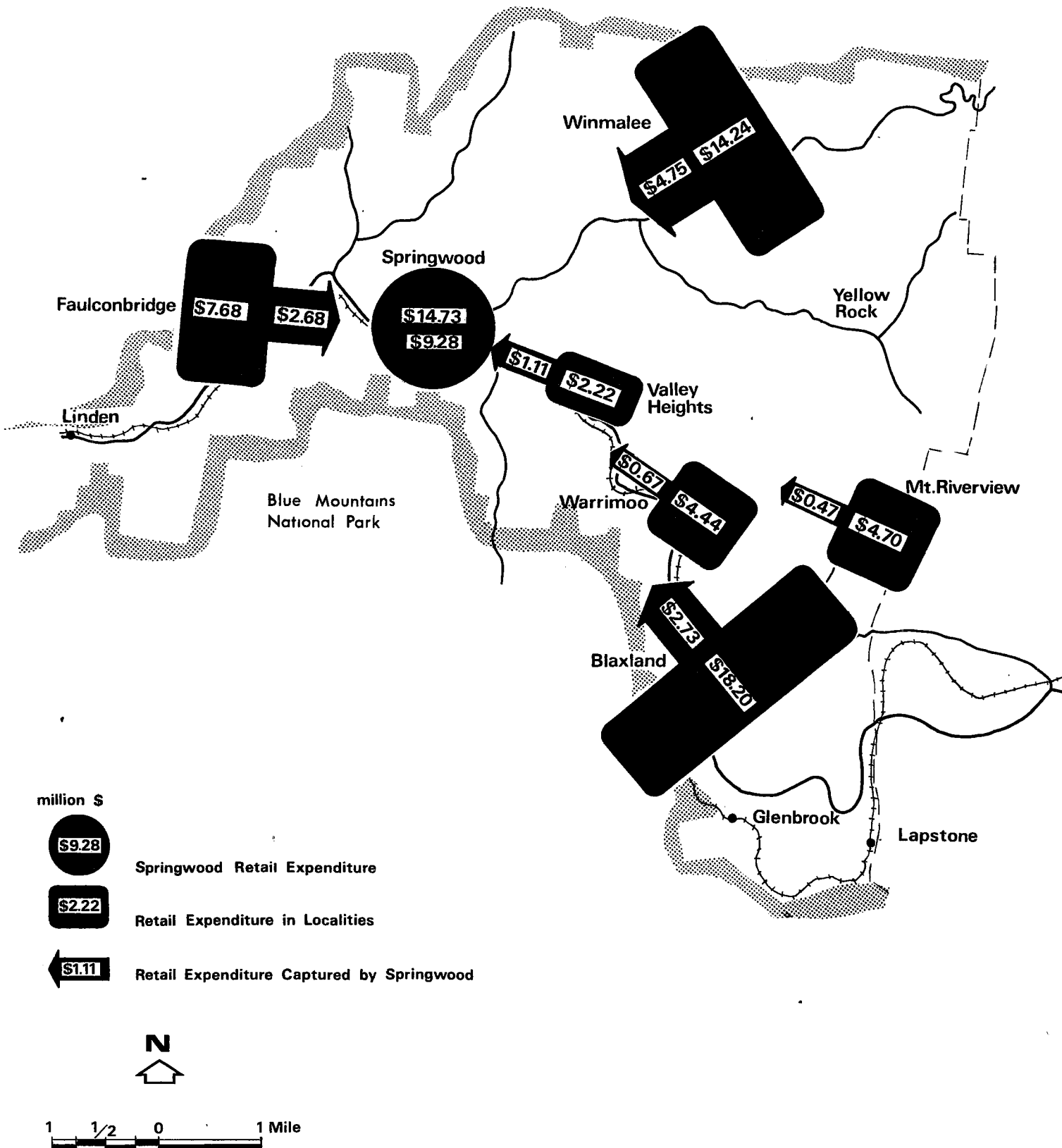
It has previously been shown that the population of the Blaxland/Mt Riverview/Glenbrook area is more strongly oriented to Penrith than it is to Springwood. This orientation is likely to be increased with the increased population originating largely from the Sydney Region and the possible completion of the expressway to Blaxland.

For these reasons, it appears that, at the maximum, the Springwood centre could expect to draw 15 to 20% of the available expenditure (shown in Figure 9) from the Warrimoo/Blaxland/Mt Riverview area. In combination with a fairly high draw of expenditure from the Springwood/Winmalee/Faulconbridge areas (up to 50% of non-food expenditure) and a slight drift of expenditure from areas to the west of Linden, the Springwood centre is capable of expansion to a maximum level of 25 to 28,000 square metres of retailing area, plus up to 16,300 square metres of office space.** This assumes the overall expenditure retention within the Lower Mountains would rise to 50% as compared to its existing 40%. This level of expansion in Springwood would possibly allow the addition of a junior departmental store, and a Discount Store and large Supermarkets could also be supported. The trade area of Springwood does not, however, have the population to support a full-scale departmental store.

* See Sinclair Knight & Partners "Strategy for Commercial Development in the Lower Blue Mountains" p 33 and Figure 4.

** For details of calculations of floor space requirements see Appendix B.

Blue Mountains National Park



LOWER BLUE MOUNTAINS

Expenditure likely to be captured by Springwood Centre under Option 4Z



Nonetheless, this restricted expansion of the Springwood centre would appear to be a wiser policy than that proposed under Option Y, as Springwood's capture of the amount of trade illustrated in Figure 9 is more viable than the higher penetration required of a larger centre at Blaxland. A smaller centre at Blaxland is considered likely to be even less viable, given the proximity of Penrith.

But expansion of Springwood to even this restricted size does present certain site problems when allowance is made for parking requirements (see Section 5).

Marginal expansion of local Neighbourhood facilities at Winmalee, Faulconbridge, Warrimoo and Valley Heights, would also occur under this option. However, in order to attract a maximum expenditure from the Blaxland area, that centre's expansion would be held to 3,700 square metres under this option, with expansion of Neighbourhood facilities at Glenbrook and Mt Riverview to service the local population.



5. BLAXLAND AND SPRINGWOOD CENTRES : FUTURE PHYSICAL STRUCTURE

The previous section discussed the spatial distribution of commercial facilities throughout the Lower Mountains for each future level of population. This section interprets that distribution in terms of gross building area, area required for car parking, land zoned for the commercial centres, existing buildings, topography and the road network, for both Blaxland and Springwood. This interpretation identifies constraints and leads to a recommendation on one of the distribution Options for Alternative Future 4, and also leads to recommended policies for development of the two centres for whichever of Alternative Futures Council adopts.

5.1 SPRINGWOOD

Table 8 shows the gross building and parking areas corresponding with the net floor space requirements estimated in the previous sections.

Table 8
SPRINGWOOD: ESTIMATE OF FUTURE COMMERCIAL FLOOR SPACE
AND PARKING PROVISION

	2	ALTERNATIVE FUTURE			4Z
		3	4X	4Y	
Retail net selling area	6,500	9,300	13,000	9,300	25,600-27,900
Office net area	6,500-7,400	7,400	11,200	7,400	16,300
Retail, gross (i)	11,000	15,800	22,300	15,800	40,900-46,500
Office, gross (ii)	7,400-8,400	8,400	12,600	8,400	18,100
Total Commercial, Gross	18,400-19,400	24,200	34,900	24,200	59,000-64,600
Off-street parking, Gross (iii)	20,500 (iv)	24,200 (v)	39,000 (v)	24,200 (v)	66,000-72,000 (vi)

The following assumptions were made :-

- (i) retail net selling area = 60% gross building area
- (ii) office net area = 90% gross building area
- (iii) gross area of 28 square metres per car space
- (iv) kerbside parking would extend 150 metres beyond the business area
- (v) kerbside parking would extend 200 metres beyond the business area
- (vi) kerbside parking would extend 400 metres beyond the business area



The Exhibited Planning Scheme shows 41,000 square metres of land zoned Business General, of which approximately 4,600 square metres is vacant and a further 8,200 square metres is occupied by old single dwellings. An additional 16,900 square metres is zoned for car parking. A considerable amount of vacant land exists behind retail frontages along Macquarie Street; this is zoned for commercial and parking purposes (see Figure 10). Ownership of the land, however, is extremely fragmented (see Figure 11) owing to the depth of blocks fronting both Macquarie Road and Springwood Avenues and the uncoordinated nature of development within the existing centre. These factors impede coordinated redevelopment of the centre. In addition, the overall availability of land for development within Springwood is limited; an assessment of land available for redevelopment is shown in Figure 12.

Springwood, Alternative Future 2

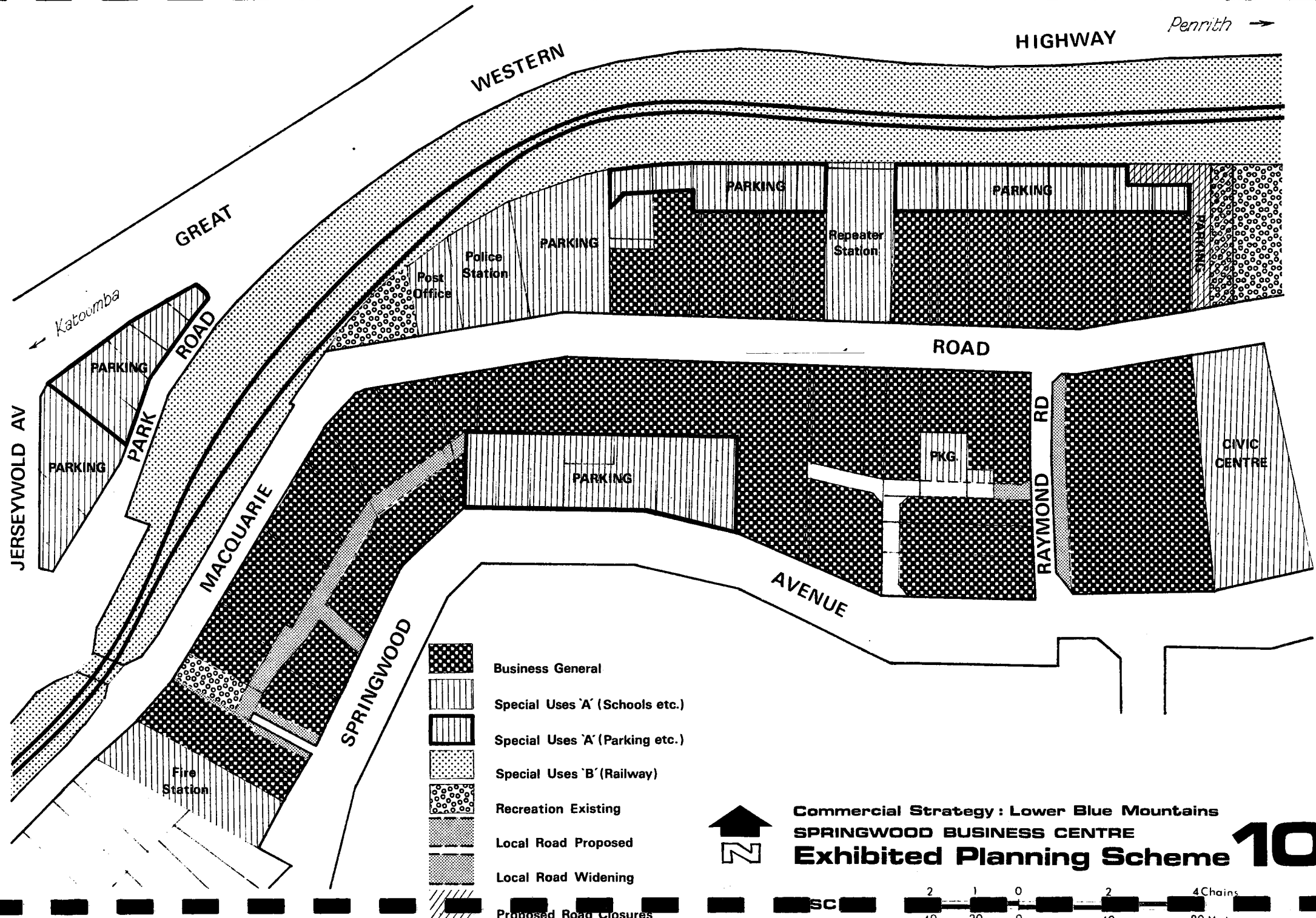
Existing buildings, plus those under construction, account for a gross area of approximately 8,200 square metres. Thus, new development of 10,200 to 11,200 square metres gross area would be required to provide the facilities estimated in Table 8.









This demand for new floor space would not result in any extensive redevelopment of existing commercial properties, or in any substantial change to the scale or character of the centre. There is ample land zoned for business which is either vacant or suitable for redevelopment to provide this new floor space.

Current Development Applications (discussed in Section 8) would provide approximately 4,600 square metres of the additional gross area, tending to reinforce the activity at the eastern end of the centre. Likely sites for the balance of 5,600 to 6,600 square metres (gross) would be the single dwellings in Raymond Road and Macquarie Road (east of Raymond Road) plus some redevelopment of properties at the eastern end of Macquarie Road.

Open-lot parking on the zoned area in Springwood Avenue, the existing car park in Macquarie Road, and the strip along side the railway, would provide approximately 520 spaces. A further 220 off-street spaces would be required on-site, but in general, a policy of developers contributing to the construction of centralised parking facilities is a superior arrangement to each developer providing their parking on-site.

The likely limited extent of commercial development along Springwood Avenue under Alternative Future 2 does not necessitate the upgrading of Springwood Avenue itself, and access to the car park could be from Macquarie Road through the block currently being used for parking.

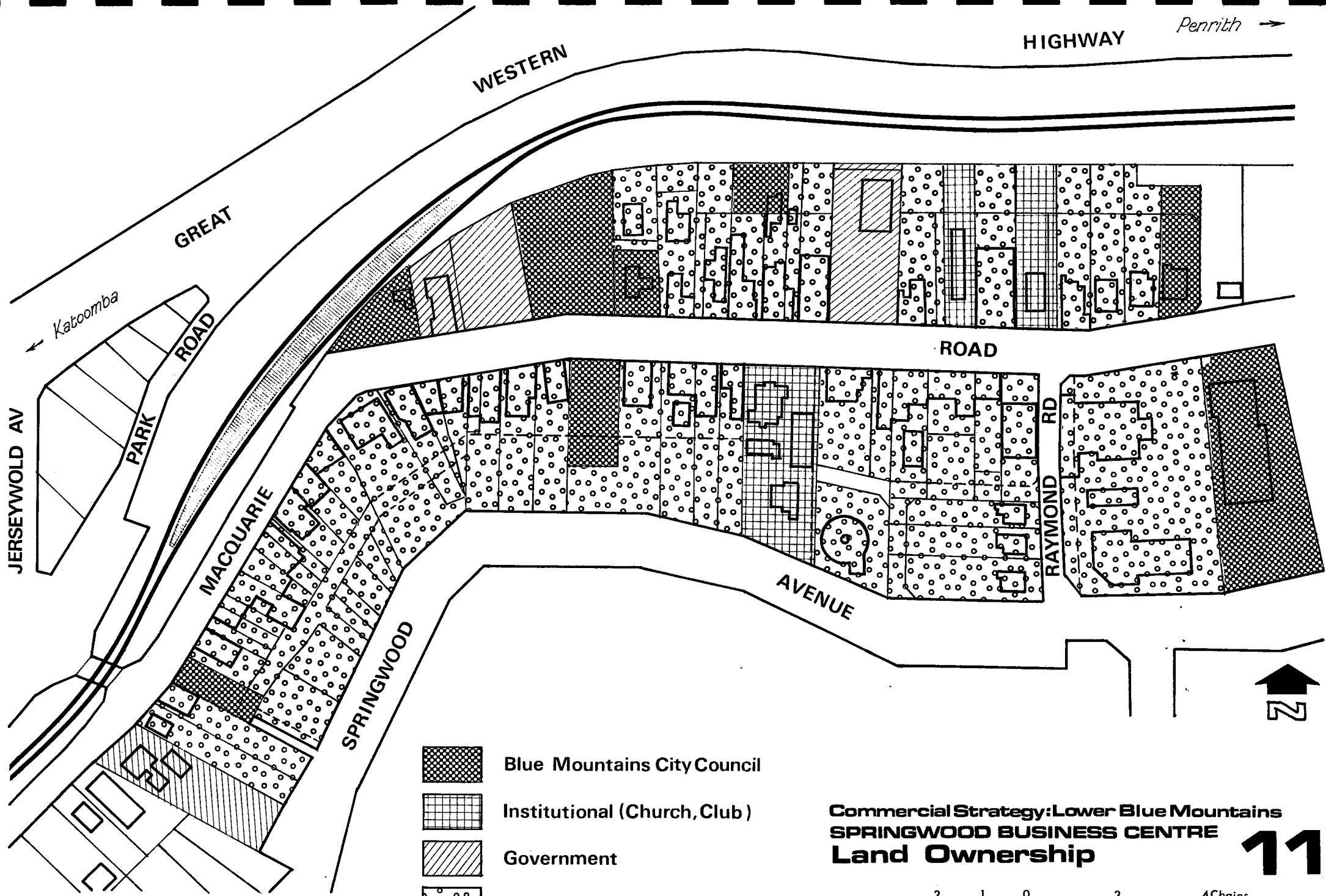


-  Business General
-  Special Uses 'A' (Schools etc.)
-  Special Uses 'A' (Parking etc.)
-  Special Uses 'B' (Railway)
-  Recreation Existing
-  Local Road Proposed
-  Local Road Widening
-  Proposed Road Closures



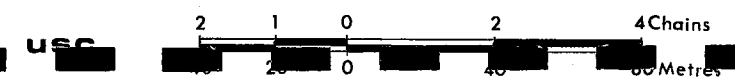
Commercial Strategy : Lower Blue Mountains
 SPRINGWOOD BUSINESS CENTRE
Exhibited Planning Scheme 10

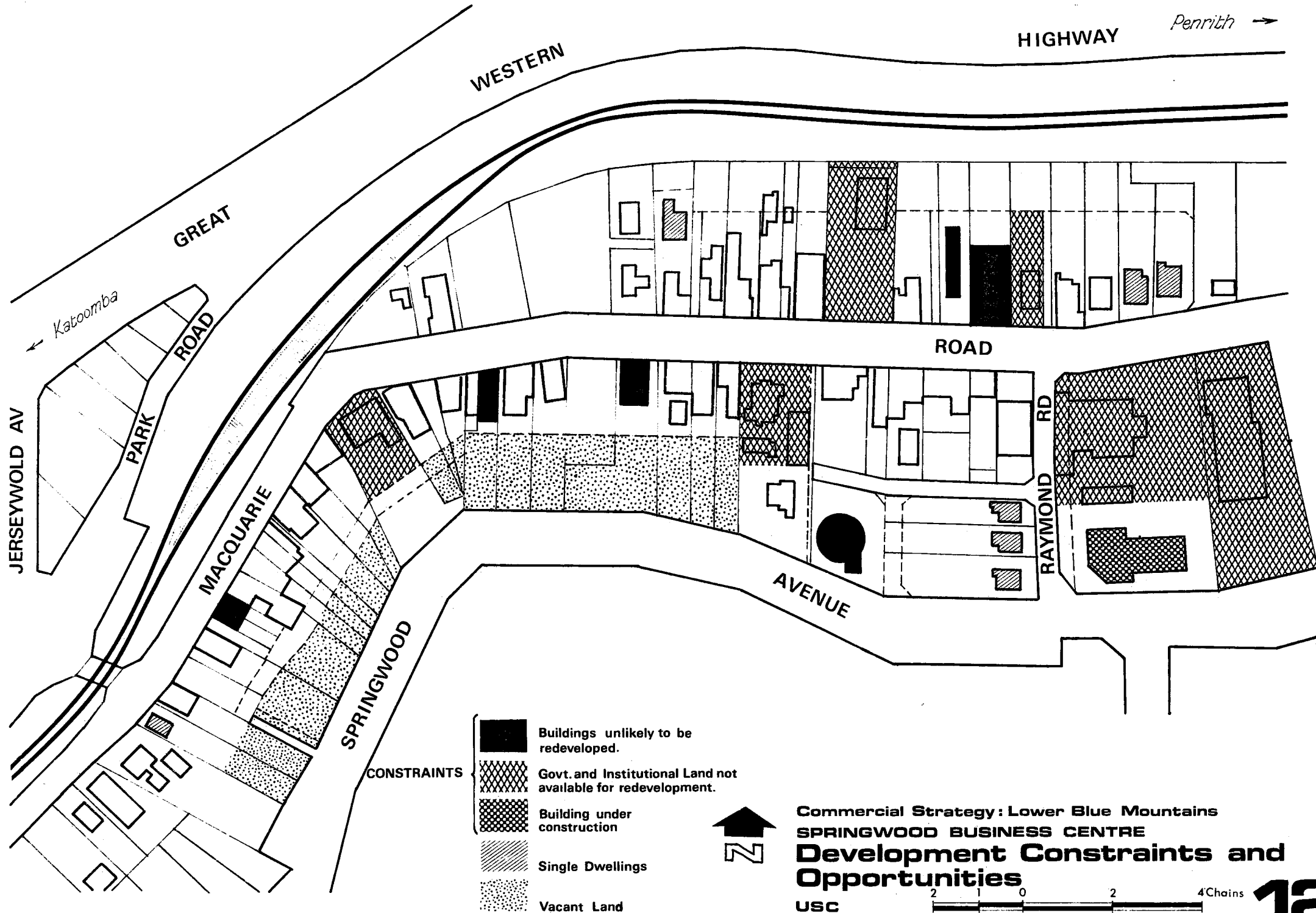
2 1 0 2 4 Chains
 40 20 0 40 80 Metres



-  Blue Mountains City Council
-  Institutional (Church, Club)
-  Government
-  Private (Individual or Company)

**Commercial Strategy: Lower Blue Mountains
SPRINGWOOD BUSINESS CENTRE
Land Ownership**







Springwood, Alternative Future 3

As shown in Table 8 this level of population would require a total gross area of 24,200 square metres (as compared with the existing 8,200 square metres including buildings under construction). The shortfall of 16,000 square metres is not likely to be built solely on vacant blocks or blocks not currently used commercially, and it is likely that there would be quite extensive redevelopment of existing buildings on Macquarie Road. Excluding the sites of governmental, institutional, licensed, and new buildings, the area of developable General Business zone is approximately 33,500 square metres. Thus the average Floor Space Ratio over the whole of the developable land would be approximately 0.75:1.

In addition to the new and redeveloped commercial buildings at the eastern end of the centre anticipated under Alternative Future 2, some further development of the vacant "back blocks" on Springwood Avenue would be necessary. The most satisfactory design solution to overcome the topographical problem, and to extend the area of viable retailing, would be to locate the shops above two levels of parking on the land zoned for parking. This concept of a continuous deck extending back from Macquarie Road is illustrated in Figure 18. In addition, some site amalgamation and redevelopment is likely along Macquarie Road, but the extent of this would not be sufficient to drastically alter the present character of the centre with its individual shops and small property holdings.

Springwood Avenue would require full construction to give access to the proposed car parking. To improve access to Springwood Avenue and to further open up the centre, it would be beneficial to create a new road from the Macquarie Road underpass through to Springwood Avenue.

The proposed parking off Springwood Avenue, plus the existing car park on the north side of Macquarie Road, plus some open lot parking along side the railway, would provide approximately 600 spaces, leaving a shortfall of approximately 280 spaces to be provided by developers on-site.

Springwood, Alternative Future 4, Option X

This Option, of developing both Springwood and Blaxland in proportion to population growth with a continuation of existing shopper patterns, requires a total gross area of commercial buildings in Springwood of 34,900 square metres as shown in Table 8.

Excluding the sites of governmental, institutional, licensed, and new buildings, the area of developable General Business zone is approximately 33,500 square metres. Thus the average Floor Space Ratio over the whole of the developable land would be approximately 1:1.

As stated previously, there are approximately 11,600 square metres of General Business land either vacant or not used commercially. However, this would not be adequate to contain the new buildings, and there would be quite extensive redevelopment of existing buildings. Assuming retailing would be located at ground level with office above, sufficient land in the business zone would remain for 200 to 400 car parking spaces on-site. This would leave a shortfall of 1,000 to 1,200 spaces to be provided on the land zoned for parking, possibly in the form of a two-level structure on the existing site in Macquarie Road (including the site zoned for a Police Station) plus a three-level structure on the Springwood Avenue site, with open lot parking on the strip between the shops and the railway. It is assumed that the parking area north of the railway would be used by commuters during the week and by shoppers on Saturdays.

Springwood Avenue would require full construction to give access to the parking area and to allow viable development of the property facing this road. It would also be of great advantage to the circulation of traffic in this enlarged centre to create a new road from the Macquarie Road underpas through to Springwood Avenue.

Springwood, Alternative Future 4, Option Y

The estimated floorspace requirements for Springwood under this Option are the same as for Alternative Future 3.

Springwood, Alternative Future 4, Option Z

This Option, of developing Springwood to District Centre status, requires a total gross area of commercial buildings in Springwood of 60,000 to 65,000 square metres as shown in Table 8.

Almost total redevelopment of the existing centre with site amalgamation and comprehensive block development would be necessary to achieve this on the land available. Excluding governmental, institutional and licensed buildings, the area of developable General Business zone is approximately 38,000 square metres. If all of this land were redeveloped, the average Floor Space Ratio would be 1.5 to 1.7:1. Over 20% of the retail floor space would be at first floor level, with office space on first and second floor levels. Development would be very intense, occupying virtually 100% of the site area, with all car parking located in major parking stations, or on-site at basement level.

For the above area of floor space, approximately 2,400 to 2,600 off-street car parking spaces would be needed within the centre. This could be accommodated in six-level parking stations on both the major sites zoned for parking (including the area zoned for a police station), plus open-lot parking along side the railway. Alternatively, additional land



could be rezoned for parking, such as the 2(c1) area on the south side of Springwood Avenue, reducing the height of the parking stations to three or four levels on three sites.

Springwood Avenue would require full construction, and a new road would be necessary between the Macquarie Road underpass and Springwood Avenue.

The intensity of development under this Option, combined with the topographical and man-made constraints to expansion of the centre, would require very tight control on development to ensure that the maximum use is made of the available land. Council would need a Development Control Code to ensure the implementation of comprehensive Development Policy. Such a policy may well break away from the strict division of land between "business" and "parking", in order to achieve a decked level of retailing along the whole of Springwood Avenue at the same level as the Macquarie Road frontages. This would give the centre more depth and greater design opportunities, but would require large-scale development to incorporate the necessary parking structures. All developers would be required to contribute to the construction of centralised parking facilities, and Council would have to finance new roadworks within and around the centre.

The most satisfactory design solution does break away from the exhibited Planning Scheme and is illustrated in Figure 19.

5.2 BLAXLAND

Table 9 shows the gross building and parking areas corresponding with the net floor space requirements estimated in the previous Section 4.

Table 9

BLAXLAND: ESTIMATE OF FUTURE COMMERCIAL FLOOR SPACE AND PARKING PROVISION

	2	ALTERNATIVE FUTURE			4Z
		3	4X	4Y	
Retail net selling area	2,300	2,400	9,300	37,200	3,700
Office net area	1,600	1,600	1,900	13,000	1,900
Retail, gross (i)	3,900	4,100	15,800	62,300	6,200
Office, gross (ii)	1,800	1,800	2,000	14,400	2,000
Total, Gross	5,700	5,900	17,800	76,700	8,200
Off-street parking, Gross (iii)	2,900 (iv)	3,200 (iv)	20,400 (v)	100,400 (vi)	6,700 (iv)

Assumptions: as for Table 8 except (iv) which assumes kerbside parking would extend 100 metres beyond the business area.



The Exhibited Planning Scheme shows 18,500 square metres of land zoned Business General, of which approximately 6,000 square metres is vacant and a further 7,300 square metres is occupied by single dwellings. An additional 9,800 square metres is zoned for car parking (see Figures 13 to 15).

Currently, all the commercial premises face the Highway or Station Street, with the Highway reservation in front of the shops being used for angle parking. The centre's location on the Highway is its major constraint on growth. The Department of Main Roads are planning to extend the freeway from the Nepean as far west as Blaxland, where it rejoins the highway as a four-lane divided road with restricted access. The Planning Scheme shows the Blaxland centre frontages to have "limited access", meaning no vehicular access from the Highway to new development. Any new development or redevelopment at Blaxland should be oriented away from the Highway, on the basis that eventually cars will not be parked on the Highway or its reservation, and that there will only be one or two turnings off the highway to the parking areas behind the centre.

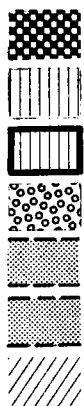
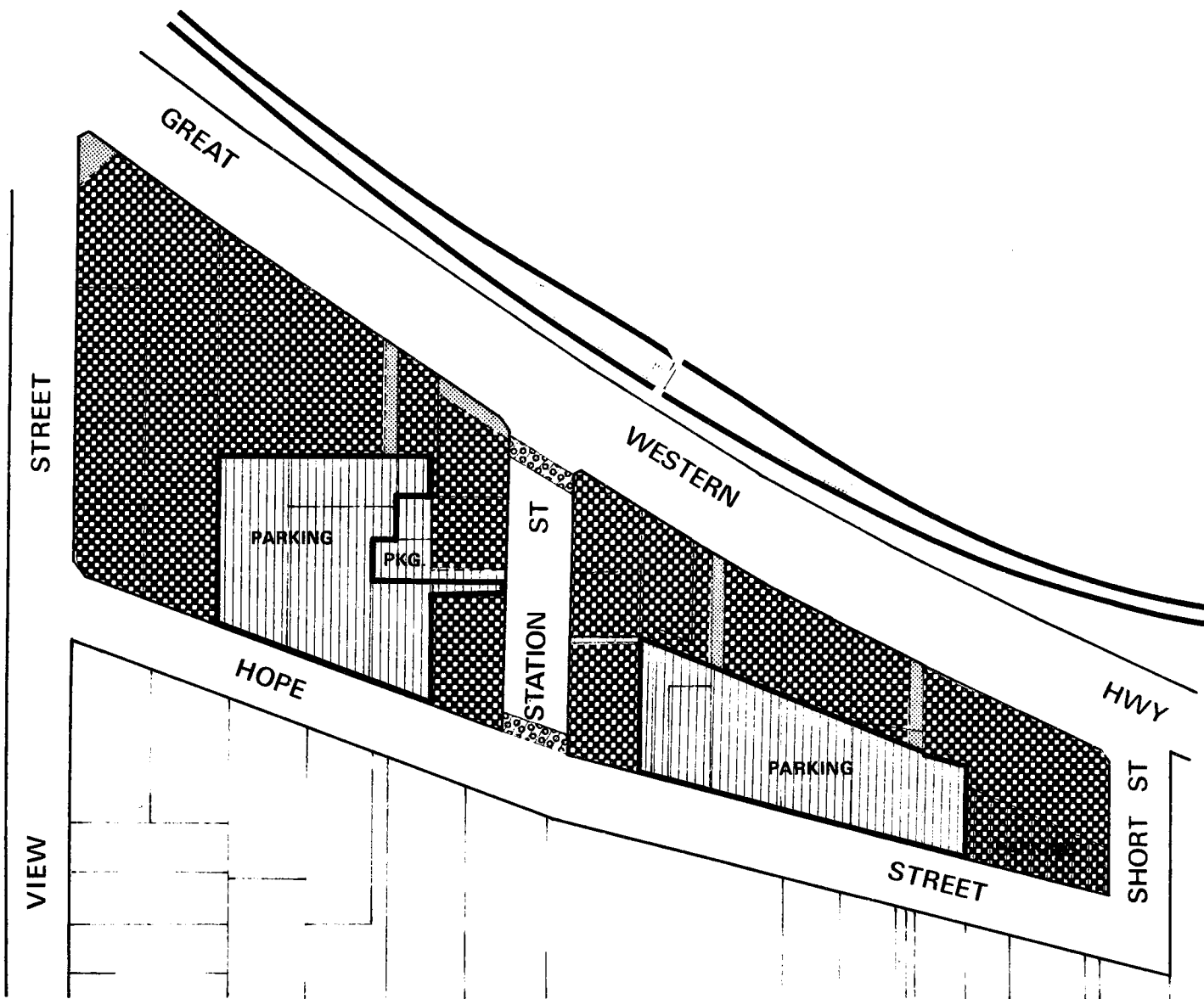
The location of the centre is poor and any expansion must be strongly controlled to avoid a conflict with the free flow of traffic through the City. Access to the centre from the north will become increasingly difficult as traffic increases and the Highway is upgraded. Any substantial expansion of the centre (as is allowed for in the Planning Scheme) may need to be accompanied by major road and bridge improvements to cater for the majority of the traffic coming to the centre from the north.

Blaxland, Alternative Future 2

Existing buildings account for a gross area of approximately 3,500 square metres, so new development of 2,200 square metres would be required to provide the facilities estimated in Table 9. Sufficient vacant land for this exists in the eastern block, and so the western block could be rezoned (apart from the Station Street frontages) to consolidate growth and to achieve a centre not related to the Highway.

Current Development Applications amount to a total of 2,000 square metres gross, including a fourteen-shop development on the western block. If these are all approved, then virtually no more commercial development would be required and there would be no further opportunities to consolidate and reorientate the centre.

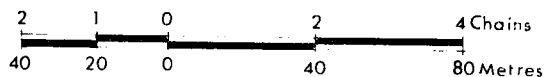
The area zoned for parking in the eastern block is adequate for the parking needs of this sized centre, with no parking on the Highway reservation. Short Street and Hope Street would require full construction, and access to the Highway would be limited to Short Street and/or View Street.

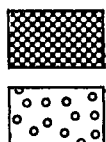
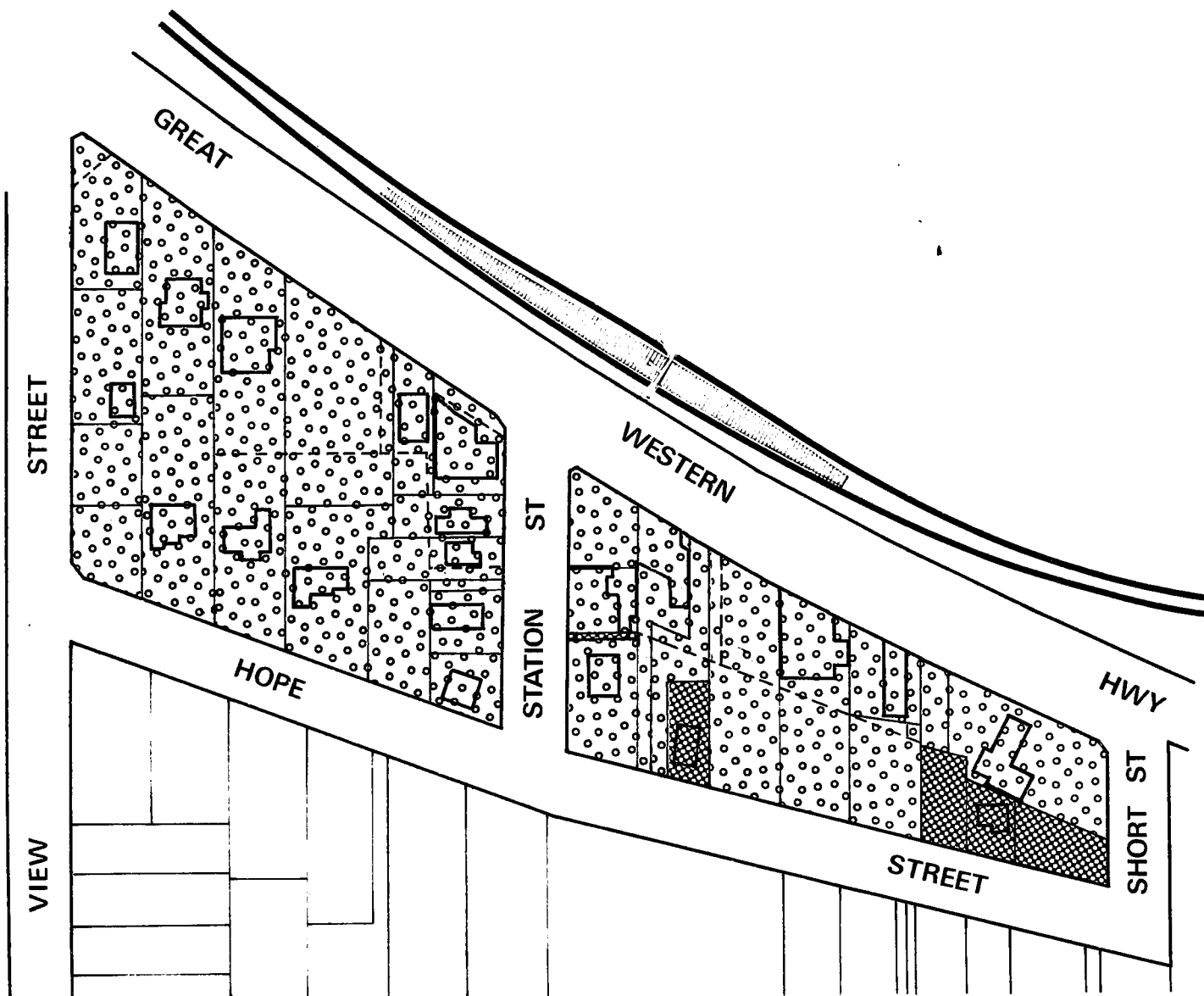


Commercial Strategy: Lower Blue Mountains
BLAXLAND BUSINESS CENTRE
Exhibited Planning Scheme

13

USC





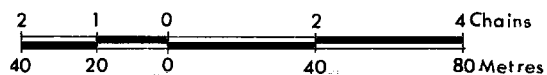
Blue Mountains City Council

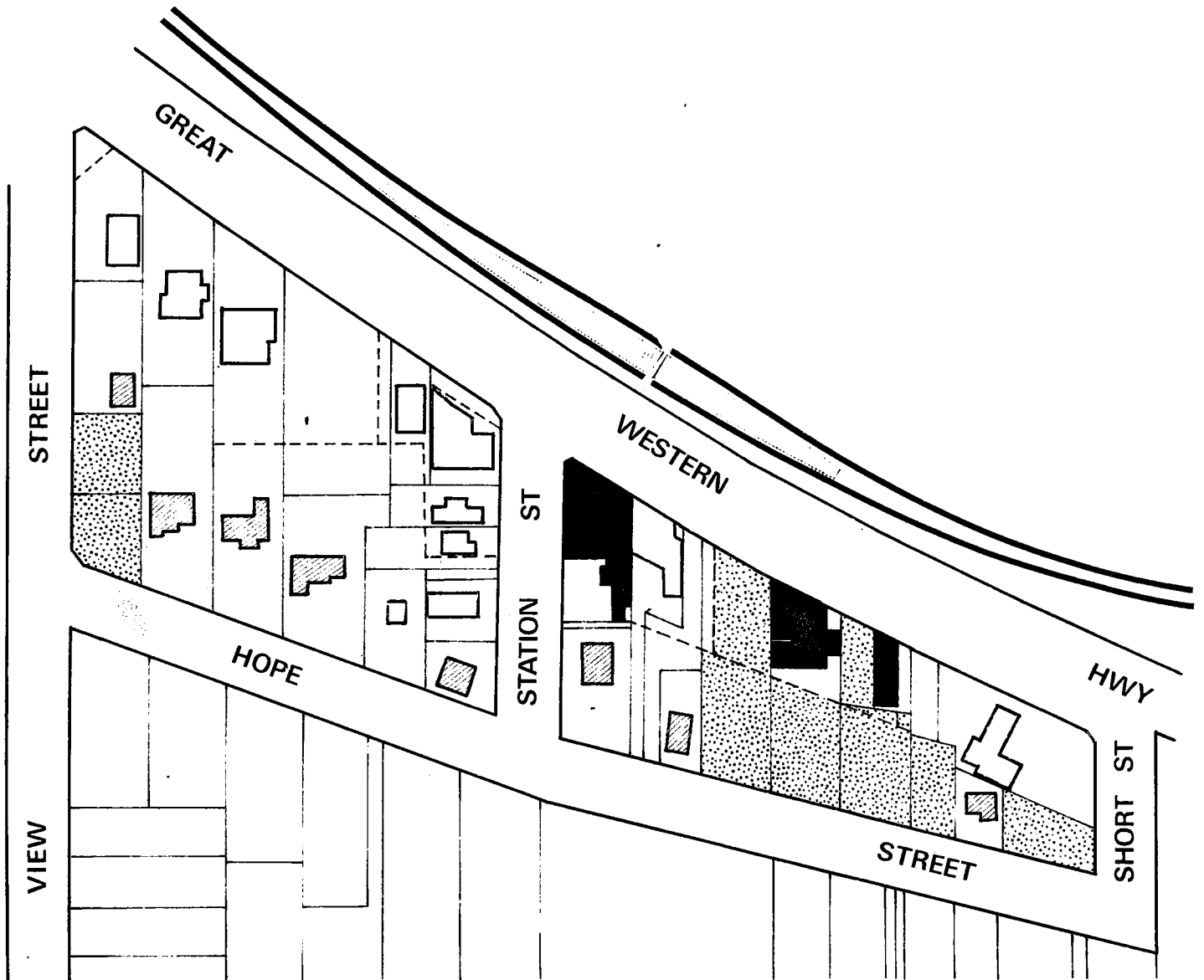
Private - individual or company






Commercial Strategy: Lower Blue Mountains
BLAXLAND BUSINESS CENTRE
Land Ownership

usc



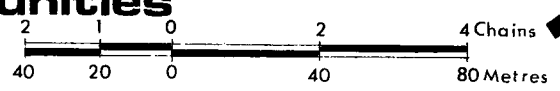


-  Buildings unlikely to be redeveloped
-  Vacant Land
-  Single Dwellings



Commercial Strategy: Lower Blue Mountains
 BLAXLAND BUSINESS CENTRE
Development Constraints and Opportunities

USC





Although the existing shops facing the Highway would remain, kerbside stopping would be deterred by erecting a fence or similar barrier between the carriageway and the shops; the reservation between this barrier and the shops would be landscaped and not used for parking.

Blaxland, Alternative Future 3

Virtually the same as for Alternative Future 2.

Blaxland, Alternative Future 4, Option X

This Option, of expanding Blaxland to provide Town Centre facilities, would require a total gross floor area of approximately 17,800 square metres, ie. five times the existing gross area of 3,500 square metres. This would give an average Floor Space Ratio of new development of 1.1:1 over the developable part of the business zone (assuming certain new buildings do not redevelop). This density of development is not in itself too high, but the problem of location on the Highway demands that this size centre be carefully designed to operate without hindering the free flow of traffic on the Highway.

No development would have vehicular access from the Highway. All parking would be approached from Hope Street, preferably with a single turn-off point from the Highway, either at Short Street or View Street. Hope Street, Short Street, and View Street would require upgrading. Kerbside stopping on the Highway would be deterred by the erection of a fence or similar barrier between the carriageway and the shops; the reservation between this barrier and the shops would be landscaped and not used for parking.

The whole area zoned for car parking would be required for such use, plus a two-level structure on one of the two sites, providing approximately 530 spaces on the zoned land, allowing for a further 200 spaces to be incorporated off-street into development of the business zone. Alternative large-scale design solutions should be considered to develop a double row of shops in the eastern block facing into a central mall, with the southern shops built on a deck above parking. Achievement of an average Floor Space Ratio of 1.1:1 with a predominance of retailing, may be difficult without some integrated development of both business and parking zones.

Blaxland, Alternative Future 4, Option Y

This Option, of providing the maximum possible level of retailing within the Lower Mountains, would involve the location of approximately 76,700 square metres gross floor space in the Blaxland area. This is clearly impossible on the existing business zone, and a new site would have to be rezoned as Business General. A suitable site for the retail centre



has been proposed previously as the land bounded by Wilson Way and the future extension to the freeway. Access to this site from the north would be good, and access from the west, east and south would also be good if the new road has at-grade junctions with Glenbrook Road and the site itself as currently proposed by the Department of Main Roads.

The ultimate feasibility of this Option and the suitability of the two sites concerned is complicated by its implementation and the problem of intermediate development. The new retail centre would not be viable until the population reached a level of around 50,000. In the mean time (as is happening now) there will be pressure to expand retailing in the existing centre, which if approved will increase the competition to a new centre in its difficult early years. The existing centre will remain an attractive retailing location despite any large new centre if the banks and Post Office do not relocate to the new centre.

The successful implementation of this Option is dependent on encouraging the banks and Post Office to relocate, and on a policy of no growth of commercial activity in the existing centre. This involves the rezoning of all vacant land, with possibly the retention of a small Neighbourhood Centre. As for Option X, there would be no vehicular access to the shop frontages from the Highway, and parking would be located at the rear.

Blaxland, Alternative Future 4, Option Z

This Option, of fully expanding Springwood, requires that the level of development in Blaxland be held to 3,700 square metres net retailing, or a total of approximately 8,200 square metres gross retail and office. This represents an increase of approximately 4,700 square metres gross above the existing level of building. Current Development Applications, if approved, would account for 2,000 square metres of this. The most satisfactory, compact, design for the centre would be achieved by rezoning the western half of the western block non-business, restricting the remaining 2,700 square metres to redevelopment of properties on either side of Station Street and elsewhere in the eastern block.

Extensive redevelopment and restructuring of the centre away from the Highway would not be possible under this restricted expansion of Blaxland, but nevertheless most of the design controls outlined for Option X would be necessary. No parking would be permissible on the Highway or its reservation, and parking would be consolidated on the land zoned for such purposes. Access would be from a single turn-off point at, say, Short Street, which would require upgrading, along with Hope Street.



6. EVALUATION OF OPTIONS AVAILABLE UNDER ALTERNATIVE FUTURE 4

This section presents a synthesis of economic and developmental considerations pertaining to the Options X, Y and Z under Alternative 4. These options which relate to provision and location of a District Centre within the Lower Blue Mountains, each have inherent advantages and disadvantages. These are summarised in Table 10 below :

Table 10
EVALUATION OF OPTIONS AVAILABLE UNDER ALTERNATIVE 4
IN RELATION TO LOCATION COMMERCIAL FACILITIES

ADVANTAGES	DISADVANTAGES
OPTION 4X - TOWN CENTRES AT SPRINGWOOD AND BLAXLAND: PENRITH AS DISTRICT CENTRE	
<u>Developmental Aspects</u> <ul style="list-style-type: none">* Springwood: FSR 1.1:1 on developable business zone, with two and three level parking; ie. scale of development fairly easy to achieve.* Blaxland: FSR 1.1:1 on developable business zone, with up to two level parking; sufficient development and redevelopment to reorientate centre away from Highway; possible decking on back blocks.* Scale of development at Springwood and Blaxland in balance, ie. no need to suppress or boost either.	<u>Developmental Aspects</u> <ul style="list-style-type: none">* Blaxland: strict control of building and of location of parking; possible new bridge across railway and Highway.
<u>Economic Aspects</u> <ul style="list-style-type: none">* No enforced competition with Penrith which remains as District Centre for area.	<u>Economic Aspects</u> <ul style="list-style-type: none">* Generally low level of local shopping provision - existing 60% escape expenditure continues.
OPTION 4Y - DISTRICT CENTRE AT BLAXLAND: SPRINGWOOD AS TOWN CENTRE	
<u>Developmental Aspects</u> <ul style="list-style-type: none">* Springwood: average FSR 0.75:1 on developable business zone, with open-lot parking, ie. easy to achieve.* Blaxland: no growth adjacent to Highway. New centre offers opportunity for coordinated development and design.	<u>Developmental Aspects</u> <ul style="list-style-type: none">* Springwood: probably not enough new development to restructure centre with decked shops on rear blocks.* Blaxland: new Business General Zone needed; possible need to rezone vacant half of existing centre; problem of implementation, ie. suppression of existing centre to boost new and staging of new centre.
<u>Economic Aspects</u> <ul style="list-style-type: none">* Potentially provides greatest level of local shopping provision within the Lower Mountains. Scope for full Departmental Store.	<u>Economic Aspects</u> <ul style="list-style-type: none">* Despite potential, available information suggests the 55 to 60% overall penetration rate required to support District Centre of this size would be extremely difficult to achieve.
OPTION 4Z - DISTRICT CENTRE AT SPRINGWOOD: ENLARGED NEIGHBOURHOOD CENTRE AT BLAXLAND	
<u>Developmental Aspects</u> <ul style="list-style-type: none">* Springwood: opportunity for comprehensive redevelopment, widening the centre and allowing central malls.* Blaxland: limited growth only, so no great threat to Highway.	<u>Developmental Aspects</u> <ul style="list-style-type: none">* Springwood: average FSR of 1.5 to 1.7:1 on developable business zone would be difficult to achieve, ie. need to break away from zoning and have comprehensive development.* Major parking stations needed for 2,500 cars.* Need very strict control in Springwood.* Blaxland: possible need to rezone vacant land to suppress growth.
<u>Economic Aspects</u> <ul style="list-style-type: none">* Increases local provision of shopping facilities, and increases expenditure retention from 40 to 50%. Scope for Junior Department and/or Discount Store.* Avoids direct competition with Penrith District Centre.	<u>Economic Aspects</u> <ul style="list-style-type: none">* Location of enlarged centre at Springwood restricts drawing power from western sections of the Lower Mountains; this means a centre of only 25,000 square metres (as opposed to 37,000 square metres theoretical maximum under 4Y) could be supported.



As may be seen from this tabulation, Option 4Y theoretically provides the best level of local shopping provision within the Lower Blue Mountains, with a possible penetration of 55 to 60% of all local retail expenditure. While this may be regarded as a desirable objective, previous analysis has suggested that a District Centre at Blaxland would, despite its strategic intercept position, be unlikely to draw sufficient trade to support the proposed level of development. This is basically due to proximity of Penrith to the development site at Blaxland - it appears that a new District Centre at Blaxland would be unable to draw sufficient custom for viability given a centre of up to 100,000 square metres at Penrith, probably containing two Departmental Stores. The area of the Lower Mountains below Blaxland is logically seen as part of the Penrith trade area for specialist goods, and a rival centre at Blaxland would only serve to jeopardise the viability of both centres.

A detailed home interview survey within the Lower Mountains area, aimed at discerning patterns of customer behaviour, could yield data that would justify a centre at Blaxland. However, in the absence of such data, a recommendation in favour of Option 4Y cannot be justified.

This narrows the choice to Options 4X and 4Z. Option 4X would allow expansion of both Springwood and Blaxland to Town Centre status, would thus allow availability of good 'weekly shopping' centres for lower order goods such as food, certain household goods and personal services within easy access of the entire population of the Lower Mountains. It would also be a reasonable developmental solution given the amount of commercially zoned land available within the two centres. However, this solution would also mean a deficiency of specialist goods available within the area, and a continuing drift of retail expenditure to Penrith.

For these reasons. Option 4Z, involving the provision of a District Centre at Springwood containing up to 28,000 square metres of retail space and drawing custom from the Linden/Faulconbridge/Springwood/Winmalee/Valley Heights/Warrimoo and possibly Blaxland areas, would appear to offer an optimum solution. The Option should be applied in conjunction with the development of good Neighbourhood Centres in other localities, and an expansion at Blaxland sufficient to allow a good provision of weekly shopping needs. This strategy would provide the maximum level of local shopping facilities, of both a specialist and low-order nature, without undue trading conflict with the enlarged Penrith centre. The development of a District Centre at Springwood does lead to certain site development problems. However, as is shown in Section 7, this can be overcome by an imaginative Design Concept without alienating the essential "village character" of the Springwood centre. The devising of a detailed Development Control Plan will, however, be a necessary precursor to such a concept being implemented.



7. RECOMMENDATIONS AND DESIGN CONCEPTS

In view of the preceding analysis, the following recommendations are made in respect of development of commercial facilities under each Alternative Future.

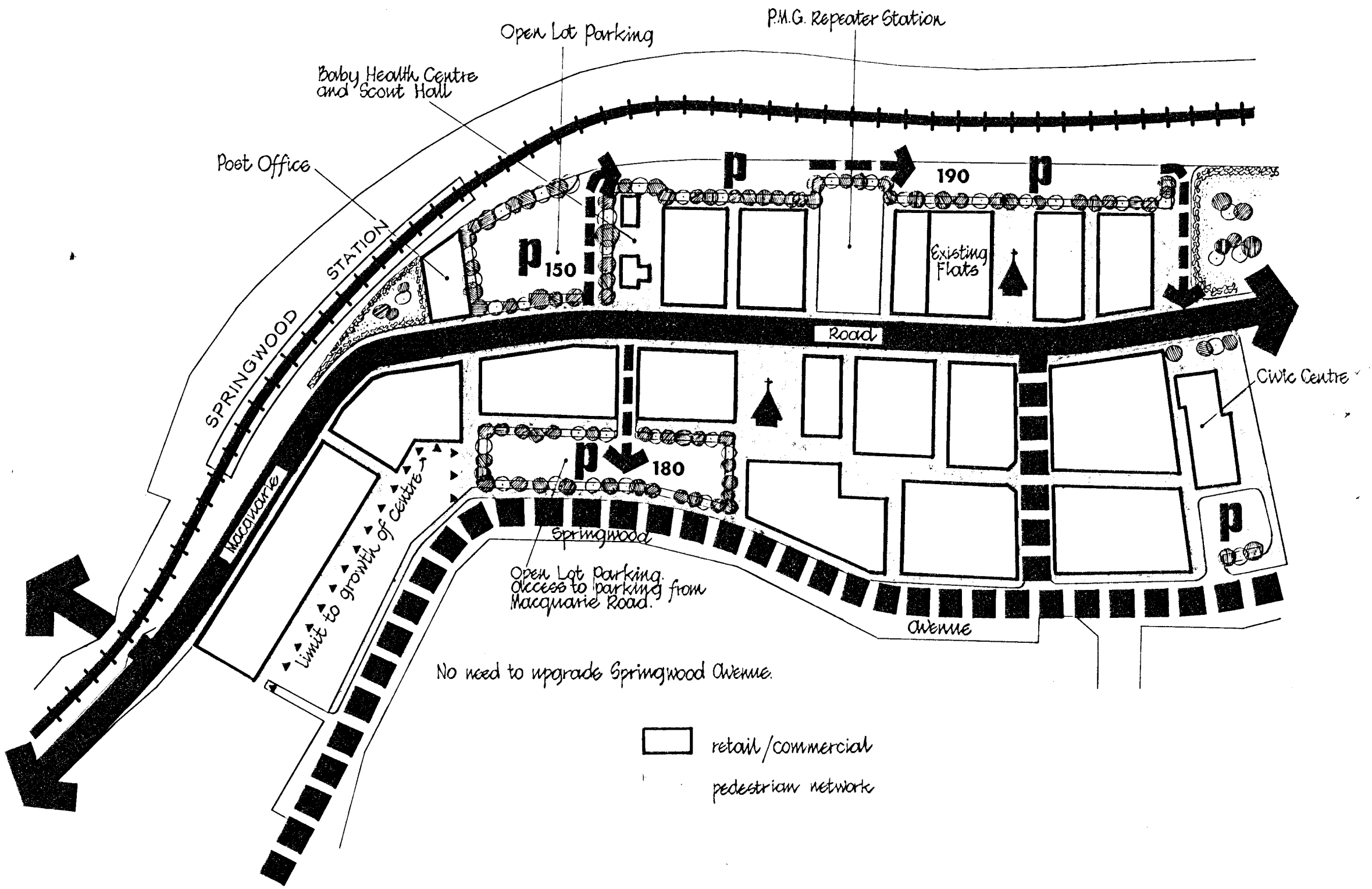
7.1 ALTERNATIVE FUTURE 1

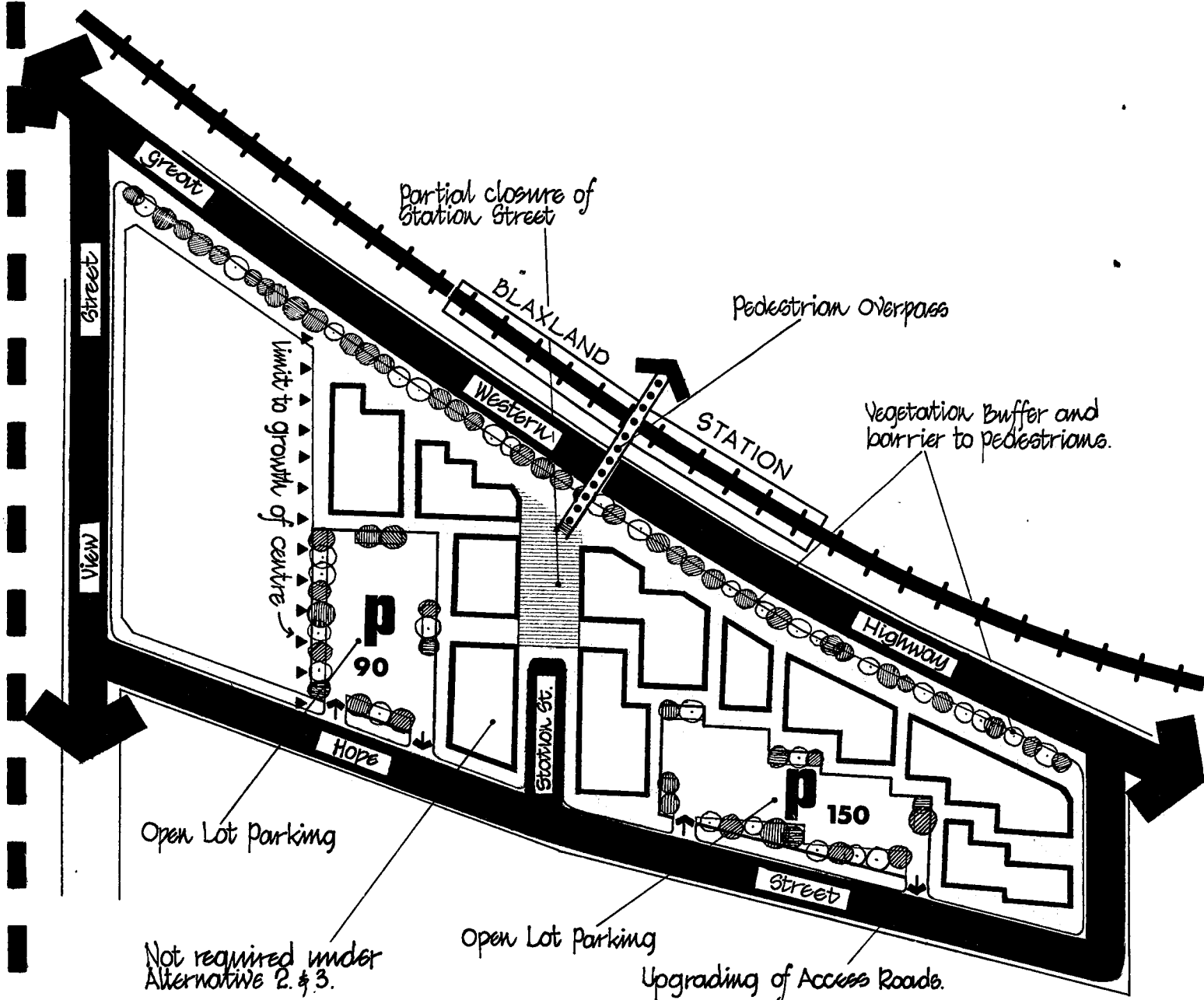
In general terms, no further development, other than that already approved or under construction, would be permitted. However, development applications in the pipeline should be allowed to proceed in the case of marginal additions to floor space.

7.2 ALTERNATIVE FUTURE 2 (see Tables 5 and 11 and Figures 16 and 17)

- (a) Commercial facilities at Springwood should be expanded to Town Centre level, with a total net floor space addition of 3,100 square metres of retail space and 4,900 to 5,800 square metres of offices. This would bring total gross floor space in the centre to a maximum of 19,400 square metres as shown in Table 11.
- (b) A total area of 20,500 square metres will be required for parking purposes - this is slightly more than the existing area of 16,900 square metres zoned for parking purposes. As much parking as possible should be provided within the zoned area, with the balance being provided on-site.
- (c) Development of the Springwood Town Centre under Alternative Future 2 should proceed in accord with the concept illustrated in Figure 16. The major features of the concept are :
 - (i) Consolidation of development within the centre by encouraging redevelopment of sites in the eastern portions of the zoned commercial area;
 - (ii) Full development of zoned open-lot parking areas in Macquarie Road, Springwood Avenue and at the rear of development fronting the northern side of Macquarie Road to provide a total of 520 spaces off-street;
 - (iii) Development of a one-way traffic loop system through the open-lot parking area at the rear of Macquarie Road north.

It must be emphasised that this Design Concept (as are others in this report) is intended as a preliminary design only, and as the basis for a detailed Design and Development Control Plan which should be undertaken as a matter of urgency. The recommendations





Not required under Alternative 2. & 3.

Note: Under Alternatives 2.&3. Total parking required **105** spaces.

 retail/commercial
 pedestrian network.



Commercial Strategy: Lower Blue Mountains
 BLAXLAND BUSINESS CENTRE
Design Concept
Alternatives 2,3 & 4



Table 11
RECOMMENDED FLOOR SPACE AND PARKING PROVISION,
SPRINGWOOD AND BLAXLAND CENTRES, ALTERNATIVES 2 TO 4

	SPRINGWOOD			BLAXLAND		
	ALTERNATIVE			ALTERNATIVE		
	2	3	4	2	3	4
Recommended Retail (net selling)*	6,500	9,300	25,600-27,900	2,300	2,400	3,700
Recommended Office (net)	6,500-7,400	7,400	16,300	1,600	1,600	1,900
Total Recommended Net Floor Space	13,000-13,900	16,700	41,900-44,200	3,900	4,000	5,600
Total Recommended Gross Floor Space	18,400-19,400	24,200	59,000-64,600	5,700	5,800	8,200
Net Floor Space Addition	8,200-9,100	11,600	36,100-38,400	1,500	1,600	3,200
Gross Floor Space Addition	10,900-11,900	16,700	51,500-57,100	2,300	2,400	4,800
Total Off-Street Parking Area (Gross)	20,500	24,200	66,000-72,000	2,900	3,200	6,700

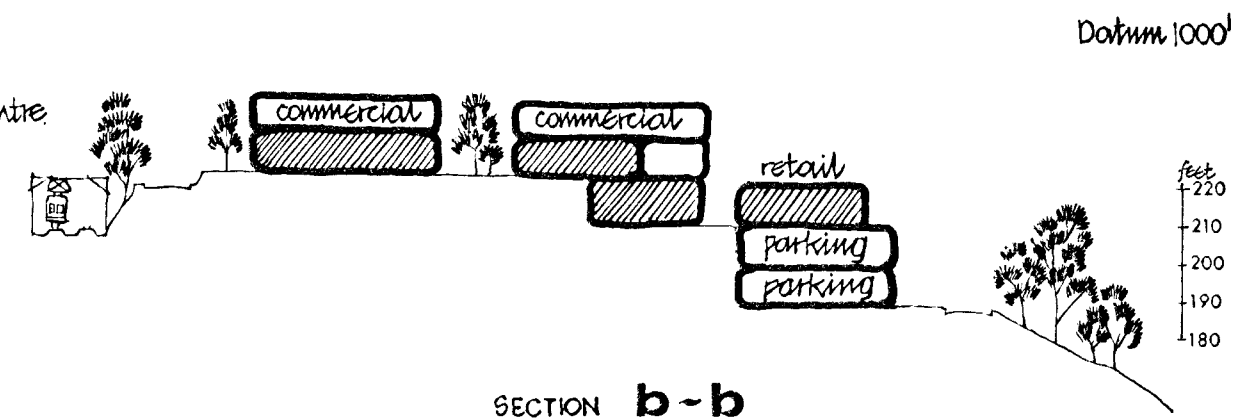
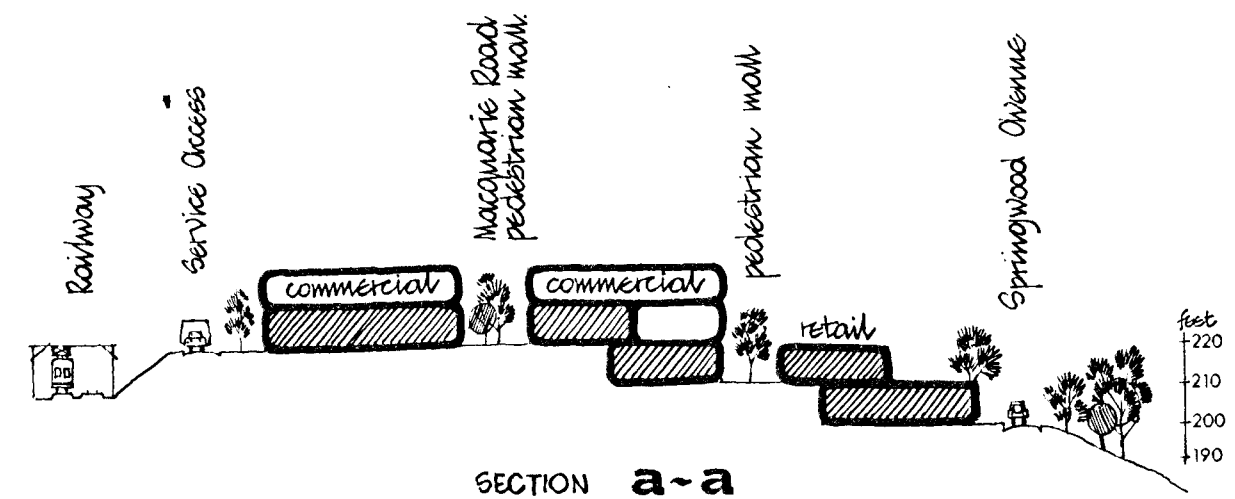
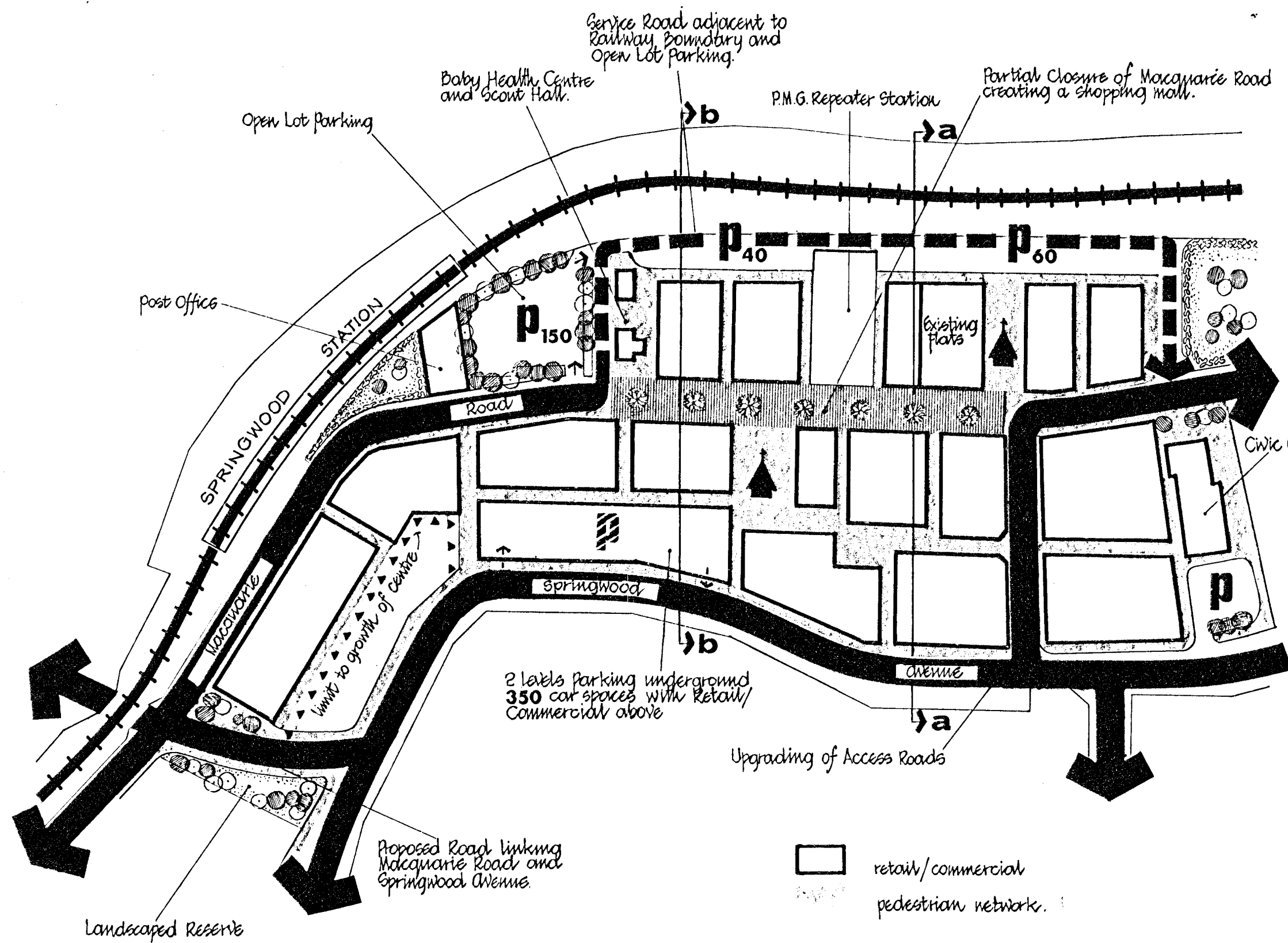
* NB: All areal measures in square metres

of this report cannot be implemented without such Plans.

- (d) Elsewhere within the Lower Mountains area, commercial facilities should be developed on a Neighbourhood basis in accord with demand at Winmalee, Valley Heights, Warrimoo, Mt Riverview and Glenbrook. The aim should be to provide Neighbourhood facilities in as close accordance with population growth as is possible, as specified in Table 5.
- (e) The Blaxland centre should be restricted in development to a total gross floor space of 5,700 square metres, an addition of 2,300 square metres over existing levels. This development should be confined to the east of Station Street where possible in order to produce a consolidated centre. Overall development should proceed in accord with the concept illustrated in Figure 17. Major features of the concept - which also applies under Alternative Future 3, which recommends similar total commercial floor space provision within Blaxland - are :
- (i) Consolidation of development within the centre as far as possible, notwithstanding the likely development of a shopping complex to the west of Station Street;
 - (ii) Provision of a barrier fronting the widened Great Western Highway and creation of a landscaped 'buffer zone' fronting existing commercial development, with widened footpath areas;
 - (iii) Restricted access from Great Western Highway and creation of a 105 lot rear parking area occupying 2,900 square metres off Hope Street in the zoned parking area and upgrading of access to and from parking areas;



- (iv) Gradual reorientation of development away from the Highway and encouragement of development fronting the parking area;
 - (v) Partial closure of Station Street to vehicular traffic and its development as a pedestrian mall, linking with a pedestrian system to the rear of existing commercial developments.
- (f) The only exception to the policy of providing Neighbourhood Centres in accordance with population growth should occur at the Coomassie Centre, Faulconbridge, where no further development of shopping facilities should occur unless provision is made for diversion of the Great Western Highway. In other Highway centres, such as Warrimoo and Valley Heights, development should be encouraged to reorient away from the Highway to rear parking areas wherever possible.
- 7.3 ALTERNATIVE FUTURE 3 (see Tables 6 and 11 and Figures 17 and 18)
- (a) Springwood should be developed to Town Centre status, with some addition of specialist shopping needs. In total, a net addition of 11,600 square metres - 6,800 square metres of retail and 4,800 square metres of office - would be required. This would bring the total gross floor space of the centre to a maximum of 24,200 square metres, as shown in Table 11.
 - (b) A total area of 24,200 square metres would be required for parking purposes. Existing zoned area could accommodate 17,000 square metres of this amount in open-lot form, with the balance being provided by decking or on-site.
 - (c) Development of the Springwood Town Centre under Alternative Future 3 should proceed in accord with the concept illustrated in Figure 18. Major features of the recommended concept are :
 - (i) Coordinated redevelopment of much of the commercial area, maintaining the 'village atmosphere' of the centre;
 - (ii) Partial closure of Macquarie Street west of Raymond Road and its conversion into a pedestrian mall;
 - (iii) Provision of rear access to properties fronting the northern side of Macquarie Street, and development of a parking area in this vicinity;
 - (iv) Construction of a full-scale road along the Springwood Avenue alignment;
 - (v) Provision of a total of 880 parking spaces within the vicinity of the business centre, with an open-lot



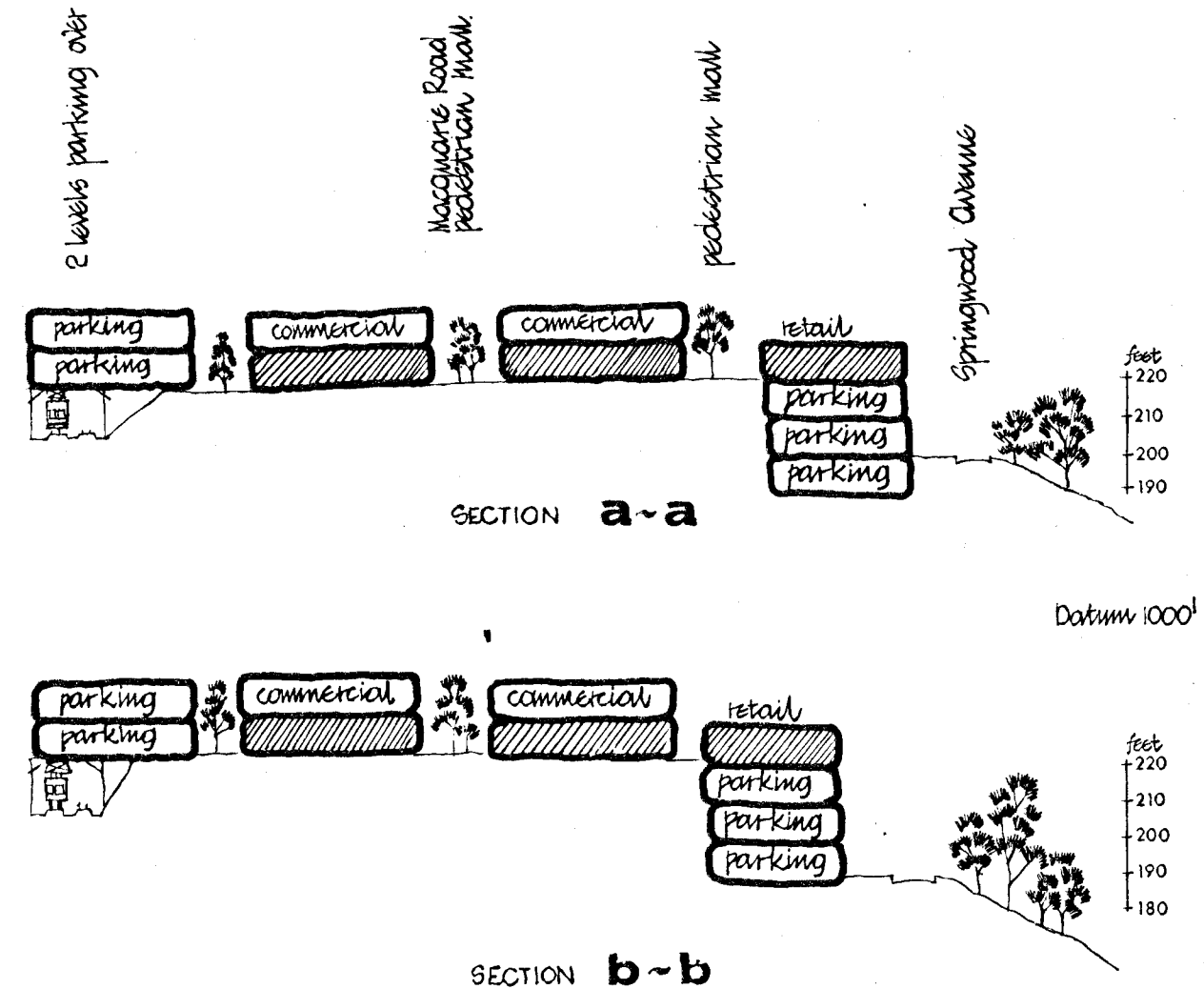
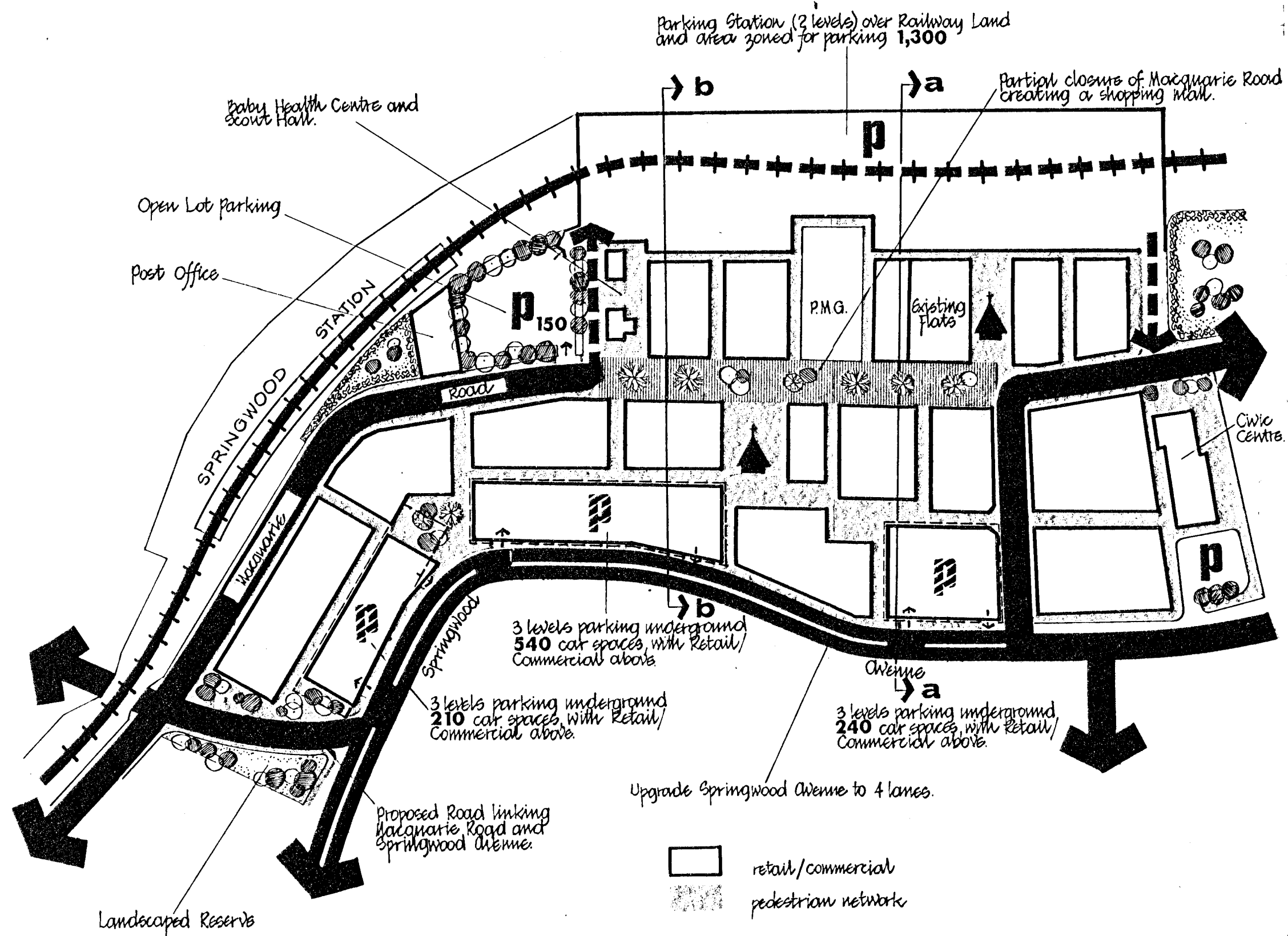


area fronting Macquarie Street, and integration of a parking station with a multi-level commercial/parking complex on the zoned parking area along Springwood Avenue. This will assist in the consolidation of the centre, in preference to its elongation along Springwood Avenue;

- (vi) Creation of a pedestrian network in the area between Springwood Avenue and Macquarie Road, and commercial development on a multi-level basis.
- (d) Commercial facilities elsewhere within the Lower Mountains should be developed, as for Alternative Future 2, on a Neighbourhood Centre basis in accord with demand at Winmalee, Valley Heights, Warrimoo, Mt Riverview and Glenbrook to levels specified in Table 6.
- (e) The Blaxland centre should be restricted in development to a total gross floor space of 5,800 square metres, similar to levels specified for Alternative Future 2 owing to the small overall increase in population in the vicinity of Blaxland in comparison to that Alternative Future. The development should be confined to east of Station Street where possible in order to produce a consolidated centre. Overall development of the centre should proceed on the same basis as for Alternative Future 2 in accord with the concept illustrated in Figure 17. Some 3,200 square metres of off-street parking will be required. The balance of the zoned commercial area could be rezoned for other purposes so as to restrict development to specified levels.
- (f) The only exception to the policy of providing Neighbourhood Centres in accordance with population growth should occur at the Coomassie Centre, Faulconbridge, where no further development of shopping facilities should occur unless provision is made for diversion of the Great Western Highway.

7.4 ALTERNATIVE FUTURE 4 (Tables 7 and 11 and Figures 17 and 19)

- (a) In view of the foregoing analysis and evaluation, the Option 4Z, which involves the development of a District Centre at Springwood, is recommended in the belief that this offers :
 - (i) the best opportunity for upgrading of commercial facilities within the Lower Blue Mountains;
 - (ii) the least conflict with the further development of retailing and office facilities at Penrith; and
 - (iii) the most logical course of action, given the existing 'natural' dominance of Springwood as a commercial centre within the Lower Mountains.





- (b) Under this Option, retail space at Springwood should develop to a total maximum of 27,900 square metres (net selling area) and office space to 16,300 square metres (net). The total gross floor space will be a maximum of 65,000 square metres, with 67,000 square metres required for parking (2,400 to 2,600 spaces). In view of the zoning constraints, development would have to be strictly controlled in accord with an overall Development Control Plan, which should be based on the Design Concept presented in Figure 19. Major features of the concept are :
- (i) A coordinated redevelopment of the entire commercial area utilising all available zoned space in an integrated fashion, but maintaining the essential 'village character' of the business centre by strict height controls on development;
 - (ii) As in Alternative Future 3, a partial closure of Macquarie Street and its conversion into a landscaped pedestrian mall;
 - (iii) Development of multi-level parking areas with access off an upgraded Springwood Avenue, and topped by a deck of retailing and office space at the same level as that fronting Macquarie Road;
 - (iv) Integration of the commercial area between Macquarie Road and Springwood Avenue by a pedestrian spine with limited access, for service vehicles only;
 - (v) Construction of a new road link between Macquarie Road and Springwood Avenue at the western end of the commercial area to assist access to parking areas for traffic approaching from westerly directions;
 - (vi) Development of two-level parking areas North of Macquarie Road, adjacent to the Railway Station, along the rear-access way, and above the railway track.
- (c) The Blaxland centre should be developed to a total retail net selling area of 3,700 square metres and office space of 1,900 square metres (net) in line with its continuance as an enlarged Neighbourhood Centre. Total floor space and parking requirements would require development to extend well to the west of Station Street, but development should be consolidated as far as possible in line with the concept illustrated in Figure 17. This concept incorporates similar features to that proposed for Alternative Futures 2 and 3.
- (d) Elsewhere within the Lower Mountains, Neighbourhood Centres should be developed in accordance with population growth at Winmalee, Valley Heights, Warrimoo, Mt Riverview and Glenbrook, to levels specified in Table 7, under Option 4Z. Development proposed at Faulconbridge should only proceed if suitable arrangements can be made for diversion of the Great Western Highway to the rear of existing development.



8. EVALUATION OF CURRENT DEVELOPMENT APPLICATIONS

There are a number of applications for development currently before Council for expansion of retail and commercial facilities within the Springwood and Blaxland centres. Advice is sought by Council in respect of their relationship to the strategy for future development of these centres. It has been clear in the foregoing analysis that the appropriate future size of the commercial centres within the Lower Mountains is largely dependent upon which Alternative Future is adopted. Hence, it is difficult to give definitive advice on whether particular DA's should be resisted or approved at this stage. However, in certain cases recommendations on the DA's can be made irrespective of the alternatives. Also in other cases approval of DA's could prejudice the implementation of a particular commercial development strategy as the recommended location of commercial facilities varies under each Alternative. The DA's can, therefore, be evaluated in the light of the recommended course of commercial development under each Alternative.

Details of current development applications in Springwood and Blaxland are summarised below, and illustrated in Figures 20 and 21 :

Table 12
CURRENT DEVELOPMENT APPLICATIONS - SPRINGWOOD CENTRE

DA No.	Address	DP No.	Net Office	Net Retail Rentable	Net Selling	Total Gross Floor Space (commercial)	Comments
10343	Macquarie Road - Commonwealth Bank	235613	380 (4100)	-	-	440 (4700)	Extension to existing premises
16211	162-164 Macquarie Road	235084	-	83 (900)	59 (630)	110 (1200)	Extension at rear of existing shops; 2 flats included
13811	Lot 12 Macquarie Road	240117	380 (4100)	375 (4032)	260 (2800)	950 (10200)	2 storey development proposed
15847	Cnr Macquarie Road/Raymond Road		585 (6300)	670 (7200)	465 (5000)	1,400 (15200)	2 storeys
15845	Cnr Raymond Road/Springwood Avenue)		-	470 (5100)	330 (3600)	630 (6700)	2 storeys: shops at ground level; flats over
15846	Springwood Avenue Lot 3						
14450	119 Macquarie Road		345 (3700)	150 (1600)	100 (1100)	1,150 (12400)	2 storeys: shops/offices (including medical suites). Car parking in half basement (10 cars)
Total Floor Space			1,700 (18200)	1,750 (18800)	1,200 (13100)	4,700 (50400)	
<u>Under Construction</u>							
	Cnr Raymond Road/Springwood Avenue		-	770 (8300)	540 (5800)	1,020 (11000)	May be reduced in size

NB: Measurements are in square metres with square feet shown in brackets.



Table 13
CURRENT DEVELOPMENT APPLICATIONS - BLAXLAND CENTRE

DA No.	Address	DP No.	Net Office	Net Rentable	Retail Net Selling	Total Gross Floor Space (commercial)	Comments
14682	Great Western Highway	78152	-	840 (9000)	620 (6700)	1,200 (12700)	Net areas estimates only
11707	Great Western Highway	Pt Lot 11	260 (2750)	-	-	300 (3200)	Bank extensions/rebuilding
13717	Great Western Highway	Lot 9	260 (2750)	-	-	300 (3200)	
16137	Great Western Highway	Lot 7	90 (950)	100 (1100)	75 (800)	240 (2600)	New Building
Total Floor Space			600 (6450)	940 (10100)	700 (7500)	2,000 (21700)	

NB: Measurements are in square metres with square feet shown in brackets.

8.1 SPRINGWOOD (see Figure 20)

DA 10343 DP 234613 Macquarie Road Commonwealth Bank Extensions

Recommendation: Approve only under Alternative 2.

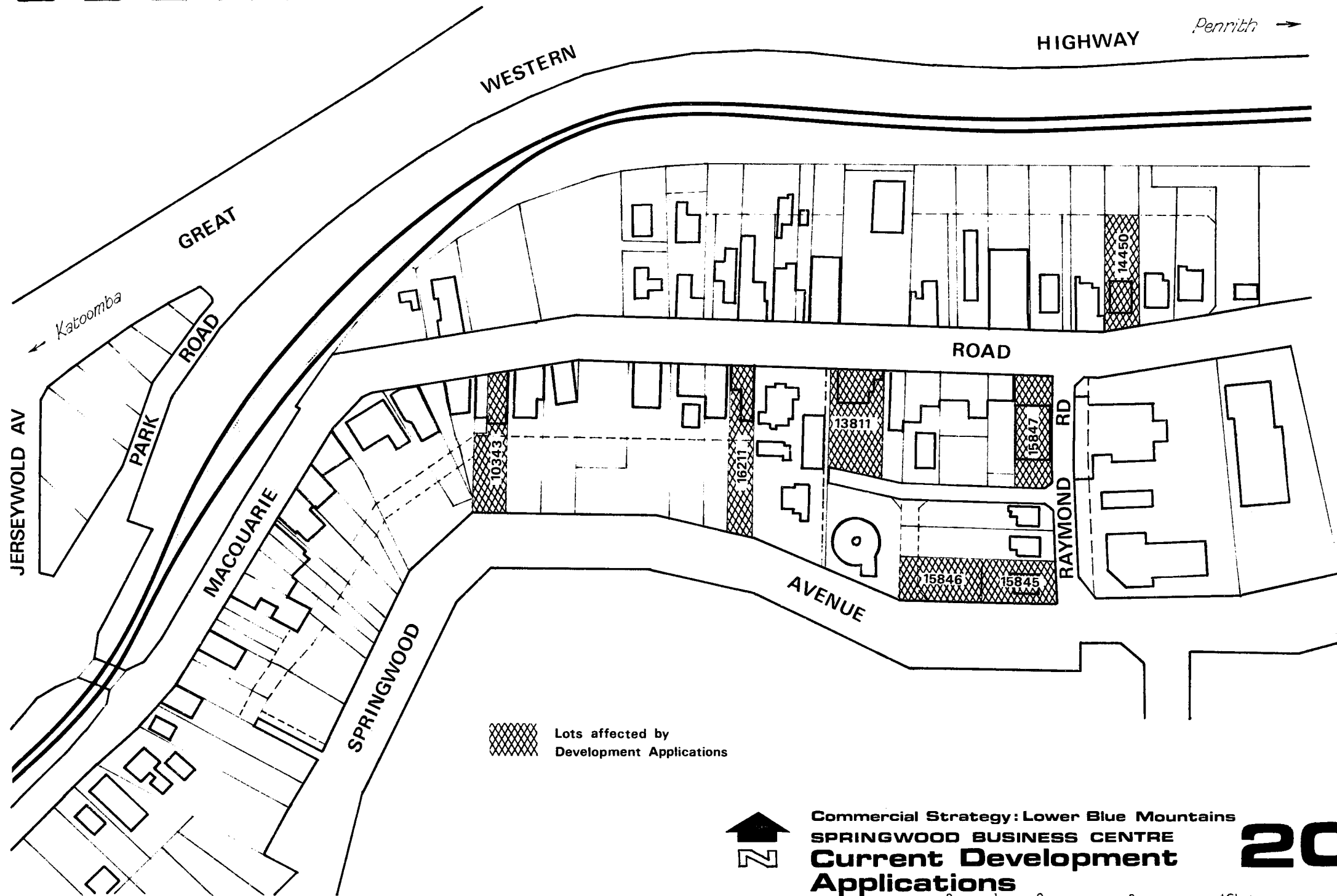
This development would, as it stands, prejudice the development of a rear access laneway as allowed for in the Planning Scheme. Such access - either for pedestrian or vehicular purposes - becomes necessary under both Alternatives 3 and 4, in order to allow for the integrated development of the commercial area.

Thus this application should only be allowed to proceed in case of adoption of Alternative 2. In case of adoption of Alternative 3 or 4, the bank should be required to consolidate its development to the north, while providing rear access to the proposed pedestrian network.

DA 16211 162-164 Macquarie Road Rear Extensions to Existing Shops

Recommendation: Refuse development.

- (i) The DA is made in respect of land zoned for parking purposes. The parking area may eventually be extended to other places than that reserved on the planning scheme. However, the land would definitely be required for parking purposes under Alternative 2 and for a mixed, split-level parking/commercial area under Alternatives 3 and 4.
- (ii) The planned extension would not allow extension of the rear access way through the block from DP 235204 westwards. The rear access for either pedestrian or



Commercial Strategy: Lower Blue Mountains
 SPRINGWOOD BUSINESS CENTRE
Current Development Applications

USC

20



vehicular traffic, is not feasible at present given the extension of church property through from Macquarie Road to Springwood Avenue. However, the rear portion of the church land could become available for development as it contains a church residence at present. Thus, the laneway/mall development could become feasible as part of a comprehensive redevelopment as advocated under Alternatives 3 and 4.

DA 14450 Lot 12 Macquarie Road DP 1566 (Part)
New Arcade/Shop/Office Development

Recommendation: Approve Development

Comment: This development would prejudice the concept plans advanced for each alternative in the previous section in that its approval would involve loss of opportunity for coordinated development of the 3 lots west of the new arcade development adjacent to the Presbyterian Church. However, such development would be unlikely to be achieved in the short term prior to the drawing up of a redevelopment plan for the whole centre, as recommended under Alternative 4. To refuse development in the meantime, pending the adoption of a unified concept plan, would not appear practicable. In general terms, the development, by providing an arcade-type structure, fits in with the concept of rear access along the northern side of Macquarie Road, to allow a partial mall in Macquarie Road under Alternatives 3 and 4.

DA 13811 Lot 12 Macquarie Road
DA 15845 Corner Raymond Road/Springwood Avenue
DA 15846 Lot 3 Springwood Avenue
DA 15847 Corner Macquarie Road/Raymond Road

Recommendation: Approve only under Alternatives 2 and 3.

These applications (all from one applicant) involve piecemeal redevelopment of separate sites in the vicinity of the Raymond Road/Macquarie Road/Springwood Avenue area. It appears that the applicant is currently unlikely to proceed with proposals.

This is fortunate in the sense that, should these applications be approved in their present format, they would prejudice the comprehensive redevelopment of the centre specified under Alternative 4. The developments could, however, proceed under Alternatives 2 and 3 without prejudicing the total development envisaged at these levels. The total retail space involved (1,500 square metres) accounts for one half of the extra space required under Alternative 2 (3,050 square metres - see Table 5). The office space accounts for around one third of additional space requirements under Alternative 2.



8.2 BLAXLAND (see Figure 21)

DAs 13717 and 11707 Great Western Highway Bank Extensions/Rebuilding

Recommendation: Approve development, subject to provision of rear access to proposed pedestrian/parking network.

Comment: These two developments involve a total extension of some 500 square metres of office space in Blaxland, through bank extensions/rebuilding. Although the amounts involved theoretically take the provision required by a centre of Neighbourhood status, it must be recognised that Blaxland is serving a more important function than this at the present time, particularly in respect of office space. To refuse a development application purely on grounds of a theoretical space provision standard would clearly be unjustified. The office space envisaged for the banks is clearly needed for the more efficient functioning of the centre. However, in line with the development concept put forward for Blaxland centre in this report, which suggests restricting access from the Highway and a reorientation of development wherever possible, it is suggested that both developments be required to provide both front and rear access.

DA 16137 Lot 7 Great Western Highway Offices and Shops

Recommendation: Approve development, subject to provision of rear access to proposed pedestrian/parking network.

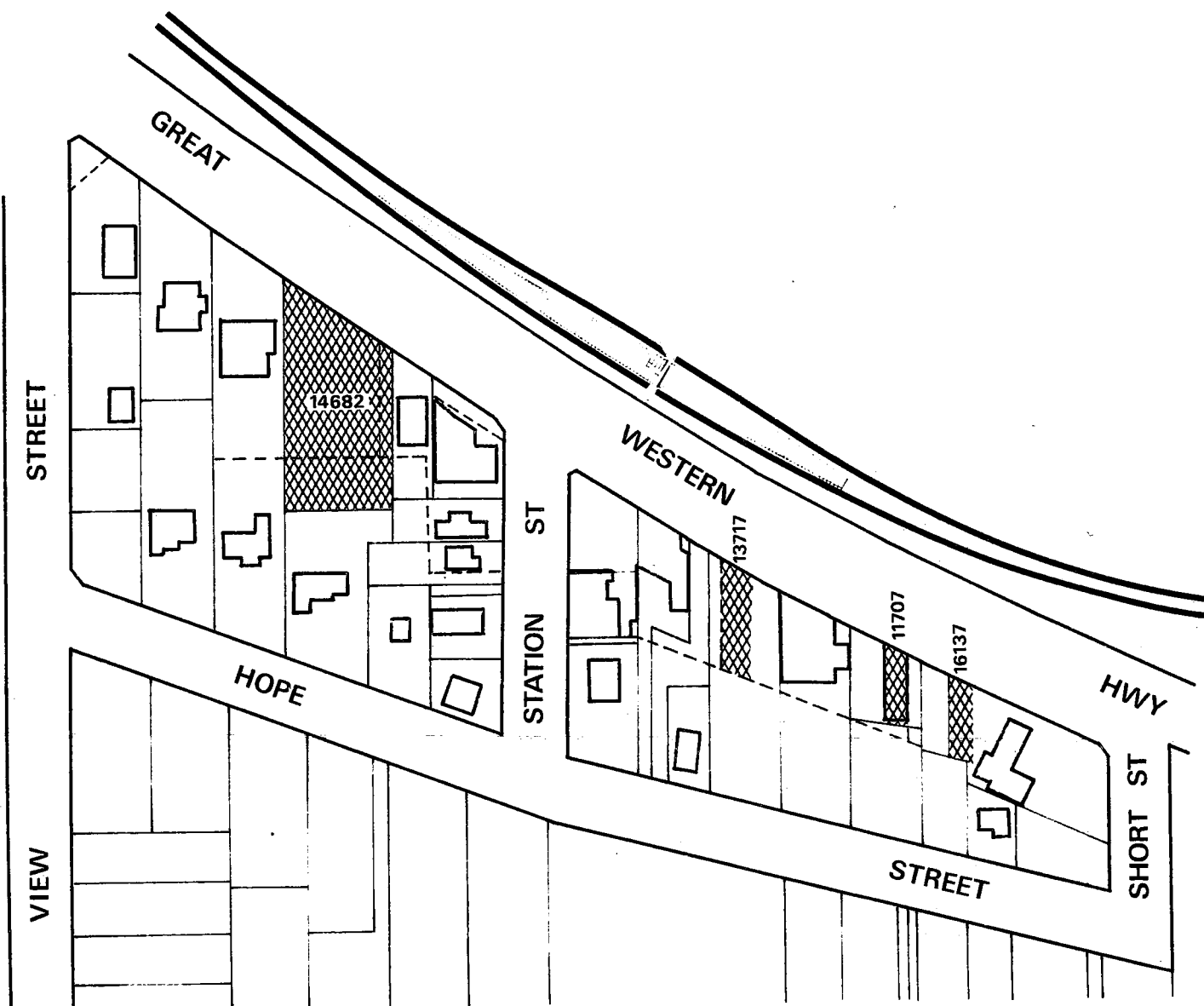
This development involves a small amount of total floor space (240 square metres gross), and hence should be allowed to proceed, provided rear access is provided in line with the development concepts put forward in the previous section.

DA 14682 DP 78152 Great Western Highway 14 Shops

Recommendation: Approve development, conditional upon reorientation to proposed pedestrian/parking network.

This development to the West of Station Street, has been opposed by the State Planning Authority (SPA) and is likely to go to Appeal in the near future. SPA's grounds for opposition are based on the development fronting the Highway.

The total floor space involved, 840 square metres (net rentable area), does not exceed recommendation under any Alternative. However, in terms of the Design Concepts put forward in this Report, it is clear that the development would



Lots affected by
Development Applications



Commercial Strategy: Lower Blue Mountains
BLAXLAND BUSINESS CENTRE
**Current Development
Applications**

USC





be more satisfactory if it could be reoriented away from the Highway, so as to mesh with the proposed pedestrian and parking network. On the other hand, this does not appear essential since the provision of a barrier along the Highway will overcome some access and traffic congestion and safety problems, presently affecting the centre.



APPENDIX A

POPULATION DISTRIBUTION UNDER ALTERNATIVES (to nearest hundred)

Township	ALTERNATIVE			
	1	2	3	4
Faulconbridge	2,300	2,800	4,900	6,200
Springwood	5,100)	8,900	7,900	12,900
Winmalee	2,100)		8,600	12,800
Yellow Rock	100	200	1,600	1,800
Valley Heights	900	1,100	1,500	1,800
Warrimoo	1,800	3,000	3,000	3,600
Blaxland*	7,300	8,800	9,000	14,700
Mt Riverview	1,600	3,800	3,800	3,800
Glenbrook	2,600	3,500	3,600	7,200
Lapstone	1,000	1,500	1,500	1,500
				(+ 3,400 outside T.I.L.)
Total Population	24,800	33,600	45,400	69,500

* Includes South Blaxland

Assumptions:

- Alternative 1: Based on 1971 Population, plus dwellings constructed 1971/72/73, at 1971 dwelling occupancy rates which vary from 3.1 to 3.9 by township.
- Alternative 2: Based on Alternative 1, plus an estimate of vacant sewer-serviced lots by township, based on Council vacant assessment register 1974. Dwelling occupancy at 1971 levels.
- Alternative 3: Alternative 1, plus all zoned urban vacant lots by township, at 1971 dwelling occupancy levels.
- Alternative 4: Capacity of planning scheme by township, with vacant land populated at 25 people per hectare in Residential 'A' zones and 100 people per hectare in other residential zones.



APPENDIX B

COMMERCIAL SPACE PROVISION STANDARDS

In calculating the recommended distribution of retail space under Alternative Futures 2 and 3, as shown in Tables 5 and 6, the following space standards were adopted*:

Town Centre Retail : 0.326 square metres of net rentable space per capita

Neighbourhood Centre Retail : 0.233 to 0.280 square metres of net rentable space per capita

Estimates of total retail space requirements which correspond with likely shopper patterns were made for each Alternative. The estimates were adjusted to allow for predicted levels of escape expenditure to centres outside the study area.

Office space requirements were estimated by study of population/office space ratios in developing areas surrounding Sydney. The standards were :

Town Centre Office : 0.195 square metres of net rentable space per capita

Neighbourhood Centre Office : 0.028 square metres of net rentable space per capita

In the case of Alternative 4, the above standards were used for Town and Neighbourhood Centres' space provision (see Table 7). For calculation of District Centre requirements, provision was made on the basis of expected retention levels of total expenditure, related to floor space turnover figures as detailed over page for Option 4Z :

* For further discussion, see Blue Mountains Strategy Plan: Volume 2, Technical Analysis, Section E.



EXPENDITURE AVAILABLE TO DISTRICT CENTRE AT SPRINGWOOD/ FLOOR SPACE REQUIREMENTS, UNDER ALTERNATIVE FUTURE 4

Area	Population	Expenditure per Head	Total Potential Expenditure (\$)	Retention Level %	Total Turnover Available (\$)	Turnover per sq. m.	Total Net Rentable Area (sq. m.)	Total Net Selling Area (sq. m.)
<u>Springwood Township</u>								
Food	12,900	406	5,237,400	75	3,928,050	1,075	3,654	2,740
Clothing	12,900	277	3,573,300	55	1,965,315	750	2,620	1,965
Household Goods	12,900	483	6,230,700	55	3,426,885	700	4,895	3,671
Personal Services	12,900	72	928,800	75	629,600	860	810	607
							Total	8,983
<u>Winmalee/Faulconbridge/ Yellow Rock, etc.</u>								
Food	24,200	406	9,825,200	15	1,473,780	1,075	1,370	1,027
Clothing	24,200	277	6,703,400	45	3,016,530	750	4,022	3,016
Household Goods	24,200	483	11,688,600	45	5,259,870	700	7,514	5,635
Personal Services	24,200	72	1,742,400	60	1,045,440	860	1,215	911
							Total	10,589
<u>Valley Heights</u>								
Food	1,800	406	730,800	75	548,100	1,075	510	382
Clothing	1,800	277	498,600	50	249,300	750	332	249
Household Goods	1,800	483	869,400	50	434,700	700	621	465
Personal Services	1,800	72	129,600	65	84,240	800	98	74
							Total	1,170
<u>Mt Riverview</u>								
Food	3,800	406	1,542,800	NIL	NIL	-	-	-
Clothing	3,800	277	1,052,600	15	157,900	750	211	158
Household Goods	3,800	483	1,835,400	15	275,300	700	394	295
Personal Services	3,800	72	273,600	5	13,680	800	16	12
							Total	465
<u>Warrimoo/Blaxland</u>								
Food	18,300	406	7,429,800	20	1,485,960	1,075	1,382	1,036
Clothing	18,300	277	5,069,100	30	1,520,730	750	2,028	1,521
Household Goods	18,300	483	8,838,900	30	2,651,670	700	3,788	2,841
Personal Services	18,300	72	1,317,600	10	131,760	800	153	115
							Total	5,513

∴ TOTAL NET SELLING AREA THAT CAN BE SUPPORTED AT SPRINGWOOD

= 26,720 sq. m.
(275-300,000 sq. ft.)