



**Population Change in Adelaide's Peri-urban Region:  
Patterns, Causes and Implications**

by  
**Tania Ford**

**A thesis submitted in fulfilment of the requirements of the Degree of Master of  
Arts, Department of Geography**

**University of Adelaide**

**April 1998**

## ERRATA

p.66, line 6 should read 'the last'

p.67, line 7 from bottom delete 'a'

p.73, Table 4.1, last column, second from bottom should read '-0.45'

p.95, line 10 from bottom delete '9824' and replace with '5037'

p.99, line 6 from bottom replace '70 and over' with '75 and over'

line 4 from bottom replace '10-24 years' with '15-24 years'

p.101, line 5 replace '0-10' with '5-14'

p.105 L = locality (200-999 population)

Beneath title of table should read...(see Figure 4.23 for locations)

p.111, line 6 from bottom replace '10-24 years' with '15-24 years'

p.116, line 11 footnote to sentence: This figure, based on census count data differs from

the estimates quoted earlier (Tables 4.2 and 4.3) which were based on vital statistics

line 9 from bottom, replace second 'region' with 'SLA'

p.123, line 1 should read...Many peri-urbanSLAs are growing not only as a result...

p.124, bottom right corner of table replace '19.0' with '1.9'

p.183, line 1 'travelled'

p.202, line 3, second paragraph should read...approximately one quarter of the established population was born in the ASD, overseas and other rural locations respectively.

## TABLE OF CONTENTS

	<b>Page</b>
<b>TITLE PAGE</b>	I
<b>TABLE OF CONTENTS</b>	ii
<b>LIST OF TABLES</b>	v
<b>LIST OF FIGURES</b>	vii
<b>LIST OF PLATES</b>	x
<b>ABSTRACT</b>	xi
<b>DECLARATION</b>	xii
<b>ACKNOWLEDGMENTS</b>	xiii
<b>ABBREVIATIONS</b>	iv
<b>CHAPTER 1 INTRODUCTION</b>	1
1.1 Introduction	1
1.2 Themes in the Literature	1
1.3 Aims and Objectives of the Study	3
1.4 Defining the Peri-urban Region	4
1.5 Adelaide's Peri-urban Region	7
1.6 Adelaide's Peri-urban Region in Context	12
1.6.1 The Fleurieu Peninsula	14
1.6.2 The Mount Lofty Ranges	16
1.6.3 The Barossa Valley	17
1.6.4 The Murray Lands	18
1.6.5 The Lower Mid North	19
1.6.6 The Adelaide Plains	20
1.7 Outline of Study	22
<b>CHAPTER 2 THE LITERATURE AND APPROACHES TO EXPLANATION</b>	24
2.1 Introduction	24
2.2 The Population Turnaround	24
2.3 The International Experience	26
2.4 The Australian Experience	30
2.5 Peri-urban Population Growth	32
2.6 Approaches to an Explanation of the Population Turnaround	34
2.7 Gaps in the Literature	37
2.8 Conclusion	40
<b>CHAPTER 3 DEMOGRAPHIC GROWTH PROCESSES IN THE PERI-URBAN REGION</b>	42
3.1 Introduction	42
3.2 Demographic Growth Processes	42
3.2.1 Suburbanisation	42
3.2.2 Counterurbanisation	45
3.2.3 Population Retention	48
3.2.4 Centripetal Migration	49
3.3 Conceptual Framework of Peri-urban Growth	50
3.4 The Data and Methodology	56
3.4.1 Secondary Data Sources	56

3.4.1.1 The Australian Census of Population and Housing	56
3.4.1.2 Other Secondary Sources	57
3.4.2 Primary Data Collection	58
3.4.2.1 Selection of Case Study Areas	58
3.4.2.2 Survey Methodology	65
3.4.3 Spatial Units of Analysis	68
3.5 Conclusion	69
<b>CHAPTER 4 POPULATION CHANGE IN THE PERI-URBAN REGION</b>	<b>71</b>
4.1 Introduction	71
4.2 Population Growth in South Australia	71
4.3 Macro-Scale Factors Influencing Peri-urban Growth	74
4.4 Population Change in South Australia and Adelaide's Peri-urban Region, 1961 to 1996	79
4.4.1 Population Change, 1961-71	79
4.4.2 Population Change, 1971-81	81
4.4.3 Population Change, 1981-91	87
4.4.4 Population Change, 1991-96	91
4.5 Components of Population Change	94
4.5.1 Peri-urban Growth, 1966-1996	94
4.5.2 Migration at the SLA Level	95
4.5.3 The Age Profile of Migration	98
4.6 The Settlement Pattern	101
4.7 Projected Population Change	106
4.8 Conclusion	111
<b>CHAPTER 5 GROWTH PROCESSES IN THE PERI-URBAN REGION</b>	<b>113</b>
5.1 Introduction	113
5.2 Definition of Growth Processes	113
5.3 Differentiation of Growth Processes at the SLA Level	115
5.3.1 Origin of Migrants	115
5.3.2 The Journey to Work	128
5.3.3 Nature of Residential Development	136
5.3.4 Amenity Value of Destination Areas	141
5.3.5 Accessibility	146
5.4 Summary of Spatial Pattern of Growth Processes at the SLA Level	151
5.5 Differentiation of Growth Processes at the Local Level	155
5.5.1 Wakefield Plains	158
5.5.2 Mallala	168
5.5.3 Strathalbyn	177
5.6 Conclusion	186
<b>CHAPTER 6 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE MIGRATION FLOW</b>	<b>190</b>
6.1 Introduction	190
6.2 The Migrant Population	191
6.3 Composition of the Migrant Flow: The Literature	192
6.4 Hypothesised Differences in the Migration Flow	195



6.5 The Socio-Demographic Characteristics of the Migrant Households According to the Survey Data	198
6.5.1 Age-Sex Structure	199
6.5.2 Family Type	201
6.5.3 Birthplace	202
6.5.4 Labour Force Status	204
6.5.5 Occupation	206
6.5.6 Income	207
6.5.7 Residential Location	209
6.5.8 Nature of Housing	210
6.6 Recent Migrants and Established Residents	212
6.7 The Recent Migrant Population by Household Type	214
6.8 Conclusion	219
<b>CHAPTER 7 THE IMPACT OF POPULATION GROWTH IN THE PERI-URBAN REGION</b>	220
7.1 Introduction	220
7.2 Impacts of Growth in the Peri-urban Region as a Whole	221
7.3 Impacts of Population Growth on the Local Host Community: The Literature	224
7.3.1 Social Integration	224
7.3.2 In-migrant Satisfaction and Identification with their New Locality	228
7.3.3 Shopping Linkages	230
7.3.4 Summary of Hypothesised Differences Between Recent Migrants and Established Residents	230
7.4 The Impact of Population Growth at the Local Level	234
7.4.1 The Impact of Population Growth in Mallala	234
7.4.2 The Impact of Population Growth in Strathalbyn	239
7.4.3 The Impact of Population Growth in Wakefield Plains	244
7.5 Conclusion	247
<b>CHAPTER 8 CONCLUSION</b>	252
8.1 Introduction	252
8.2 Key Findings of the Study	252
8.3 Research Issues	258
<b>APPENDICES</b>	
A Deficiencies and Advantages of the Australian Census of Population and Housing	261
B The Questionnaire	263
C The Fieldwork	271
D Spatial Location of Survey Respondents	273
E Classification of Case Study Areas by Location Type	276
F Cadastral Land Division, Wakefield Plains SLA	279
G Cadastral Land Division, Lewiston (Mallala SLA)	280
H Cadastral Land Division, Strathalbyn SLA	281
<b>BIBLIOGRAPHY</b>	282

## LIST OF TABLES

3.1	Definition and Measurement of Demographic Growth Processes	55
3.2	Variables Used to Classify Peri-urban SLAs	59
3.3	Distribution of Sample in Case Study Areas	67
4.1	Average Annual Population Growth, the State and Selected Regions of S.A., 1961 to 1996	73
4.2	South Australia: Components of Population Growth in the State and Peri-urban Region, 1966-71 to 1991-96	94
4.3	Components of Population Growth, Peri-urban SLAs, 1986-91	96
4.4	Population Change by Settlement Category, South Australia, 1971 to 1991	102
4.5	Growth of Peri-urban Population by Settlement Size, 1976-1996	103
4.6	Urban Centres/ Rural Localities Ranked by Settlement Size, 1996	105
4.7	Projected Population Growth of Adelaide, the Peri-urban Region, Non-metropolitan S.A. and the Total State, 1991-2011	107
5.1	Net Migration by Peri-urban SLA, 1986-91	117
5.2	Population Retaining Same Place of Residence, 1981-86 and 1986-91	121
5.3	Population Retaining Peri-urban Residence, 1981-86 and 1986-91	122
5.4	Rate of Out-Migration of Total Population from Adelaide's Peri-urban Region, 1981-86 to 1986-91	124
5.5	Rate of Centripetal In-Migration, 1986-91	125
5.6	Relative Contribution of the Four Growth Processes in Adelaide's Peri-urban Region Based on Migrant Origin	128
5.7	Population Employed Within Peri-urban Region, 1986 and 1991	133
5.8	Relative Contribution of the Four Growth Processes in Adelaide's Peri-urban Region Based on the Journey to Work	135
5.9	Relative Contribution of the Four Growth Processes in Adelaide's Peri-urban Region Based on Five Key Indicators	154
5.10	Classification of Migrant Households by Growth Process	157
5.11	Previous Place of Residence of Migrant Households, Wakefield Plains	159
5.12	Distribution of Recent Migrants by Previous Place of Residence in Urban and Rural Sectors, Wakefield Plains	161
5.13	Place of Previous Residence and Frequency of Travel to Adelaide of Recent Migrants, Wakefield Plains	163
5.14	Main Reason for Moving to Current Residence by Previous Place of Residence of Recent Migrants, Wakefield Plains	164
5.15	Previous Place of Residence of Migrant Households, Mallala	170
5.16	Main Reason for Moving to Current Residence of Recent Migrant Households, Mallala	174
5.17	Previous Place of Residence of Migrant Households, Strathalbyn	179
5.18	Distribution of Recent Migrants by Previous Place of Residence in Urban and Rural Sectors, Strathalbyn	180
5.19	Main Reason for Moving to Current Residence of Recent Migrant Households, Strathalbyn	183
6.1	Recent Migrant Households Classified by Type	192

6.2	Summary of Hypothesised Characteristics of Migrant Households	198
6.3	Recent Migrants and Established Households by Family Type	201
6.4	Migrant Households by Family Type	202
6.5	Recent Migrants and Established Residents by Birthplace	202
6.6	Migrant Households by Birthplace	203
6.7	Labour Force Status by Household Type	204
6.8	Migrant Households by Labour Force Status	206
6.9	Migrant Households by Occupation	206
6.10	Main Source of Income by Recent Migrant and Established Resident Households	208
6.11	Migrant Households by Residential Location	210
6.12	Migrant Households by Nature of Housing	211
6.13	Statistically Significant Differences Between Recent Migrant and Established Resident Households Based Upon Survey Findings	213
6.14	Statistically Significant Differences Between Recent Migrant Household Types Based Upon Survey Findings	218
7.1	Hypothesised Differences Between Recent Migrants and Established Residents	231
7.2	Hypothesised Differences Within the Migration Flow According to the Four Growth Processes	232
7.3	Questions Asked of the Survey Respondents in Relation to Social Integration, Local Identification/Satisfaction and Shopping Linkages	234
7.4	Perceived Integration of Recent Arrivals into Local Community by Recent Migrants and Established Residents, Mallala	235
7.5	Lifestyle Adjustment Involved with Peri-urban Move by Migrant Type, Mallala	237
7.6	Location of Area Most Used for Shopping by Recent Migrants and Established Residents, Mallala	239
7.7	Perceived Acceptance by Local Community by Recent Migrants and Established Residents, Strathalbyn	240
7.8	Perceived Acceptance by Local Community by Migrant Type, Strathalbyn	240
7.9	Participation in Local Organisations by Recent Migrants and Established Residents, Strathalbyn	242
7.10	Location of Area Most Used for Shopping by Recent Migrants and Established Residents, Strathalbyn	243
7.11	Perceived Integration of Recent Arrivals into Local Community by Recent Migrants and Established Residents, Wakefield Plains	245
7.12	Degree of Lifestyle Adjustment by Migrant Type, Wakefield Plains	246
7.13	Location of Area Most Used for Shopping by Recent Migrants and Established Residents, Wakefield Plains	247
7.14	Differentiation Between Recent Migrants and Established Residents in the Three Case Study Areas Based Upon Survey Results	248

## LIST OF FIGURES

1.1	The Form of the Peri-urban Region	6
1.2	Adelaide's Peri-urban Region	8
1.3	South Australia: Net Population Increase, 1986-1991	9
1.4	Extent of Urban Development in the Adelaide Metropolitan Area and Surrounding Peri-urban SLAs	11
1.5	South Australia: The Direction and Spread of Settlement up to 1868	12
1.6	South Australia: Density of Vacant Agricultural Land and Rural Living Properties	13
1.7	Broad Physiographical Regions within Adelaide's Peri-urban Area	15
3.1	Conceptual Model of Demographic Growth Processes at Work in the Peri-urban Region	51
3.2	Dendrogram Used to Classify Groups of Peri-urban SLAs	60
3.2	Location of Case Study Areas	62
4.1	South Australia: Population Distribution Between Metropolitan, Other Urban and Rural Areas, 1844-1991	72
4.2	Growth of Population Aged 65+ Years in South Australia and the Peri-urban Region, 1971-96	75
4.3	Increase in Motor Vehicles (S.A.) and Total Peri-urban Population, 1971-1996	76
4.4	Growth in the Number of Telephones (S.A.) and Total Peri-urban Population, 1971-1996	77
4.5	Increase in Average Weekly Earnings (S.A.) and Total Peri-urban Population, 1971-1996	77
4.6	Average House Prices (S.A. and Adelaide) and Total Peri-urban Population, 1975-1996	78
4.7	Population Growth by SLA, Non-Metropolitan S.A., 1961-66 and 1966-71	80
4.8	Population Growth by SLA, Adelaide's Peri-urban Region, 1961-66 and 1966-71	81
4.9	Population Growth by SLA, Non-Metropolitan S.A., 1971-76 and 1976-81	82
4.10	Population Growth by SLA, Adelaide's Peri-urban Region, 1971-76 and 1976-81	83
4.11	Population Growth by Collection District, Adelaide's Peri-urban Region, 1971-81	85
4.12	Location of Peri-urban Centres and Localities and Major Transport Routes	86
4.13	Population Growth by SLA, Non-Metropolitan S.A., 1981-86 and 1986-91	87
4.14	Population Growth by SLA, Adelaide's Peri-urban Region, 1981-86 and 1986-91	88
4.15	Population Growth by Collection District, Adelaide's Peri-urban Region, 1981-91	90
4.16	Population Growth by SLA, Non-Metropolitan S.A., 1991-96	91
4.17	Population Growth by SLA, Adelaide's Peri-urban Region, 1991-96	92

4.18 Population Growth by Collection District, Adelaide's Peri-urban Region, 1991-96	93
4.19 Net Migration and Distance From Metropolitan Adelaide, Adelaide's Peri-urban Region, 1986-91	97
4.20 Age-Sex Profile of Adelaide's Peri-urban Population, 1961 and 1996	98
4.21 Age-Specific Net Migration Profile, Adelaide's Peri-urban Region, 1966-71 to 1986-91	100
4.22 Age-Specific Net Migration Profiles, Mount Barker, Meningie, Port Elliot/Goolwa and Victor Harbor, 1986-91	101
4.23 Peri-Urban Centres, 1996	104
4.24 Projected Population Growth, SLA in Non-Metropolitan S.A., 1991-2011	108
4.25 Projected Population Growth, SLAs in Adelaide's Peri-urban Region, 1991-2001	109
4.26 Projected Population Growth, SLAs in Adelaide's Peri-urban Region, 1991-2011	110
5.1 Place of Previous Residence of Adelaide's Peri-urban Population by SLA, 1986-1991	117
5.2 Source of In-Migrants to Adelaide's Peri-urban SLAs, 1986-1991	119
5.3 In-migration From Within the Peri-urban Region as a Proportion of Total In-flow, 1986-91	123
5.4 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on the Origin of Migrants	126
5.5 Journey to Work Destination From Adelaide's Peri-urban SLAs, 1991	130
5.6 Journey to Work Destination From Adelaide's Peri-urban SLAs: Self-Containment, 1991	132
5.7 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on the Commuting Patterns of the Workforce	134
5.8 Extent of Urban Settlement in Metropolitan Adelaide and Surrounding Peri-urban Region, 1991	136
5.9 Total 'Suburban-like' Development in Peri-urban SLAs Surrounding Metropolitan Adelaide, 1950-1996	138
5.10 Extent of Urban Development Surrounding Metropolitan Adelaide to 1996	139
5.11 Factors Associated with Amenity Value in Adelaide's Peri-urban Region	143
5.12 Amenity Value in Adelaide's Peri-urban Region	144
5.13 Accessibility in Adelaide's Peri-urban Region.	147
5.14 Amenity and Accessibility in Adelaide's Peri-urban Region	149
5.15 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on Nature of Residential Development, Amenity and Accessibility of the Peri-urban Destination	150
5.16 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on the Five Key Indicators	153
5.17 Location of Towns and Rural Settlements in Wakefield Plains SLA	158
5.18 Distribution of Recent Migrants by Previous Place of Residence, Wakefield Plains	160

5.19 Distribution of Recent Migrants by Journey to Work Destination, Wakefield Plains	162
5.20 Spatial Distribution of Recent Migrant Household Types, Wakefield Plains	166
5.21 Broad Pattern of Demographic Growth Processes at the Local Level, Wakefield Plains	167
5.22 Location of Towns and Rural Settlements in Mallala SLA	169
5.23 Distribution of Recent Migrants by Previous Place of Residence, Mallala	171
5.24 Distribution of Recent Migrants by Journey to Work Destination, Mallala	172
5.25 Spatial Distribution of Recent Migrant Household Types, Mallala	175
5.26 Broad Pattern of Demographic Growth Processes at the Local Level, Mallala	176
5.27 Location of Towns and Rural Settlements in Strathalbyn SLA	178
5.28 Distribution of Recent Migrants by Previous Place of Residence, Strathalbyn	180
5.29 Distribution of Recent Migrants by Journey to Work Destination, Strathalbyn	181
5.30 Journey to Work Destination of Migrants by Origin, Strathalbyn	182
5.31 Spatial Distribution of Recent Migrant Household Types, Strathalbyn	184
5.32 Broad Pattern of Demographic Growth Processes at the Local Level, Strathalbyn	185
6.1 Age-Sex Structure of Recent Migrant and Established Resident Populations	199
6.2 Age-Sex Structure of Migrant Flow According to Household Type	200
7.1 Age-Sex Structure of the Peri-urban and South Australian Population, 1996	222
7.2 Model of the Impact of Population Growth in the Peri-urban Region	225

**LIST OF PLATES**

7.1	Typical Landscape of Mallala SLA	63
7.2	Typical Landscape of Wakefield Plains SLA	64
7.3	Typical Landscape of Strathalbyn SLA	65
E1	Well-Established Country Town: Balaklava (Wakefield Plains SLA)	276
E2	Suburban-like Development: Lewiston (Mallala SLA)	277
E3	Small Rural Settlement: Langhorne Creek (Strathalbyn SLA)	278
E4	Hobby Farm: Dublin (Mallala SLA)	278

## ABSTRACT

Non-metropolitan growth has become spatially concentrated in the peri-urban regions of cities throughout the western world and the significance of this growth zone is reflected in the large body of literature which has been generated. Despite this, significant gaps exist which impede a complete understanding of the patterns, causes and implications of peri-urban growth. This study endeavours to bridge these gaps in the existing literature, with the aim of contributing toward a clearer understanding of the nature of current patterns of population change in the peri-urban region. The peri-urban region is conceptualised as a set of overlapping zones of net growth representing the product of four demographic processes (suburbanisation, counterurbanisation, population retention, centripetal migration). Previous work has failed to identify these processes which, although quite different, are interlinked, producing differences between and within peri-urban Statistical Local Areas (SLAs). This study combines aggregate census data with survey data collected in three selected case studies. Three key aspects of peri-urban growth dynamics are addressed in the context of Adelaide's peri-urban region. Firstly, spatial differentiation of the four processes across the peri-urban region is undertaken at the macro-scale and linked with local level case studies in order to provide a finer level of spatial disaggregation against which to examine the interaction between migrant characteristics, behaviour, motivation and space. Secondly, survey data are utilised to establish the distinctive differences in the composition of the migration flow according to the four processes. Thirdly, the impacts of population growth on the social structure of the peri-urban host community are examined at the local level.



## DECLARATION

I hereby declare that none of the material contained in this thesis has been accepted for the award of any other degree or diploma in any institution and that, to the best of my knowledge and belief, the thesis contains no material previously published or written, except where due reference has been made in the text of the thesis. I consent to this thesis being made available for photocopying and loan, if applicable, and if it is accepted for the award of the degree.

**Tania Ford**  
**University of Adelaide**  
**April 1998**

## ACKNOWLEDGEMENTS

There are a number of people without whom, the completion of this study would not have been possible. Firstly my supervisors, Mr Peter Smailes and Dr Martin Bell have provided countless hours of expert advice, insight and attention to detail, without which this research could not have progressed to its current state. I am extremely grateful for their constant encouragement and guidance throughout the duration of this study. The unwavering support and wisdom of Professor Graeme Hugo over the past 10 years must also be acknowledged, who has provided me with a solid background and working environment within which to undertake such a research task. I am also extremely grateful to Ms Di Rudd for her friendship and encouragement over the years and to Mrs Margaret Young for her support and vast computing skill and expertise, upon which much of the analysis of this thesis has relied. I also owe a debt of gratitude to Mrs Sue Murray for her patience, friendship and expert cartographic skills in undertaking the enormous task of drawing many of the maps and figures included in this study. I must also thank Mr Neil Coffee for his computer generated maps. The fieldwork undertaken for this study has relied on the co-operation of many people scattered throughout the peri-urban region, but particularly Mr Steve Jonas of Wakefield Plains District Council, Mr Colin Dunlop of Mallala District Council and Mr Gordon Stidson of Strathalbyn Council, who were important sources of local information and insight. I would also like to acknowledge all of the survey respondents, without whom much of the analysis in this study would not have been possible. Finally to my family, Julie and Tim who supported, encouraged and helped me through the duration of this research.

**ABBREVIATIONS**

ABS	Australian Bureau of Statistics
ASD	Adelaide Statistical Division
CBD	Central Business District
CD	Collection District
DC	District Council
ERP	Estimated Resident Population
GPO	General Post Office
LTSR	Life Table Survival Ratio
NI	Natural Increase
NM	Net Migration
OASD	Outer Adelaide Statistical Division
SLA	Statistical Local Area
SSD	Statistical Sub-Division



## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

Population growth in the peri-urban regions of Australia's metropolitan centres has been rapid since the population turnaround of the 1970s, and has continued to the 1990s, with a distinctive pattern of growth of which in-migration is the principal component. Although not at the scale occurring in the United States, where it is estimated that nearly 60 million people are currently residing in peri-urban areas (Davis, Nelson and Deuker 1994, p.45), the peri-urban zone is nonetheless a growing component of the Australian landscape. Given the dominance of the Australian urban settlement pattern by the capital cities of the respective states, the area at or beyond the fringe of these cities is a crucial arena within which population growth takes place. In this regard, the peri-urban region forms a distinctive part of the Australian urban system (Bunker and Houston 1992).

Renewed interest is being shown in peri-urban population dynamics, in response to the scale and spatial concentration of growth in this region. However, the distinctive population geography of this growth zone and its sets of problems and issues remain little understood. In order to adequately respond to the challenges of peri-urban growth, a clear understanding of contemporary population dynamics is essential. This study aims to contribute to this understanding by focusing on population growth dynamics in Adelaide's peri-urban region at both the broad regional scale and local level of analysis.

#### 1.2 Themes in the Literature

There has long been recognition of a distinctive growth zone surrounding large cities, which is often largely rural in appearance, but contains many functions which are strongly connected to the nearby metropolitan area (Friedman and Miller 1965; Golledge 1959; Pahl 1965). Since the identification of the non-metropolitan population turnaround in the early 1970s, growth has become spatially concentrated in the peri-urban regions surrounding large urban centres. In the Australian context, Maher and Stimson (1994)

found that these are the fastest growing regions in the nation in terms of expansion of population. Similar evidence of the significance of peri-urban population growth in the United States (Davis *et al* 1994; Nelson and Dueker 1990), the United Kingdom (Herington 1984; Lewis *et al* 1991), Canada (Bryant and Coppack 1991; Dahms 1995) and Europe (Errington 1994; Saraceno 1994) has generated a vast body of literature documenting population change in this region.

Three clear themes characterise the peri-urban literature and these can be summarised as follows. Firstly, a large part of the research has considered total population growth in terms of aggregate statistical change. The spatial patterning of peri-urban growth has tended to dominate the literature, relying on the essentially descriptive analysis of census data (Champion 1989a; Cross 1990; Frey and Speare 1992; Hugo 1996; Vining and Pallone 1982). Relatively little research has been undertaken at the level of understanding peri-urban population dynamics at the local scale, although studies by Flowerdew and Boyle (1992), Spencer (1995), Halliday and Coombes (1995) and Jones *et al* (1984, 1986) are important exceptions. Nevertheless, the majority of this work has neglected to *link* the macro-level processes to micro-level studies of peri-urban growth dynamics.

Secondly, attention has increasingly been given to the composition of the migration flow to the peri-urban region. Several studies have considered the characteristics of migrants at the local scale based on survey data (Bolton and Chalkley 1990; Burnley and Murphy 1995b; Davis, Nelson and Dueker 1994; Dean *et al* 1984b). Nevertheless, these studies assume peri-urban migration to be a single, uniform movement, *without* taking into account the complex dynamics of the migration process at the local level.

Thirdly, comprehensive research into the implications of population growth in the peri-urban region has been undertaken and two central themes have dominated this literature: planning and policy implications (Bunker and Houston 1992; Foyel and Houston 1992; McKenzie 1997; Robinson 1990) and physical/environmental implications (Bowie 1993;

Fielding 1990; Heimlich 1989; Joseph and Smit 1981). The majority of this work has focused on the macro-scale impacts of population growth, *without* recognising the distinctive problems and issues at the local level. In addition, relatively little analysis of the distinctive social impacts of population change in the peri-urban region has been undertaken.

Despite the substantial body of literature, there are four crucial deficiencies in contemporary research on peri-urban population growth which seriously impede our ability to understand the nature of contemporary trends in population distribution. To summarise, the main gaps in the literature are identified as: the absence of adequate theory; the aggregate spatial focus of analysis which fails to consider local variations; the lack of consideration given to the underlying migration flow and the characteristics of migrant households; the lack of attention given to the impact of population growth at the local level. This study endeavours to address these gaps.

### **1.3 Aims and Objectives of the Study**

The main aim of this study is to contribute toward a clearer understanding of the nature of current patterns of population growth dynamics in the peri-urban region at both the macro and micro scales, thus contributing to further analytical insights into the dynamics of the migration process in this region.

Four main deficiencies in the scope and coverage of the existing peri-urban research have been identified above, and these are elaborated on in further detail in Chapter Two. This study aims to address each of these four gaps. Accordingly, the four main aims of this study can be summarised as follows.

- It is argued that peri-urban growth represents the combined effects of four demographic growth processes. Hence, the first aim is to develop a conceptual model of peri-urban growth which differentiates the four underlying demographic processes of

population change (suburbanisation, counterurbanisation, centripetal migration and population retention).

- The second aim is to examine the spatial differentiation of the four growth processes across the peri-urban region using this model. This involves linking the macro-scale pattern with local level variation, in order to provide a finer mesh of space against which to examine this spatial differentiation.
- Building upon this analysis, the third aim is to examine whether the outcomes of the spatial mix of growth processes vary in terms of the composition of the migration flow. If there are four distinctive processes at work, the challenge is to distinguish households and their characteristics according to these processes.
- The fourth aim of this study is to assess how the impact of population growth on the local peri-urban host community varies according to the spatial mix of the four processes. This involves examination of the distinctive social issues and problems at the micro-scale, as 'local' differences will also modify the spatial impact of population growth.

The balance of this chapter establishes the context of the study by:

1. Defining the peri-urban region
2. Describing key features of Adelaide's peri-urban region.

#### **1.4 Defining the Peri-Urban Region**

Attempts have long been made to identify the transitional zone which is often called the rural-urban fringe, the city's countryside, urban field, exurban or peri-urban region (Lewis and Maund 1976, p.17). Functionally this region is neither solely urban nor rural. Attempts at definition date back to that of Wehrwein (1942, p.218) who suggested that the rural-urban fringe was 'the area of transition between well recognised urban land uses and the area devoted to agriculture'. While there is no universally accepted definition, it

is generally agreed (Davis, Nelson and Dueker 1994; McKenzie 1996; Murphy and Burnley 1996; Nelson 1991; Thomas 1990) that the peri-urban region is a distinctive zone which spans the landscape between contiguous urban development and the rural countryside, having relatively low density and encompassing a mix of landuses. Despite its rural appearance, the peri-urban region is strongly connected functionally to the urban area and hence the commuter belt is often used to define the outer boundaries.

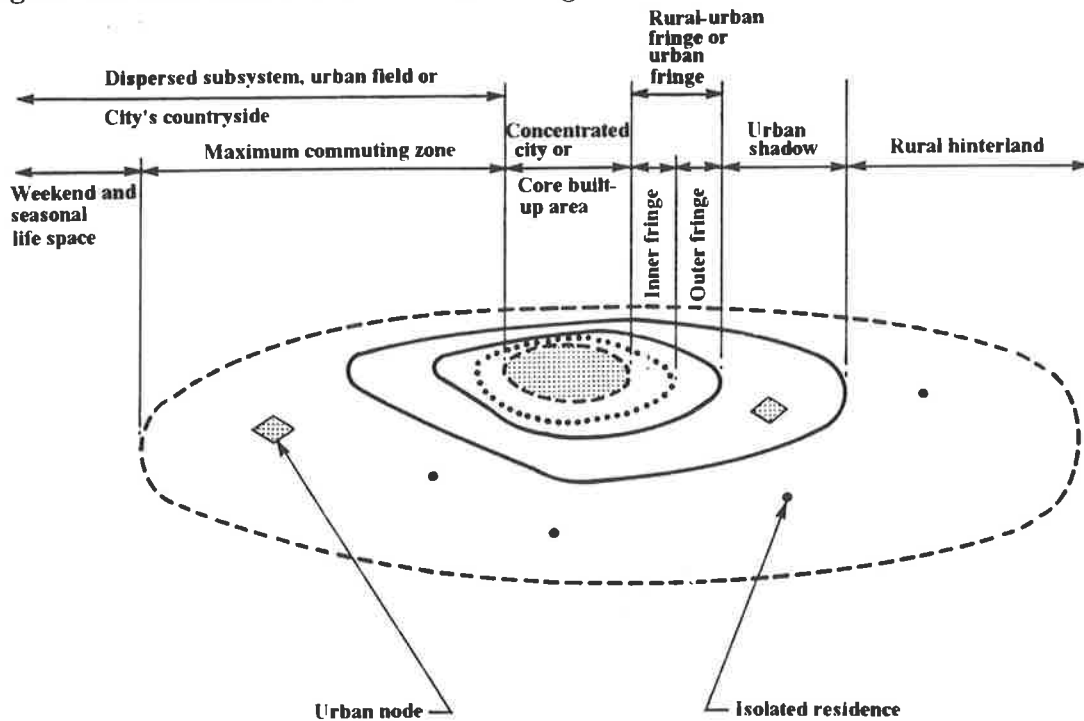
Throughout the western world, urban population and culture have spilled into the countryside and as Walker (1987, p.1) suggests 'sometimes the spillover annihilates rural life and replaces it with urban culture and built form...[but]...more commonly the tidal wave of urbanization has added a new sediment of settlement to the existing structure of rural life'. It may be suggested that the peri-urban region is 'a discontinuous spatial phenomenon around most cities', which is dependent upon pressures for growth which are not equal in all directions (Bryant *et al* 1982; Lewis and Maund 1976). Golledge (1959, p.243) argued that 'the expanding city constantly absorbs its fringe area and creates a 'new' fringe further from the city centre', hence there is a continual movement of the peri-urban region. There is no longer a clear cut distinction between rural and urban, but rather a spatial continuum from rural to urban and many suggest that there are no longer significant demographic, social or economic differences between the rural and urban components of the landscape, because the original nature of 'rural' has been blurred by encroaching urban influence (Coppack 1988a, p.15; Friedman and Miller 1965; Hugo 1986, 1997; Lewis and Maund 1976; Nelson 1991).

The geographical form of the peri-urban region has been conceptualised by Bryant *et al* (1982) in terms of an urban-rural continuum (Figure 1.1). They suggest a four-fold division within which forces of urbanisation have modified the rural environment to varying degrees. The urban shadow extends from the rural-urban fringe and is an area where physical evidence of urban influences is minimal, but is definitely felt in terms of some non-farm ownership of land, non-farm residents and an increasing commuter



population. The rural hinterland reaches to the furthestmost boundaries of the peri-urban region. The key to understanding this region is that it represents various parts of a continuum which results from a very complex and dynamic set of processes (Bryant *et al* 1982, pp.13-14).

**Figure 1.1 The Form of the Peri-urban Region**



Source: Bryant *et al* 1982, p.12

The development of the peri-urban region has been influenced by various factors which include a growing residential population, the decentralisation of activities, social change and increased population mobility (Burnley and Murphy 1995a; Davis *et al* 1994; Lewis and Maund 1976; McKenzie 1996). Coppack (1988b, p.29) categorises these factors into those associated with post industrial society, such as increased emphasis on leisure and lifestyle; those associated with urbanisation, such as economic and demographic change; and those associated with urban field dynamics, such as the pull exerted by amenity value of the region. Three groups of factors are interconnected, both cumulatively and causally.

While the expansion of the peri-urban region is dependent upon pressures for growth, these are not equal in all directions and may follow major access routes or concentrate in areas with other features attractive for development (Bryant *et al*, 1982, p.14). The character and composition of the peri-urban region is the result of the interaction between urban and rural influences and can be seen as a complex and interrelated system of communities with distinctive characteristics in terms of landuse and population. It is a heterogeneous landscape consisting of a wide variety of living environments and as Friedman and Miller (1965, p.317) point out, 'there is nothing rigid or predetermined by the physical form...rather it may be viewed as a mosaic of different forms and micro-environments which co-exist within a common communications framework'.

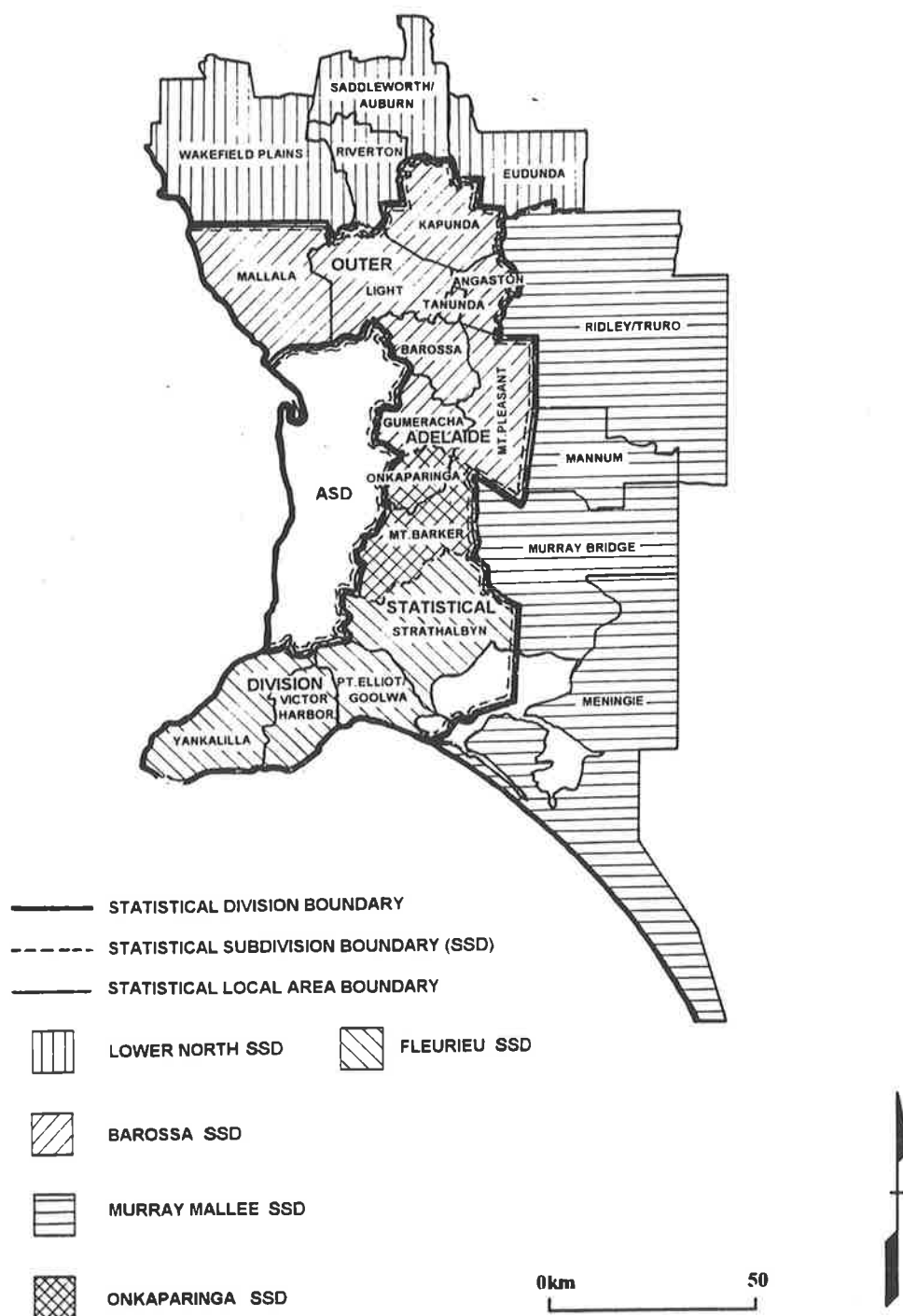
### **1.5 Adelaide's Peri-Urban Region**

A number of studies have examined the population growth occurring in the peri-urban regions of Australian cities and considered the consequences and implications of this growth (see, for example, Burnley and Murphy 1995a; Hugo 1996; Hugo and Smailes 1985, 1992; Jackson and O'Connor 1993; McKenzie 1996; McQuin 1978; Murphy and Burnley 1993, 1996; Sant and Simons 1993a). These studies vary widely in their spatial focus. In the case of Adelaide, however, research on the peri-urban region has generally been confined to the Outer Adelaide Statistical Division (OASD), the arc of non-metropolitan Statistical Local Areas (SLAs) surrounding the Adelaide Statistical Division (ASD) (see, for example, Wright 1990; Menzies and Bell 1981). Defining the region in this way facilitates access to data and extends the depth of analysis which is possible with secondary information, such as from the Census. However, many of the processes involved in peri-urban growth extend beyond the boundaries of the OASD, and, limiting the spatial domain of analysis in this way conceals some of the underlying dynamics involved in this development.

In an endeavour to better identify these processes, this study therefore adopts a wider spatial region for consideration. Adelaide's peri-urban region is defined here to include

the three coterminous Statistical Sub-Divisions (SSDs) of the Outer Adelaide Statistical Division (OASD), together with a further arc of adjacent SLAs from the Yorke and Lower North Statistical Division and Murray Lands Statistical Division (Figure 1.2). The region comprises a total of 22 Statistical Local Areas<sup>1</sup> (SLAs) (Figure 1.2).

**Figure 1.2 Adelaide's Peri-urban Region**



<sup>1</sup>Until the 1996 Census, each SLA was also a Local Government Area (LGA)

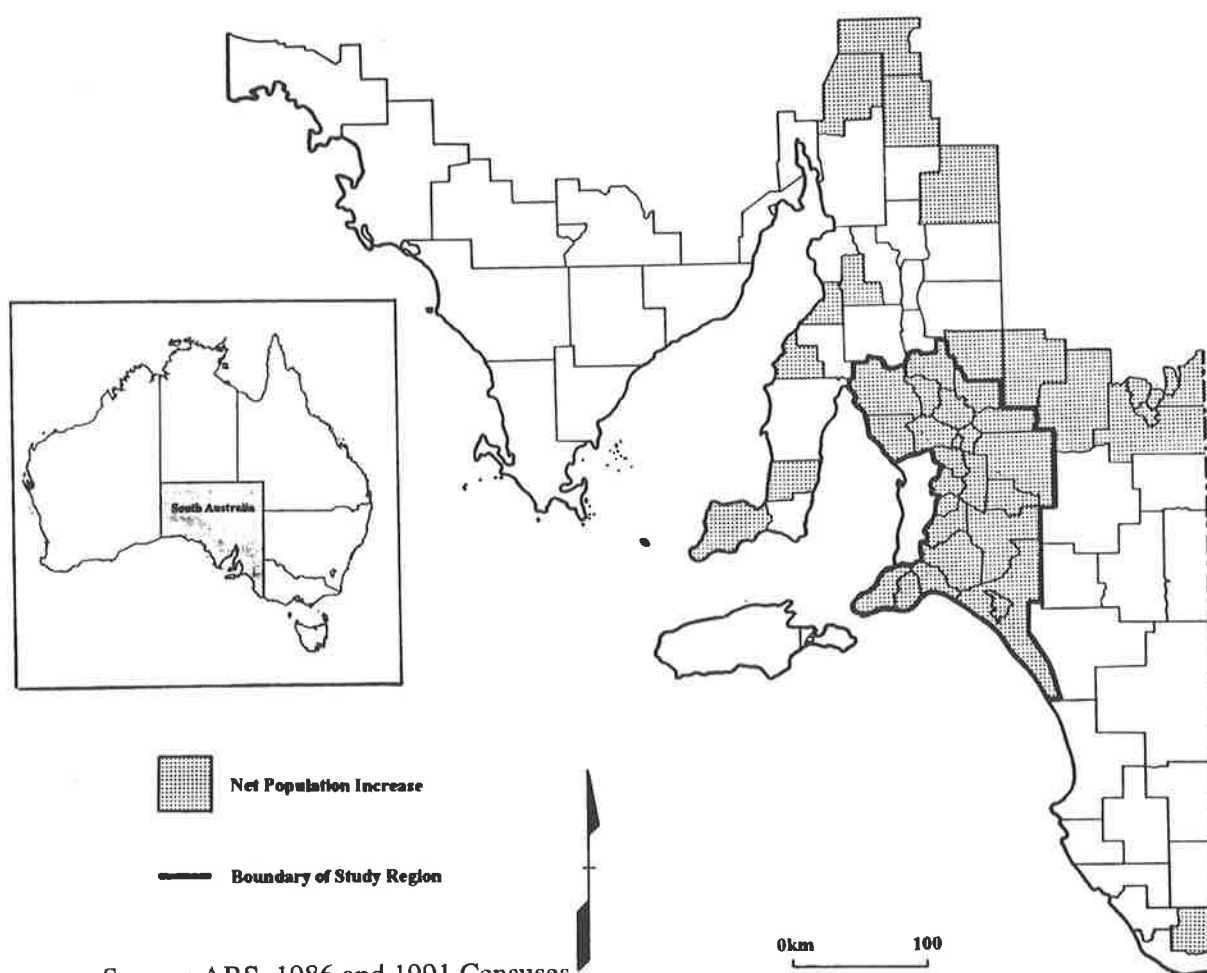
Definition of Adelaide's peri-urban region is based on four criteria:

- The SLA experienced population increase in the intercensal period 1986-91
- The SLA experienced positive net migration during the period 1986-91
- The SLA is within approximately 90 minutes driving time from the Adelaide GPO
- There is a perceived level of commuting between the SLA and the ASD

All of the SLAs comprising the peri-urban region (Figure 1.2) satisfy these criteria.

As can be seen from Figure 1.3, the peri-urban region as defined above was the major focus of population growth in non-metropolitan South Australia over the 1986-91 intercensal period. Outside this area, population increase was confined to the Riverland and a few scattered outlying SLAs in the Mid-North, Flinders Ranges and Yorke Peninsula.

**Figure 1.3 South Australia: Net Population Increase, 1986-91**



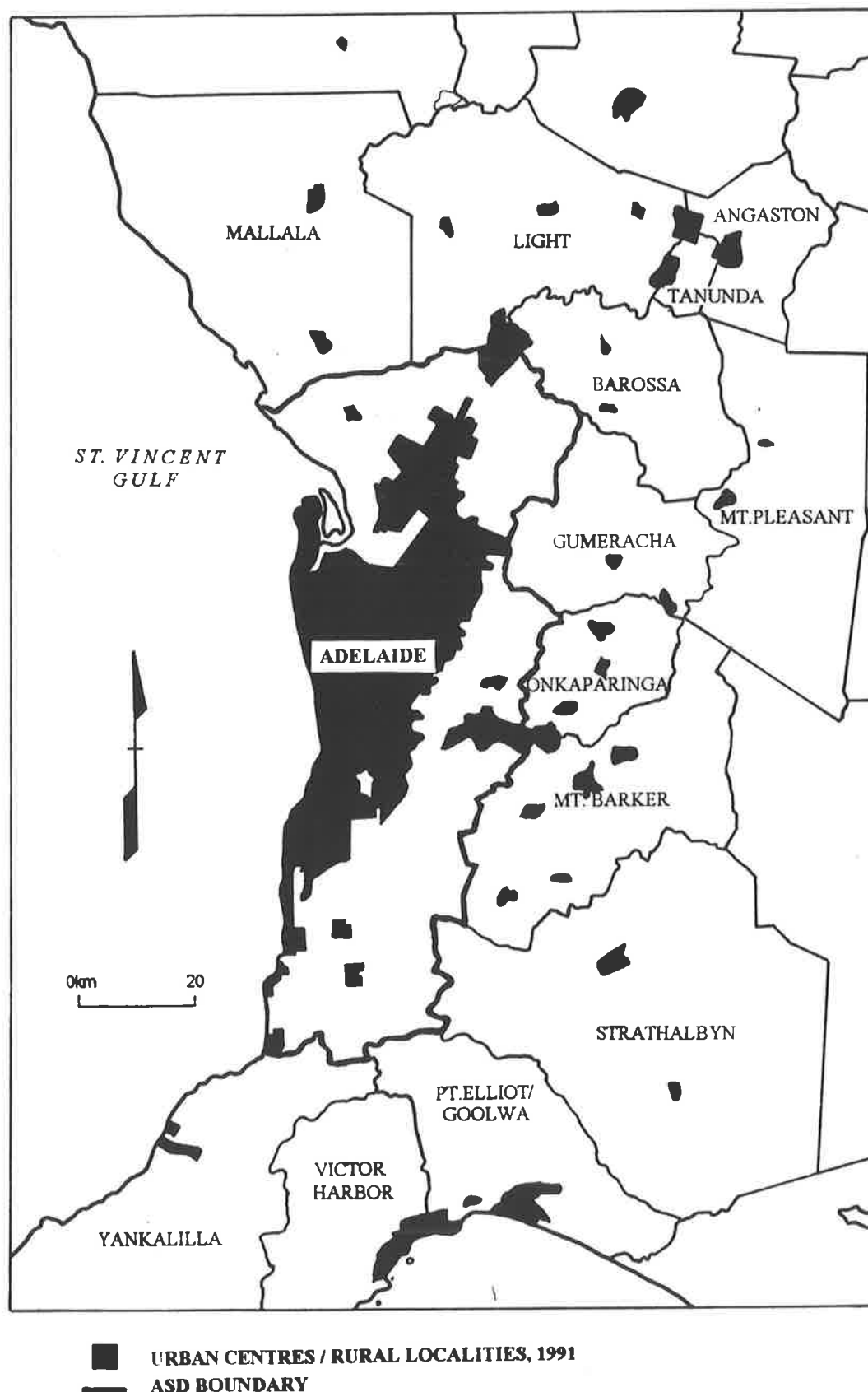
Source: ABS, 1986 and 1991 Censuses

The unicentric nature of the South Australian settlement pattern provides a useful case study for the analysis of peri-urban population dynamics. Unlike most other Australian states, urban development in South Australia is centred on Adelaide, without competing regional centres such as Newcastle and Wollongong, as is the case in New South Wales.

Some difficulty in accurately defining the *inner* boundary of the peri-urban region stems from the crudely defined nature of the Adelaide metropolitan area (ASD). Due to development controls, as well as the physical constraints of the Mount Lofty Ranges in the east and the Gulf of St Vincent in the west, the ASD has taken a north-south oriented linear form, extending from Gawler in the north to Sellicks Beach in the south. Nonetheless, the boundary of the ASD is not a true reflection of the extent of the built up area. As Figure 1.4 shows, the SLA boundaries correspond only very crudely to the edge of the urbanised area, as defined by more or less continuous bricks, mortar and actively developing sub-divisions.

Considerable 'leap-frogging' of urbanisation over intervening open spaces has occurred around the ASD, but especially in the north and south. Because many of the data upon which the analysis in this study is based are only available at SLA level, definition of the peri-urban region must also conform with SLA boundaries. For the purposes of this study, the ASD provides the most appropriate inner boundary for the peri-urban region. Nevertheless, the distinct nature of urban expansion within the ASD should be borne in mind in the ensuing discussion.

**Figure 1.4 Extent of Urban Development in the Adelaide Metropolitan Area and Surrounding Peri-urban SLAs**



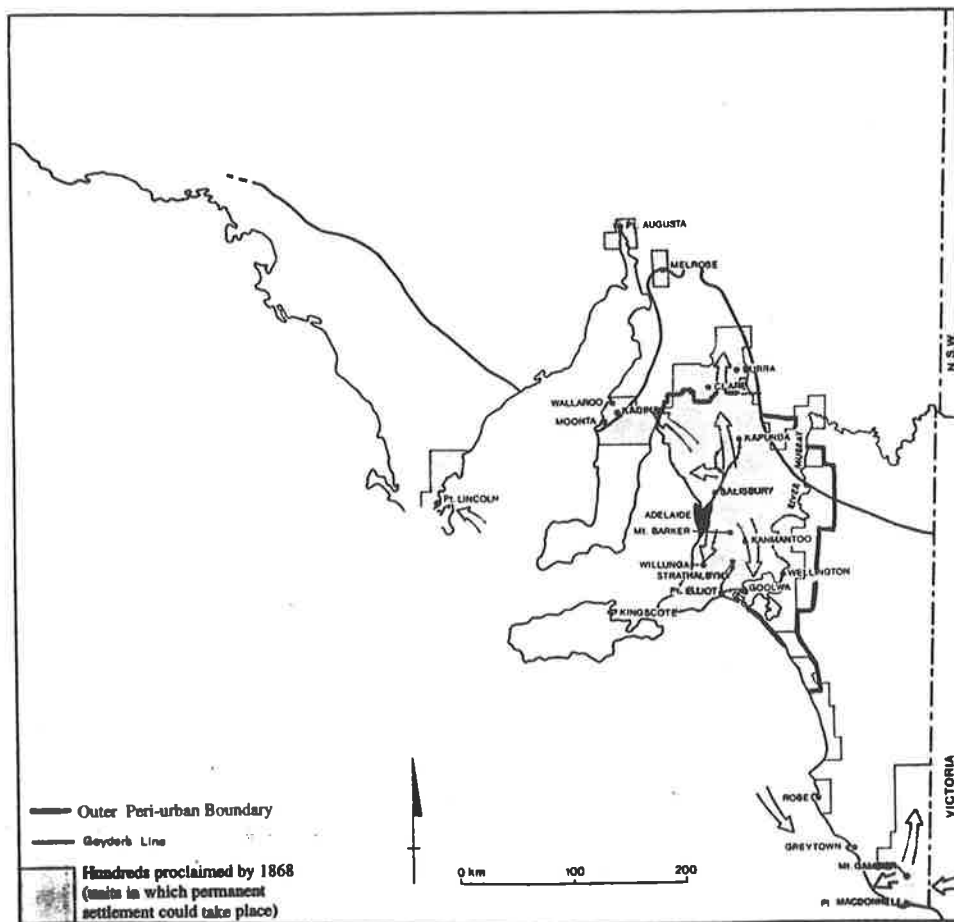
Source: ABS, 1991 Census

### 1.6 Adelaide's Peri-Urban Region in Context

Adelaide's peri-urban region displays a unique combination of topography, climate, rainfall and soils making it one of the State's few areas of well-watered, productive agricultural land. As a result, it has attracted significant population and settlement not directly dependent on its location adjacent to metropolitan Adelaide.

The peri-urban region was the first broad area of concentrated European settlement in South Australia (Figure 1.5). Agricultural settlement in the northern and southern perimeters was established by the 1850s, spreading eastwards towards the Murray Mallee region in the 1860s.

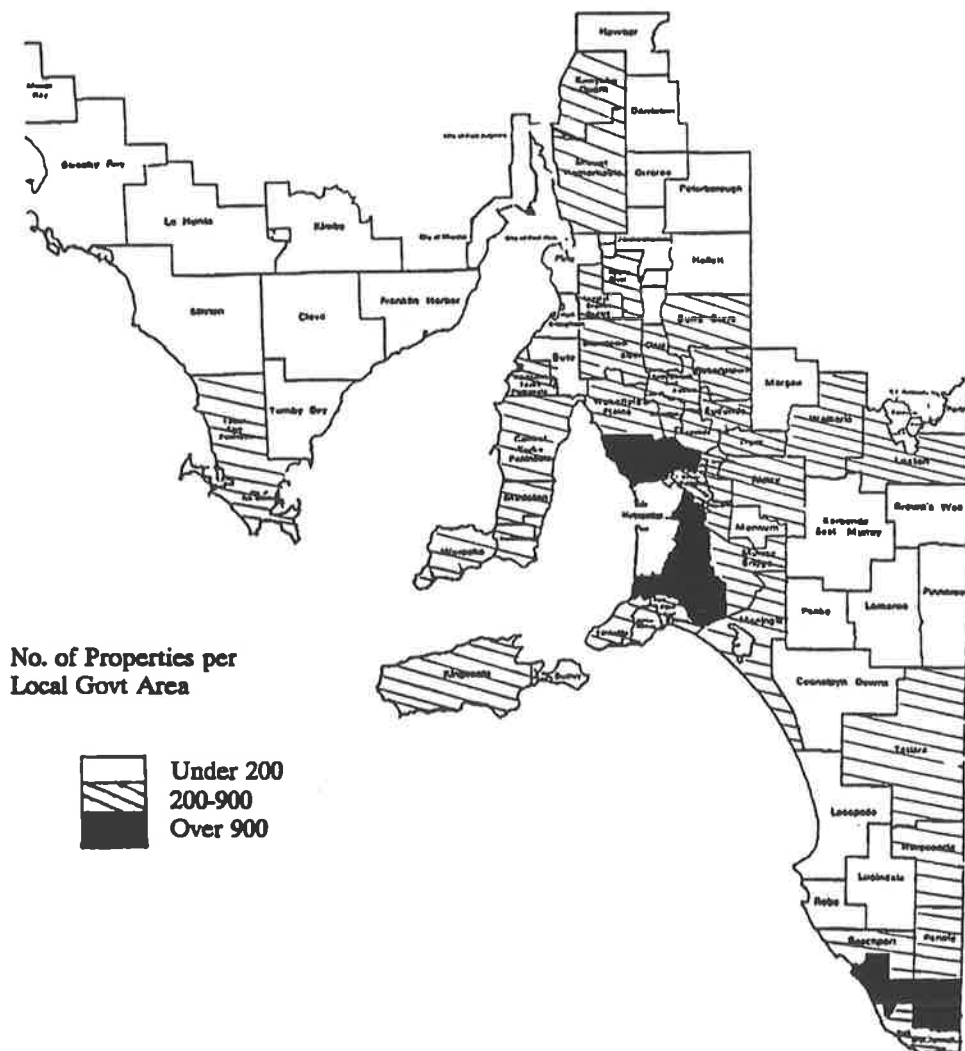
**Figure 1.5 South Australia: The Direction and Spread of Settlement up to 1868**



Source: Williams 1992, p.6

Much of the region, particularly the rural areas adjacent to Adelaide was originally surveyed into titled sections of 80 acres (approximately 32 ha). While the type and scale of agriculture that has subsequently evolved is often more extensive (up to 1000 ha), the legacy of the many relatively small, separately titled allotments from the original survey remains (Foyel and Houston 1992, p.47). Figure 1.6 shows that the density of rural properties (not in defined townships) in non-metropolitan South Australia is greatest in the peri-urban region, particularly in locations adjacent to Adelaide.

**Figure 1.6 South Australia: Density of Vacant Agricultural Land and Rural Living**



Source: The Natural Resources Management Standing Committee, 1991, p.41



Throughout the peri-urban region, there are rural holdings which are often comprised of a number of small titles, which can be sold individually. Hence, there is significant choice and scope for the residential land market to infiltrate the rural landscape. However, development controls have tended to limit residential incursion to the west of the peri-urban region to a greater extent than in other Australian cities, and Adelaide has therefore developed into a north-south oriented linear city.

Adelaide's peri-urban region is extensive and diverse and it is misleading to make broad generalisations about the region as a whole. In order to understand the distinctive nature of Adelaide's peri-urban region, it is useful to divide it into six broad physiographical regions, each of which has a number of distinguishing characteristics (Figure 1.7).

#### **1.6.1 The Fleurieu Peninsula**

The Fleurieu Peninsula region contains the hills and plains of the southern Mount Lofty Ranges, through to the coast, including the western lakes district of Lake Alexandrina. However, the greater part of the Fleurieu Peninsula is a relatively flat plateau (300-400m above sea level). Average annual rainfall varies throughout the region, with the highest annual rainfall being recorded at Parawa (997mm), and the lowest at Strathalbyn (498mm) (ABS 1996, p.293). The township of Strathalbyn straddles the River Angus, where it emerges from the eastern foothills of the southern Mount Lofty Ranges.

The early whaling and shipping industries which led to the establishment of the south coast settlements resulted in the growth of three main towns; Victor Harbor, Port Elliot and Goolwa (Moore and Walsh 1990, p.55). As their industries waned, the settlements became service centres for the surrounding rural areas, and also popular holiday towns.

The Fleurieu Peninsula is a predominantly rural region. Yankalilla became the region's principal grain growing district and crops include barley, oats, wheat and lucerne.

**Figure 1.7 Broad Physiographical Regions Within Adelaide's Peri-urban Area**



Base Map is IMW 1,000,000 SL54 2nd. Edition dated 1977 — Approximate Natural Boundaries

The main agricultural activity in the Fleurieu Peninsula is milk production, which provides more than 40 per cent of the region's gross value of agricultural production (ABS 1996, p.304). Sheep, pig and poultry meat production are also important agricultural activities throughout the region. In addition, forestry is an important industry in the Yankalilla area, with softwood plantations in the Second Valley and Kuitpo Forests. In recent years, expansion of viticulture has also occurred in the Langhorne Creek region.

Tourism is also a growth industry in the Fleurieu Peninsula, due largely to the close proximity to Adelaide, natural beauty and picturesque coastline of the region. Increasingly, the Lake Alexandrina area is becoming popular for a variety of recreational activities. The Lake area consists of a complex pattern of waterways, which are extensively used for freshwater fishing, boating and other water sports.

### **1.6.2 The Mount Lofty Ranges**

Historically, the Mount Lofty Ranges region has been and continues to be an important source of natural resources and food for the State's population. The central portion of the Ranges, commonly known as the Adelaide Hills, forms the catchment area for Adelaide's metropolitan water supply. Although this region is characterised by high annual rainfall (1000mm), the rainshadow effect of the Mount Lofty Ranges is very noticeable along the eastern slopes.

The Adelaide Hills supports a combination of landuses which is rare for the fringes of an Australian city (Griffin and McCaskill 1986, p.106). Competing and sometimes incompatible activities include water harvesting and storage, dairying, sheep grazing, fruit and vegetable growing, horse breeding and quarrying. Small service towns and industries were established in the early 1850s, which reflected the nature and scale of agricultural production and much of the land was alienated to farmers in the early years of settlement (see Figure 1.6). Since the mid 1970s, more stringent controls have been

applied on land sub-division and the siting of intensive animal-producing facilities, in an attempt to arrest deterioration in the quality of water flowing into the Hills reservoirs.

The significance of this region does not lie solely in its agricultural contributions or its vital water catchment function. The variety of relief in the region contributes to the attraction of the area and has partly determined the pattern of settlement. The Mount Lofty Ranges region provides an important recreational function and aesthetic backdrop to metropolitan Adelaide. It is the intrinsic and environmental character of the Mount Lofty Ranges which plays a significant role in attracting in-migration to this region.

### **1.6.3 The Barossa Valley**

The Barossa Valley is a distinctive and specialised sub-region within the peri-urban area and was first settled by English and German immigrants. These migrant groups arrived in the region during the 1840s and left a rich heritage of villages and architecture which remains intact and carefully preserved. The impact of historical settlement, particularly by the German Lutheran Church, has made a significant contribution to the cultural and community heritage of the Barossa Valley and it is now recognised as the cultural centre for Australians of German origin.

The topography of the Barossa Valley region is gently undulating and the soils are rich and fertile, which makes a distinct structural break in the Mount Lofty Ranges relief. The combination of altitude, soil and rainfall provide the ideal situation for the cultivation of vines. The Barossa Valley has a 150 year history of grape growing and wine making and this is the cornerstone of the regional economy. Barossa grapes are 'dry grown' resulting in lower yields of higher quality grapes. However, in 1997 13.2 per cent of South Australia's total tonnage of fresh grapes were produced in the Barossa Valley. The Barossa Valley is one of the nation's premium wine growing areas with some 51 wineries, generating 6.1 per cent of Australia's total grape production.

In the foothills and higher Barossa Hills some grazing of beef cattle and sheep also takes place. The Barossa Valley has a history of mixed fruit production, and vegetables are also successfully grown on the sandy soils to the east of Nuriootpa (Bell and Gaston 1991, p.30). High cereal productivity, particularly in terms of oat yields is another feature of the region. Mining and quarrying are an integral part of the regional economy with limestone, sand, quartzite and clay as well as copper, gold and talc all to be found in the Barossa Valley. The town of Angaston contains one of South Australia's two cement factories, manufacturing cement from local limestone.

The Barossa Valley is an area of distinctive cultural, economic and environmental character, with the visual amenity of the landscape being an inherent part of its character. It is also one of the most important agricultural, horticultural and tourism assets of South Australia. Furthermore, the highly productive farm economy has promoted a density of settlement, which is rare on non-irrigated land in Australia (Griffin and McCaskill 1986, p.108).

#### **1.6.4 The Murray Lands**

The Murray Lands region includes many towns along the River Murray which were once important ports and vital cogs in the running of South Australia in the early settlement period. More recently many people have been attracted to the region by the recreational activities centred on the River Murray and The Coorong<sup>2</sup>.

The Murray Lands region is generally flat to undulating, apart from the western border which includes part of the foothills of the Mount Lofty Ranges. The climate of the Murray Lands ranges from arid in the area north of the Murray River, to temperate around the area adjacent to the Mount Lofty Ranges. Annual average rainfall generally decreases with distance from the southern coast. High average rainfalls (500mm) are also

---

<sup>2</sup>The Coorong is a narrow saltwater lagoon extending approximately 140km from the mouth of the River Murray.

recorded in parts of the western borders of the region which extend into the Mount Lofty Ranges, although the influence of these Ranges does not extend far into the region. The Murray Lands region is much drier and the landscape generally more open than in the Ranges and the transition between the two regions is often abrupt. The main topographical feature of the Murray Lands is the River Murray, which enters the region from Victoria and flows into Lake Alexandrina.

Agricultural activity varies widely throughout the region because of the influence of differing climatic and geographic conditions. The lushness of the River Murray Valley, incorporating large areas of irrigated orchards, vineyards and pasture, provides the major contrast in the regional landscape. In the drier Murray Lands area, the main agricultural activities are sheep and beef raising and cereal growing. Dairying is important in the Lower Murray Lands, particularly around Lake Albert and Alexandrina.

The early development of the Murray Lands region was significantly influenced by the River Murray as a transport artery, as a source of water for irrigation and, as a source of fertile low lying areas to be reclaimed and settled. The largest town in the region is Murray Bridge, which services a large catchment population, extending throughout the Murray Mallee area of the State eastwards to the Victorian border. The township of Mannum also is a service centre for the surrounding agricultural hinterland, but increasingly it is the aesthetic value and warm climate which attracts people to this town. The recreational function of Mannum in terms of water-based activities, particularly the houseboat industry is increasing in importance.

### **1.6.5 The Lower Mid North**

The term the Lower Mid North is the popular name for a region which lacks precise boundary definition. The main topographical feature is the northern extension of the Mount Lofty Ranges, which exerts a strong influence on the climate and rainfall experienced by this region. Increasing rainfall (600mm) and cooler temperatures are

characteristic of the higher parts of the region, such as around the Watervale area. However, to the east of the Ranges, the average annual rainfall declines rapidly to less than 250mm.

Since early settlement, widespread cultivation and clearance of the Lower Mid North for crops and pasture have characterised the region. Settlement of Saddleworth and Auburn dates back to the early 1840s when sheep and cattle grazing were the primary functions. Auburn, a town rich in heritage, was an important commercial centre in the late 1860s and 1870s. It was also a significant viticultural centre with vines being planted as early as 1850. Auburn also functions as the gateway to the Clare Valley, one of the premier wine regions of Australia.

The Lower Mid North is important in the State's economy for the production of wheat, barley and oats. Intensive animal keeping of poultry and pigs is also a significant contributor to agricultural productivity, in the region. Saddleworth is an important grain collecting centre handling the district's wheat, peas, oats and various seeds. Similarly, Eudunda established in the late 1870s, has a high wheat yield. The attractions for settlement of this region are varied and provide an important, yet complex landscape for peri-urban growth.

#### **1.6.6 The Adelaide Plains**

The low coastal plains located to the north of Adelaide are commonly known as the Adelaide Plains region. This region is characterised by low average annual rainfall (400mm) and hot, dry summer temperatures. The region contains a widening coastal plain in the west and the eastern side of the region is a northward continuation of the Mount Lofty Ranges. The Gawler and Light Rivers drain the north-western section of Mount Lofty Ranges and cross the Adelaide Plains to the sea. Hence, much of the southern Adelaide Plains is located on the flood plains of these rivers.

The Adelaide Plains has been extensively cleared and cultivated for agriculture since early in the State's history. Consequently, the natural vegetation that occurs is scattered in remnants throughout the region. The Adelaide Plains region is largely based on a rural economy, dependent mainly on cereals and sheep, although pigs, hay and beef cattle are becoming more important. Around Two Wells, underground water is pumped to provide spray irrigation for areas of intensive market gardening. The north-western coastal fringe is either undeveloped or used only for light grazing, and is suitable for the further expansion of salt production facilities currently located south of the Gawler River. In recent years, intensive animal husbandry has also become an important activity in parts of the Adelaide Plains.

The Adelaide Plains region is generally a flat, dry featureless region which possesses few of the attractive physical characteristics usually associated with rural living. Nevertheless, rapid population growth has been imposed on a region largely based on dryland agriculture, with significant low density, semi-agricultural and residential development characterising the southern part of the Adelaide Plains in recent years.

Each of these six broadly defined physiographical regions has a distinctive character, representing quite different sorts of physical environments and fulfilling somewhat different economic functions. The Mount Lofty Ranges comprises an agriculturally important, high rainfall zone and the main water catchment for metropolitan Adelaide. The Fleurieu Peninsula contains a diverse natural landscape, based predominantly on traditional agricultural activities, although the southern townships and Lakes district are also important tourist destinations. In contrast, the Adelaide Plains is a largely dry, flat region, dependent mainly on dryland agriculture. The Lower Mid North is also a highly productive dryland agricultural region, but is dominated by the northern extension of the Mount Lofty Ranges. The distinctive nature of the Barossa Valley is reflected in its specialised viticultural activities and cultural assets, while the Murray Lands is an



important dairying region with economic and recreational activities focused on the River Murray.

### **1.7 Outline of Study**

The present chapter has introduced the research topic and defined the study area. Chapter Two reviews the scope and coverage of the research dealing with the population turnaround and pattern of peri-urban growth. In undertaking this literature review, significant gaps are highlighted which impede a clear understanding of contemporary trends in population distribution.

Building on this review, Chapter Three addresses the first aim of the study and defines the conceptual framework upon which the subsequent analysis is based. A conceptual model of four interacting processes (suburbanisation, counterurbanisation, population retention, centripetal migration) which combine to produce peri-urban growth is established and the data and methodology used to quantify this model are explained.

To place the analysis in its local historical context, Chapter Four provides the empirical background to current peri-urban growth trends. An overview of population change in South Australia, and in the peri-urban region in particular, since 1961 is provided. In addition, the relationship between observed demographic growth in the peri-urban region and macro-level factors is assessed. The future prospects of the region are also examined, as indicated by the current series of official population projections for the 1991-2011 period.

Chapter Five addresses the second aim of the study, which is to examine the spatial differentiation of growth processes across the peri-urban region. Following the conceptual model established in Chapter Three, Chapter Five aims to quantify this model by differentiating the four growth processes, based on six key indicators. First, the four processes are quantified at the SLA level utilising various secondary data sources and the

broad pattern of process influence is established. Differentiation of the four processes is then undertaken utilising survey data in three selected case study areas in order to assess whether the general pattern inferred at the macro-scale, is also evident at the local level.

Chapter Six addresses the third aim of the study and focuses on how the variation in growth processes identified in the previous chapter is reflected in the composition of the migration flow at the local level. Two key research issues are addressed in this chapter. The first is whether, and to what extent, the characteristics of recent migrants to the peri-urban region differ from those of the resident population. The second is whether, as a function of the spatial variation in population growth processes, the migrant flows from different origins vary in their characteristics.

Chapter Seven addresses the fourth aim of the study and examines the impact of population growth on the peri-urban community at the local level. The analysis focuses on three key issues associated with population growth: social integration, satisfaction and identification with the local area and shopping linkages, in an attempt to assess the relationship between the nature of changes in the peri-urban region and the spatial mix of population growth processes.

Finally, Chapter Eight provides a summary of the key findings and assesses the extent to which the aims and objectives have been achieved. The implications of these findings are addressed in terms of future research.

## CHAPTER 2

### THE LITERATURE AND APPROACHES TO EXPLANATION

#### 2.1 Introduction

Since the identification of the non-metropolitan population turnaround in the early 1970s, an extensive literature has developed documenting the extent and spatial patterning of non-metropolitan population growth in developed countries. Although the scale and timing of non-metropolitan growth has varied throughout the western world, increasingly growth has become spatially concentrated in the peri-urban regions surrounding major urban centres. The aim of this chapter is to review the scope and coverage of the international and Australian research dealing with the population turnaround and pattern of non-metropolitan growth. Four major approaches to explanation of non-metropolitan growth patterns will also be examined and significant gaps which impede a clear understanding of contemporary trends in population distribution are highlighted.

#### 2.2 The Population Turnaround

Following more than a century of increasing population concentration, a shift occurred in the growth of non-metropolitan areas, outpacing that of large urban areas in the mid 1970s. Labelled the 'population turnaround' (Zelinsky 1977), the term 'counterurbanisation' (Berry 1976) became widely adopted to describe this phenomenon and this has become the focus of an extensive body of literature. However, some have argued that counterurbanisation should be considered strictly as a process, constituting one particular form of population dispersal that might be responsible for the resurgence in non-metropolitan population growth (Dean *et al* 1984a; Fielding 1982; Sant and Simons 1993b; Smailes 1996a). Hence, the distinction between counterurbanisation as an underlying process and the population turnaround as the broad trend towards improved non-metropolitan growth, is important.

In contrast to previous decades, the population turnaround of the 1970s was a period of renewed and widespread non-metropolitan growth. Beale (1976) saw it simply as a reversal of the dominant urbanisation trend, whilst others defined it as a redistribution down the size hierarchy in which small towns and remote, rural areas were growing faster than urban centres (Champion 1992b; Frey 1993a; Fuguitt 1991a; Poston and Coleman 1983). Many also suggested that a large part of this outward movement of population from the metropolitan centres was focused on the hinterlands of cities or the peri-urban region (Elo and Beale 1988; Fuguitt 1985, 1991a; Johnson and Purdy 1980; Joseph *et al* 1988; Perry *et al* 1986).

A central question which arises is whether the population growth patterns of the 1970s were a temporary anomaly or the beginning of a long term tendency towards the dispersal of population, reversing the stream of urbanisation (Champion 1989a). Some have argued that the population turnaround was 'a brief hiatus in the continuing decline of rural areas and the growth of metropolitan regions' (Frey 1988b; Richter 1985; Wardwell and Brown 1980) arising from a particular combination of factors evident in the 1970s. The slowing of non-metropolitan growth during the 1980s provided considerable support for this argument (Beale 1988; Champion 1988b; Engels 1986; Frey 1988b; Fuguitt 1991b; Keddie and Joseph 1991). This 'turnaround reversal' saw the slowing down of non-metropolitan growth, being once more outpaced by metropolitan centres in many locations (Fuguitt and Heaton 1995). However, as Champion (1992a) suggests, although the population turnaround peaked during the 1970s, it continued throughout the 1980s and recent findings suggest that it remains an important migration phenomenon (Boyle 1995, p.65).

Although more pervasive than in the 1980s, non-metropolitan growth in the 1990s is neither as strong nor as extensive as in the 1970s (Nucci and Long 1995). Nevertheless, the 1990s have seen a renewed spread of population growth beyond metropolitan boundaries in many developed countries (Burnley 1988; Champion 1993a; Dahms 1995;

Nelson and Dueker 1990), although the extent and spatial patterning of this growth varies widely throughout the western world.

### **2.3 The International Experience**

Champion's (1989a) collection of national case studies provides evidence that the processes involved in the population turnaround are extremely complex and vary substantially by location. A review of the international literature is presented here to illustrate the widespread but differential nature of the turnaround, focusing on the United States, Canada, the United Kingdom, Europe and Japan in turn.

Signs of the population turnaround were first observed in the United States where, between the 1960s and 1970-1973, non-metropolitan areas saw a turnaround from net annual migration losses of 0.3 million to gains of 0.4 million (Champion 1993a, p.5). Evidence suggests that the non-metropolitan population turnaround was experienced throughout the United States, including areas with long histories of population decline (Beale and Fuguitt 1978). In the early 1980s, it is suggested that another turnaround took place in the United States when metropolitan growth again increased at a greater rate than that of non-metropolitan areas (Champion 1988b; Champion and Illeris 1990; Elo and Beale 1988; Engels 1986; Frey and Speare 1992; Fuguitt 1991a). Frey and Speare (1991, p.1) suggest that patterns of growth and decline in the metropolitan areas of the United States are becoming far less predictable, given the unprecedented population reversals of the 1970s and the turnaround reversal of the 1980s. However, since the mid 1980s, non-metropolitan growth has continued to strengthen, with a renewed spread of population beyond official metropolitan boundaries. Nelson and Dueker (1990, p.91) claim that this represents a new form of urban development which is emerging across the United States, extending into the rural countryside, but within the limits of commuting: that is within the peri-urban regions of large cities. ✓

In Canada, the 1970s was the first decade since the 1930s to register a non-metropolitan growth rate greater than that of urban areas. Despite this, growth was not universal throughout the non-metropolitan region and many of the smallest settlements actually declined (Davies 1990; Robinson 1990). According to Davies (1990, p.309), population growth was broadly linked to the relative size of settlements, unlike trends experienced elsewhere in the western world. Many have identified the spatial variations in Canadian non-metropolitan growth during the 1970s (Davies 1990; Joseph, Keddie and Smit 1988; Keddie and Joseph 1991). Notably, Davies (1990, p317) found that improved population growth in the Alberta metropolitan region in the 1970s provided a 'rare western world example of the simultaneous metropolitan and small town boom'. In the early 1980s, the spatial patterns of growth were virtually reversed, with a return to the urban dominated growth trends of the 1960s, although the 'urban overspill' component of rural population growth continued in some areas. It is generally concluded in the literature (Dahms 1995; Joseph, Keddie and Smit 1988) that the rural population turnaround was 'a fleeting and regionally specific phenomenon in Canada if, given the magnitude and complex impact of reclassification effects, it ever existed at all' (Keddie and Joseph 1991, p379). Nevertheless, a substantial body of locally based studies of non-metropolitan population change in Canada has identified the diverse and complex nature of local level growth, often hidden by aggregate data (Dahms 1980, 1984, 1991, 1995; Davis *et al* 1994; Davies and Yeates 1991).

A number of studies have also focused on the nature of the population turnaround in the United Kingdom (Champion 1987, 1988a, 1989b, 1995; Cross 1990; Perry *et al*, 1986; Robert and Randolph 1983). A significant reversal in traditional population movement from rural to urban areas has been identified, with evidence suggesting that the areas of fastest growth in England and Wales have progressively shifted outwards from the major metropolitan centres (Cross 1990; Herington 1984). The commuting zones surrounding the major metropolitan centres, particularly London, have continuously displayed net in-migration during the 1970s and 1980s (Lewis, McDermott and Sherwood 1991),

although Rees (1996) argues that the pace of deconcentration is decreasing. He suggests that the 1970s was the dominant period of the population turnaround, which ebbed in the 1980s and 1990s, resulting in the spatial concentration of growth in the outer areas and accessible rural locations. Similarly, Champion (1994, pp.1508-1509) argues that the United Kingdom did not undergo the complete reversal of the population turnaround that characterised the situation in the United States during the 1980s. Several studies have provided evidence for this pattern of non-metropolitan growth (Champion 1989b; Cross 1990; Errington 1994; Lewis, McDermot and Sherwood 1991; Jones 1990; Thomas 1990) and suggest that population growth in the 1980s and 1990s has become increasingly concentrated in the peri-urban regions of major urban centres.

Evidence from several European countries also suggests the occurrence of the population turnaround, although varying in intensity and duration (Champion and Illeris 1990; Fielding 1982; Kontuly and Vogelsang 1988; Serow 1991). Vining and Kontuly (1978) identified a number of countries which displayed evidence of the population turnaround or, at least, a reduced flow from rural to urban areas since the 1970s; these included Sweden, Italy, Norway, Denmark, Belgium, France, East and West Germany and The Netherlands. However, by the early 1980s, this trend had become less dominant in most European countries with the exception of West Germany (Kontuly and Vogelsang 1989), Italy (Dematteis 1986) and France (Winchester and Ogden 1989) where it continued at a more moderate rate (Champion 1993a; Serow 1991). Similarly, Kontuly and Schon (1994, p1540) identified the 'swing back to traditional geographical patterns of urbanisation' in the late 1980s in a number of European countries. Fielding (1989a) showed that by the early 1980s there were clear signs that the population turnaround had diminished throughout much of western Europe including Belgium, Denmark, the Netherlands and Sweden. A number of country specific studies also found evidence of the return to metropolitan growth in the early 1980s in Norway (Hansen 1989) and Hungary (Danta 1987). Schaeffer (1992) suggests that although

deconcentration was apparent in Switzerland during the 1970s, clear evidence of counterurbanisation is decidedly weak.

Like other developed countries, Japan experienced a slowing of population concentration in the core regions in the 1970s (Champion 1993b; Cochrane and Vining 1988; Ishikawa 1992; Tsuya and Kuroda 1989; Vining and Kontuly, 1978). A dramatic decline in net migration into the major metropolitan regions, was coupled with net growth in those areas adjacent to the metropolitan regions. However, during the early to mid 1980s, Japan experienced a significant revival of metropolitan growth, although not to the levels experienced in the 1960s (Tsuya and Kuroda 1989). Research undertaken by Ishikawa (1992, p169) reveals that the turnaround as it occurred in Japan was primarily due to 'a greatly decreased outflow from peripheral prefectures', with little deconcentration other than to the outer metropolitan region. Others suggest (Vining and Kontuly 1978, p.64; Chen 1992) that South Korea and Taiwan have also shown large net inflows into the regions surrounding their capital cities.

Sant and Simons (1993b, p.6) suggest that the population turnaround has largely been confined to 'wealthy, highly urbanised countries', although the extent and timing of the broad population trends have certainly varied. Champion (1989a, p.15) argues that the major difference between the United States and European experiences is that the latter did not have migration of population from the core to the peripheral regions for a sustained period during the 1970s. Change in the pattern of internal migration was part of a worldwide phenomenon which has received considerable academic attention since first noted. Nonetheless, this review of the international literature highlights the widespread variation in the extent and timing of the population turnaround throughout the western world. In Australia, the extent and spatial patterning of non-metropolitan growth is also distinctive. This is reflected in the extensive body of research which is reviewed in the following section.



## 2.4 The Australian Experience

Against the trend of the previous century, the proportion of the population living in major urban centres increased more slowly than in the non-metropolitan sector during the 1971-76 period (Goddard 1983, p.2; Hugo and Smailes 1992). The inverse relationship between the size category of urban centres and rates of population growth implicit in Australian population dynamics in the 1970s has generated a great deal of research including studies by Goddard (1983), Hugo (1988a, 1989, 1993, 1994; 1996), Hugo and Smailes (1992), Jarvie (1981, 1984) and Smailes and Hugo (1985).

The population turnaround as it occurred in Australia during the 1970s was distinctive in a number of ways and these have been summarised by Hugo and Smailes (1985). Several studies (Bell 1996; Burnley 1988; Hugo 1989; Hugo and Smailes 1985) found that non-metropolitan growth was concentrated in particular areas, which include the most attractive and well-watered eastern coastal areas (Hudson 1989; Sant and Simons 1993a; Weinand and Lea 1990), and those at the peripheries of large cities within the commuting zones (Murphy and Burnley 1993, 1996; McKenzie 1996). By the early 1980s, the tendency toward spatial concentration among non-metropolitan areas experiencing net in-migration had intensified, with even greater clustering occurring during the 1980s and 1990s. Although there has been a slowing of deconcentration, evidence suggests that there are not the levels of renewed population concentration found in the United States (Hugo and Smailes 1985, p.12; Walmsley, Epps and Duncan 1995). Hugo and Bell (forthcoming, p.5) highlight the growing dichotomy emerging in Australia's non-metropolitan areas with respect to population growth patterns. On the one hand are the well-watered eastern and south-eastern coastal zones and peri-urban regions where population is growing at rates above the national level. On the other hand are the heartland dry farming and pastoral areas of rural and remote Australia experiencing absolute population decline.

There have been several attempts to account for recent trends in non-metropolitan growth in Australia (Hugo and Smailes 1985; Jarvie 1984; Sant and Simons 1993a, 1993b), with most researchers concluding that no single theory provides a comprehensive explanation. Hugo and Bell (forthcoming) suggest that a significant, but largely ignored component in the growth of Australian non-metropolitan areas is due to in-migration and retention of low income and welfare recipient groups. Bell (1992) argues that in order to understand contemporary non-metropolitan growth patterns, attention must be focused on specific locations in which growth is occurring. Several detailed studies of population growth in the peri-urban regions of Sydney (Burnley and Murphy 1995a, 1995b; Murphy and Burnley 1993, 1996) and Melbourne (Berry *et al* 1995; Jackson and O'Connor 1993), the outlying and coastal settlements of New South Wales (Burnley 1996; Duncan and Epps 1993; Sant 1993; Sant and Simons 1993a; Walmsley, Epps and Duncan 1995) and the exurban regions of Canberra (Birtles 1990; Morison 1995) and Hobart (Graham 1994) have been undertaken. Common to these studies is the demonstration of local diversity within the broader growth zone. The complex nature of population dynamics underpinning non-metropolitan growth is further illustrated in several localised case studies undertaken in South Australia (Harris 1993; Hugo and Smailes 1992; Lewis 1976; Menzies and Bell 1981; Smailes 1992; Smailes and Hugo 1985; Smailes and Clermont 1994).

Increasing attention is being focused on the peri-urban regions surrounding major Australian cities, as evidence has shown that these regions are the fastest growing in the nation, in terms of population growth (Berry *et al* 1995; Burnley 1996; Burnley and Murphy 1995a; Jackson and O'Connor 1993; Maher and Stimson 1994; Morison 1995; Murphy and Burnley 1993, 1996). As McKenzie (1996, p.15) suggests, the population turnaround and peri-urban development would seem to merge to some degree in the Australian case, although this is not surprising given the economic significance of the capital cities within each State and the influence which they exert across their hinterland. Continued increases in Australia's non-metropolitan population are apparent and much of

the force driving this growth has manifested itself in the peri-urban regions of capital cities. Despite this, Burnley and Murphy (1995a, p.249) found that peri-urban growth is at nothing like the scale occurring in the United States, nor is it accelerating as it is in the United States.

## **2.5 Peri-urban Population Growth**

There is, thus, a general agreement throughout the literature that patterns of non-metropolitan growth have changed markedly; becoming more spatially concentrated. Attention is now largely focused on the outer fringes of large cities and their hinterlands: the area referred to as the peri-urban region. Population growth in the peri-urban region appears to be virtually universal throughout western countries, although varying in intensity and scale (Burnley and Murphy 1995a; Davies and Yeates 1991; Errington 1994; Nelson and Dueker 1990).

In the United States, the scale of peri-urban development has intensified in recent times. Davis *et al* (1994, p.45) suggest that 'it is the fastest growing component of the continental landscape, with nearly 60 million people residing there'. Accordingly, a number of studies have recognised the concentration of non-metropolitan population growth in the peri-urban regions of American cities (Frey 1993a, 1993b; Fuguitt and Beale 1995; Johnson and Beale 1994a, 1994c; Nelson and Dueker 1990; Nucci and Long 1995, 1996). Often referred to as 'edge cities' (Beauregard 1995) or 'metropolitan orbits' (Blumenfeld 1986), it is generally acknowledged that the peri-urban region represents a new form of population growth.

The nature of the relationship between Canadian cities and their peri-urban region, shares much with that of the United States. The development of the 'urban field' as it is often referred to, is particularly well documented in the Canadian literature (Beesley 1991; Beesley and Walker 1990; Bryant, Russwurm and McLellan 1982; Coppack, Russwurm and Bryant 1988; Dahms 1995; Davies and Yeates 1991; Hodge 1974). Davies and

Yeates (1991) suggest that peri-urban growth has always been a part of population deconcentration and should be regarded as an important aspect of the population turnaround phenomenon. Indeed, evidence from a number of locally based studies of rural population change in Canada suggest that peri-urban growth is stronger in the 1980s and 1990s than in the previous decade (Dahms 1980, 1995; Davies and Yeates 1991).

Hugo (1997) suggests that recognition of this distinctive zone around large cities has long been evident throughout western countries. Most notably population growth in the peri-urban regions of the United Kingdom (Herington 1984; Lewis *et al* 1991) and Europe (Errington 1994; Saraceno 1994) is now recognised. Increased attention is also being focused on the peri-urban regions of Australian cities (Maher and Stimson 1994; McKenzie 1996), but as Burnley and Murphy (1995a, p246) argue, while Australian and US cities are similar in many ways, there are differences in the forces driving growth and change, resulting in different scales of peri-urban development. This is evident in a number of location-specific studies which address various aspects of peri-urban growth (Berry *et al* 1995; Burnley and Murphy 1995a, 1995b; Graham 1994; Jackson and O'Connor 1993; Menzies and Bell 1981; Morison 1995; Murphy and Burnley 1993, 1996).

Clearly, non-metropolitan growth has become highly concentrated in relatively few areas, predominantly the peri-urban regions of cities throughout the western world. However, the forces driving peri-urban growth and change vary, resulting in different scales of peri-urban development. It is often suggested (Burnley 1996; Murphy and Burnley 1996; Davies and Yeates 1991) that peri-urban growth is but one dimension of the population turnaround. Although the forces of growth are essentially the same, 'local' differences will modify the spatial impact of population growth. Several approaches to explanation of non-metropolitan population growth implicit in the population turnaround have been offered and will now be reviewed.

## 2.6 Approaches to an Explanation of the Population Turnaround

Despite the significant volume of literature dealing with the population turnaround, the causes remain unclear. Several theoretical models have been put forward to explain and predict the future of the population turnaround and these have been summarised by various authors (Champion 1989a; Fielding 1989a; Frey 1988a, 1988b, 1991; Hugo 1988a; Hugo and Smailes 1985; Richter 1985). Attempts at explanation have become increasingly difficult as the nature of the population turnaround has varied over the last three decades. Nucci and Long (1996, p.1) suggest that the challenge is now to account for 'the "new" turnaround of the 1990s', which is not as profound as that of the 1970s, as population growth has become spatially concentrated in specific non-metropolitan locations. Similarly, Johnson and Beale (1994b, pp.15-16) argue that the relative power of the theoretical models developed in response to the population turnaround must be evaluated in terms of how well they account for current growth patterns. Four main theoretical approaches have been advanced to explain the population turnaround: the clean break perspective, the behavioural approach, the period approach and the deconcentration perspective. Each will now be briefly reviewed.

One school of thought which received wide support contended that the reversal of 'the net migration balance between metropolitan and non-metropolitan counties signified a clean break with the past tradition of urbanisation' (Joseph, Keddie and Smit 1988, p.17). It has been argued by many researchers (Berry 1976; Cross 1990; Dahms 1995; Dean *et al* 1984b; DeJong and Sell 1977; Perry *et al* 1986; Vining and Strauss 1977) that the increased population growth in non-metropolitan areas involves a conscious attempt by migrants to seek a residence which is both geographically and socially separate from the urban area. However, this notion has been challenged on several grounds. In hindsight, evidence suggests that the **clean break** approach had a number of deficiencies and as Sant (1993, p.109) suggests, 'the notion of the "clean break" is a source of ambiguity, evoking a sense of rejection of the negative attributes of large cities, rather than simply population dispersal'. Similarly, Hamnett and Randolph (1982, p.275) argue

that the current pattern of non-metropolitan growth 'represents the spatial extension of previous patterns of growth... rather than a clean break'.

The **behavioural approach** contends that explanation of the population turnaround lies in changes in individual preferences toward low density locations (Frey 1991; Fuguitt and Zuiches 1975; Long and De Are 1982). Advocates of this approach (Friedmann and Miller 1965; Gordon 1979; Hugo and Smailes 1985, 1992) contend that factors such as reduced friction of distance, improvements in transport technology, 'push' factors of city life, increased leisure time and disposable incomes facilitate the migration potential of the population toward preferred peripheral locations, whilst maintaining important urban links with it. Fuguitt *et al* (1979) argue that employment-related factors are not the dominant influences of migration behaviour, as quality of life factors become increasingly dominant. This approach suggests that the population turnaround was primarily the result of changing lifestyle preferences, thus being led by the personal preferences of the population. However, critics argue that this approach exaggerates the importance of human motivation in explaining behaviour and is too 'voluntarist' in its contentions. Fielding (1989b, p171) argues that explanation of migration trends must be seen in terms of the social relations and processes of the wider society, not purely in the motivations and aspirations of the individual.

Attributing the population turnaround to economic, social and demographic circumstances is the central premise of the **period approach**. This approach suggests that a specific set of events during the 1970s worked together to produce non-metropolitan gains and metropolitan losses. However, circumstances unique to the 1970s subsided in the early 1980s with the onset of the energy and farming crises and loss of manufacturing employment in non-metropolitan regions. Advocates of this approach argued that the return to urban primacy in the 1980s was the result of this change of events (Frey 1988b, 1991; Fuguitt 1993; Richter 1985; Wardwell and Brown 1980). It is implied that traditional urbanisation patterns should re-emerge after the short term

economic and demographic situations stabilise. Frey (1993a) argues, however, that this approach does not take into account the possibility of new period effects which may have an effect upon migration patterns in the 1990s. Many have suggested, based on the analysis of recent events, that it was instead the 1980s which constitute the anomaly in the new general pattern of deconcentration (Champion 1992a, p.475; Johnson and Beale 1994b; Nucci and Long 1995, 1996).

In contrast to the theoretical explanations considered so far, the **deconcentration perspective** takes a purely economic approach. It emphasises the 'new organisation of production' as a determinant of regional redistribution, highlighting the role of locational preferences and interaction with employment location decisions (Frey 1987, pp.240-241). Fielding's work (1989b, 1990) on the shift from specifically Regional Sectoral Specialisation (RSS) to the so-called New Spatial Division of Labour (NSDL), suggests that the population turnaround was a by-product of the rapid deindustrialisation of large cities. Advocates of this perspective (Fielding 1989b, 1990; Frey and Speare 1991; Johnson 1993; Saraceno 1994) argue that growth of non-metropolitan areas will be stimulated by organisational shifts such as the replacement of labour with capital in agriculture and regional shifts in employment and economic opportunities, resulting in a long-term shift away from urban concentration. Nelson (1991) suggests that the deconcentration of employment opportunities expands the commuting sheds of the built up metropolitan area, making rural areas within commuting range of those jobs accessible places to live in. Nonetheless, there is little agreement regarding whether the **deconcentration perspective** adequately accounts for the non-metropolitan growth evident in the 1990s (Johnson 1993).

While the major approaches to explanation of the population turnaround which suggested long-term shifts in the settlement pattern were not borne out (Frey 1993b, p.50), there is evidence of continued non-metropolitan population growth in some locations. Four fundamentally different theories were offered to account for the

population turnaround of the 1970s, each with different implications for the future, but separate or together they do not provide an adequate explanation for non-metropolitan growth in the 1990s. As Boyle (1994, p.1708) suggests, many of the explanations are similar in one sense, arguing that non-metropolitan migrants are looking for a more pleasant residential environment, although there has been no satisfactory explanation put forward as to why some locations have been affected to a greater extent than others.

Bolton and Chalkley (1990, p. 29) argue that our understanding of the causes of the population turnaround remains limited by the paucity of detailed investigation. This is an area rich in theory and speculation, but relatively poor in reliable evidence. Increasingly, studies at the macro-scale are being criticised and more localised research frameworks are proposed. Dahms (1984, p. 35) suggests that if we are to understand the reasons for the population turnaround, attention must be directed to small-scale studies which focus on what is actually happening in local communities. Several studies have found that complex and diverse processes are at work at the local scale, making the quest for a single theory to explain non-metropolitan growth difficult (Bolton and Chalkley 1990; Dahms 1984, 1995; Flowerdew and Boyle 1992; Murphy and Burnley 1993, 1996; Perry *et al* 1986). As Spencer (1995, p.171) notes, the shift in emphasis to explain non-metropolitan population change must be to the local dimension.

## **2.7 Gaps in the Literature**

An extensive body of literature has been generated dealing with the population turnaround phenomenon, both internationally and in Australia. Although providing a comprehensive overview of various aspects of the trend, four significant gaps can be identified which impede a complete understanding of non-metropolitan growth dynamics.

The first of these deficiencies relates to the macro-scale of analysis adopted by many studies, which largely ignore local variations in population change. Many studies examining the extent of the population turnaround have considered population growth in



terms of aggregate statistical change. Some have argued that the concept of the population turnaround has been developed in response to empirical study at the broad spatial scale, based on aggregate statistics, such as census data which fails to consider the local reality of non-metropolitan growth (Bolton and Chalkley 1990; Boyle 1994; Coombes *et al* 1989; Dahms 1995; Spencer 1995). Such work has been undertaken in Canada (Dahms 1980, 1984, 1991, 1995; Davies and Yeates 1991), the United Kingdom (Bolton and Chalkley 1990; Flowerdew and Boyle 1992; Perry *et al* 1986; Spencer 1995) and Australia (Burnley 1988; Burnley and Murphy 1995b; Murphy and Burnley 1993, 1996). The conclusion common to these local-scale studies, as noted by Kephart (1988, p.100), is that 'the more the data is disaggregated, the more complex the patterns become...[revealing] a great deal of diversity in the components of change' Similarly, Sant (1993, p.104) argues that 'whilst formal definitions are important for identifying the scale and duration of changes, they do not say much about the driving forces and processes involved'. Harper (1991, p.22) contends that a distinction between peri-urban growth and that affecting remoter rural areas is vital, as two very different sets of processes are at work. What is required is a shift of emphasis to the local dimension, combining macro-scale analysis with micro-level localised studies if the processes of change are to be fully understood.

A second deficiency in the current literature is the lack of adequate theory developed in response to the population turnaround, and particularly in relation to peri-urban population growth. Traditional models of migration have been used in an attempt to explain the population turnaround, whilst assuming that this migration stream had similar causes to those in the past (Campbell and Garkovich 1984). However, there is little agreement on which theoretical model best fits the population dynamics implicit in the population turnaround (Dahms 1995; Halfacree 1994; Johnson and Beale 1994b). Some have called for the adoption of an 'eclectic approach' (Hugo and Smailes 1985; Nucci and Long 1996; Bolton and Chalkley 1990; Jackson and O'Connor 1993), whilst recognising that no single explanation is adequate to account for change in each location.

Many attempts at explanation are largely speculative, failing to adequately understand the processes leading to the complex population dynamics at the local level. Several studies have addressed the local dimension of non-metropolitan growth, focusing on the reasons and factors associated with population growth (Burnley and Murphy 1995a, 1995b; Dahms 1980, 1984, 1986, 1991; Davies and Yeates 1991; Flowerdew and Boyle 1992; Spencer 1995). Nonetheless, local-scale analysis remains limited and conclusions tentative. As Dean *et al* (1984b, p.179) contend, the failure to undertake this analysis has resulted in 'explanation of a reality that is quite unrelated to actual geographical areas'.

Thirdly, the need to move beyond net rates and to consider migration streams, focusing on both metropolitan and non-metropolitan areas as origins and destinations has been acknowledged as a significant gap in the existing literature (Fuguitt and Beale 1995; Champion 1995; Boyle 1994). As Dahms (1995, p.30) suggests, both a historical perspective and fieldwork are necessary to understand the processes leading to the complex changes evident in the peri-urban region. Several researchers have moved beyond aggregate census based analysis to undertake detailed fieldwork case studies to establish who the migrant households are, where they have come from and why they have moved. Notable studies include those undertaken by Bolton and Chalkley (1989, 1990), Dean *et al* (1984b) and Halliday and Coombes (1995) in the United Kingdom; Sofranko and Fliegel (1983) and Davis *et al* (1994) in the United States; Burnley and Murphy (1995a, 1995b) in Australia. It is this detailed level of analysis which is vital if the complex population dynamics inherent in peri-urban growth are to be fully understood. Nevertheless, a significant gap in the literature is the failure to disaggregate migration flows, as it cannot be assumed that all peri-urban migrants are a homogeneous group. Indeed, as Sant (1993, p.110) argues, 'not all have the same motives, preferences or decision-making processes'.

Finally, comprehensive analysis of the economic, social and demographic impacts of population growth in the peri-urban region is largely absent from the literature. Instead,

research has mainly focused on the physical and environmental impacts of growth in the region (Bunker and Houston 1992; Heimlich and Brooks 1989; Lewis 1976; Robinson 1990; Russwurm 1977). Although these issues are certainly important, as Hooimeijer and van der Knaap (1994, p.178) argue, the effects of migration ‘...go well beyond the simple mechanisms of change in population numbers and composition...[and] at least as significant is the impact upon the wider economic, social and political life’. Specifically, there is a lack of analysis relating to the potential conflicts and problems arising due to the intermixture of urban and rural attitudes and ways of life at the local level. Some have suggested that more research needs to be done on the likely implications of population growth, not only at the aggregate non-metropolitan regional level, but on individual characteristics and unique sets of problems and issues at the local level (Bryant and Coppack 1991; Dean *et al* 1984b; Errington 1994).

The bulk of the literature treats the peri-urban region as homogeneous in terms of the types of spaces produced by population growth (Graham 1994, p.266). However, as Sant and Simons (1993b, p113) assert, ‘there is no reason why [the population turnaround] should treat all places equally, as each community has a distinct location, character and socio-economic mix’. Much of the peri-urban research has relied more on speculation than fact, and has failed to incorporate the complex population dynamics which characterise the region. Despite the substantial interest in peri-urban growth in recent years, the distinctive population geography of this growth zone remains little understood.

## **2.8 Conclusion**

The body of literature dealing with the population turnaround is extensive, both internationally and in Australian research. This review of the literature has shown that although the population turnaround has been experienced throughout the western world, variations exist in its timing, extent and spatial pattern of reversal. Nonetheless, the 1990s are characterised by increased spatial concentration of non-metropolitan growth in

the peri-urban regions of large cities. Attempts at explanation of non-metropolitan growth patterns over the last three decades have largely been inadequate. Much of the peri-urban research has failed to incorporate the complex population dynamics which characterise the region and this impedes a clear understanding of the nature of current patterns of population distribution. As a means of addressing this gap in the current literature, a conceptual framework of peri-urban growth which focuses specifically on the underlying growth processes of population change is developed in Chapter Three.

## CHAPTER 3

### DEMOGRAPHIC GROWTH PROCESSES IN THE PERI-URBAN REGION

#### 3.1 Introduction

As outlined in the previous chapter, the non-metropolitan population growth trends evident in the 1970s have continued and become more complex in the 1980s and 1990s, yet we still have no comprehensive theory that can explain this pattern of growth. It is argued here that peri-urban growth represents the combined effects of four demographic growth processes. These are: suburbanisation, counterurbanisation, population retention and centripetal migration. Each of these acts somewhat differently on particular population sub-groups. These differences, in turn, are reflected in variations in the spatial manifestation of peri-urban growth within the region.

The aim of this chapter is to establish the conceptual model on which the subsequent analysis is based. To achieve this, the four growth processes which contribute to peri-urban growth are first discussed and defined. Based on this discussion, it is proposed that each of these processes can be distinguished on the basis of six key indicators. In order to operationalise this conceptual model, each of these processes must be measured. A mix of primary and secondary data sources are outlined which will be utilised in the subsequent chapters to differentiate the four processes. This is followed by a critical assessment of the sources of data used and the methods of data collection.

#### 3.2 Demographic Growth Processes

##### 3.2.1 Suburbanisation

Suburbanisation can be identified as 'an extension of the established built up areas...which form an integral, if imperfectly accessible part of the expanding metropolitan region' (Berry *et al* 1995, p17). It has traditionally been defined as the

radial movement outwards across the metropolitan boundary towards the surrounding peri-urban region with the physical extension of the existing built up area (Adams 1969; Maher 1984; Maher and Whitelaw 1995). However, in some locations suburbanisation may be due to better access to established areas facilitated by improved transportation and communication technologies. Recently, Bell (1992, p.282) identified a substantial cross-town flow from the northern to the southern region of Adelaide and considerable 'leapfrogging' from inner metropolitan areas to the peri-urban region associated with suburbanisation.

In the last two decades, the growth of suburbs has continued, seemingly unabated, in Australian cities and now extends well into the commuting zone around the peripheries of metropolitan cities. Maher and Stimson (1994, p.65) argue that this spatial extension of metropolitan areas into the fringes of non-metropolitan areas through suburban development is the dominant force of population change in contemporary Australia. Suburbanisation has been a feature of Australian settlement patterns throughout the post-war period, when an explosion of more or less contiguous outward development at successively lower densities took place. Many facilities which were formerly centrally located, such as retailing and industry, have increasingly been dispersed from the centre to the periphery of metropolitan regions and beyond, resulting in a degree of sectoral self-containment within the suburban and fringe labour markets (Maher 1982, pp.12-17).

Continuing suburbanisation of the metropolitan population has contributed part of the growth in areas surrounding the metropolitan region, classified as non-metropolitan or peri-urban. Wardwell and Brown (1980, p.10) explain that 'as the radius of the metropolitan periphery grows, it extends settlement into territory that remains classified as non-metropolitan with much of the growth in adjacent [peri-urban areas] widely assumed to represent the effects of continued suburbanisation'. Advocates of the 'urban field' concept (Friedmann and Miller 1965; Ploch 1978; Fuguitt and

Zuiches 1975) suggest that factors such as reduced friction of distance have enabled people to live at greater distances from the metropolitan region, whilst maintaining substantial links with it. Wardwell (1977, p.159) suggests that 'the spillover effects of continued deconcentration of metropolitan centres is a substantial force in producing the observed patterns of non-metropolitan growth', involving local migration to the immediate surroundings of large cities. The reasons for suburbanisation are well understood and include:

- the availability of relatively cheap land on which to locate residential development
- increased levels of personal mobility
- reduced friction of distance
- decentralisation of employment

Flowerdew and Boyle (1992, p.157) distinguish suburbanites as those in-migrants to the peri-urban region who continue to work in the city. The suburbanised population maintains strong connections with the metropolitan area, with high levels of commuting and participation within the metropolitan area's 'daily urban system' (Robert and Randolph 1983; Hugo and Smailes 1985). Access to the metropolitan region will therefore be important in the location decision of these migrants, although some degree of desire for a better lifestyle is also likely to be present among the suburbanised population.

The nature of the residential destination *site* is an important characteristic of suburbanisation. Stillwell, Rees and Boden (1992, p.120) define suburbanisation as 'the movement of population from the densely populated urban cores into the immediately surrounding areas, where housing is built'. The nature of these adjacent suburbanised areas is likely to be very similar to those of the more accessible suburbs of the nearby city, taking the form of suburban estate-type dwelling units (Halliday and Coombes 1995; Maher and Stimson 1994). In some cases, outlying subdivisions

which are physically separate from the metropolitan region are nevertheless essentially suburban in nature. Spencer (1995, p158) suggests that 'the outcome has been a predominantly agricultural landscape occasionally punctuated by "suburbs" surrounded by fields, rather than other suburbs'. Furthermore, Smailes (1996a) found that these locations are almost entirely based on commuting.

Suburbanisation processes do extend into the peri-urban region, and are characterised by several defining traits which are crucial if suburbanisation is to be distinguished from counterurbanisation. In an endeavour to differentiate between these two processes, this study employs three indicators of suburbanisation; first by measuring the rate of in-migration from throughout the metropolitan region to adjacent, accessible peri-urban locations (the broad *situation* of the destination); secondly by assessing commuting and social linkages maintained by migrants with the metropolitan region; thirdly by assessing the nature of the migrants' peri-urban destination (*destination site*).

### **3.2.2 Counterurbanisation**

The difficulty in precisely defining counterurbanisation lies in the fact that the nature of the process varies from place to place. Various authors have suggested that confusion about the nature of counterurbanisation is due to imprecise terminology and measurement of the process (Champion 1989b; Cloke 1985; Walmsley, Epps and Duncan 1995). Some have argued that counterurbanisation is the shift in population down the urban hierarchy (Frey 1987), while others see it conceptually, as a process beyond deconcentration and suburbanisation (Berry 1976). Hence, counterurbanisation is often defined as the movement from an urban to a more rural location beyond the existing metropolitan boundaries (Coombes *et al* 1989; Cross 1990; Flowerdew and Boyle 1992; Joseph *et al* 1988; Vining and Strauss 1977).



If population growth had only occurred in areas adjacent to the metropolitan area, or in areas containing large urban centres, then it might arguably comprise extended suburbanisation. However, population growth has taken place in peri-urban areas beyond the existing metropolitan boundary, not just in those areas nearby which might be experiencing 'spillover growth'. Halliday and Coombes (1995, p.435) identify a relatively straightforward push factor associated with counterurbanisation, prompting movement away from larger cities and in most cases, a converse pull towards the smallest settlements. The attraction of these small settlements stems from the retention of more of the characteristics of a perceived 'rural idyll'.

It is crucial to recognise that counterurbanisation differs in several key aspects from suburbanisation and is 'conceptually and functionally separate from suburbanisation' (Fielding 1988, p.74). Although two distinctive processes, there is strong spatial overlap between the two forms of growth and hence distinction between the two processes cannot be made on spatial grounds alone. Some have argued that counterurbanisation should not only be defined by movement from a more urban to a less urban place, but also by a consideration of motives and behaviour, as the search for a particular way of life is an essential part of counterurbanisation (Halliday and Coombes 1995; Maher and Stimson 1994).

By definition counterurban migrants originate in the metropolitan area, but they do not maintain the degree of metropolitan linkage to the same extent as suburbanites. Counterurbanites often sever many of their ties with the metropolitan area and determinedly seek a peri-urban lifestyle, possibly within, but no longer an integral part of the metropolitan daily system (Robinson 1990). Although they may retain their metropolitan employment initially, counterurbanites intend to reduce this link as soon as possible.

Counterurbanisation is not simply an expansion of the built up area beyond existing statistical boundaries made possible through improvements in transport and technology (Bell 1992), but is a definite shift of population from larger, more densely populated metropolitan regions to smaller rural towns and settlements or dispersed rural dwellings, where migrants often initiate both a shift in their residence and job location (Stillwell, Rees and Boden 1992, p.121). Although the broad *situation* of the peri-urban destination may be similar for both suburbanites and counterurbanites, the selected *site* will be quite different.

Sant and Simons (1993b, p.118) argue that 'counterurbanisation can be regarded as a permanent force rather than a statistical epi-phenomenon, even though its strength may vary from time to time and among regions'. Although it is a complex concept, it is only one demographic process contributing to population growth in the peri-urban region and cannot account for all growth. Of central significance are four indicators which distinguish counterurbanisation from suburbanisation:

- in-migration from throughout the metropolitan region to peri-urban locations, **not only** to destination zones located adjacent to the metropolitan region, but also to those more distant (broad *situation* of the destination)
- counterurban migrants do not maintain substantial linkages with the metropolitan region, often initiating both a shift in their residence and employment location to the peri-urban region
- motivation of migrants to replace an urban lifestyle with a more rural one
- migration to moderate access, high amenity locations in well established country towns and small rural settlements (destination *site*)

Of these four indicators, the key to differentiating suburbanisation and counterurbanisation lies in measuring the distinctive behaviour and motivation of migrants associated with the two processes.

### 3.2.3 Population Retention

In terms of absolute population numbers, increased rates of in-migration are the most significant aspect of peri-urban growth. A less documented, but certainly important process contributing to peri-urban growth is improved population retention, which is the ability of an area to retain residents who already live there, minimising the impact of out-migration. In the United States and United Kingdom, it has become clear that the propensity for out-migration from the peri-urban region has declined, as the average period of residence has increased (Cromartie 1997, p.13; Carpenter 1980; Perry *et al* 1986). Reduced out-migration rates have been significant in the peri-urban region, and the impact of this element has been magnified by the nature of the retained population. Studies in the United States (Engels and Healy 1979; Johnson and Beale 1992) have found that natural decrease has declined significantly with the in-migration and retention of young adults in childbearing ages as the pool of potential parents increases, followed by the number of births in non-metropolitan regions.

It is suggested that increased population retention has played a significant and growing role in peri-urban growth and this may be attributed to improved employment opportunities in the region, the increasing disparity in house prices between the peri-urban region and the city or the addition of educational or cultural facilities (Maher and Stimson 1994, p.56; Elo and Beale 1988; Smailes 1996a). Jarvie (1981, pp.30-35) suggests that a reduction of employment opportunities in the major cities resulted in increased retention of population in rural areas, as metropolitan regions exerted 'less pull'. Development of the local market and trade have opened economic opportunities in peri-urban areas, hence generating local growth. McKenzie (1996, pp36-49) found high levels of 'self-containment' within peri-urban areas with significant proportions of the workforce working within the region itself. Smailes (1996a, p.275) suggests that increases in the size of the local population and improvements in the economic base of non-metropolitan regions encourages cross-

commuting between the towns within the peri-urban region, hence retaining population numbers within the region as a whole.

To summarise, the key elements of population retention are: reduced out-migration as a result of improved economic and social opportunities in peri-urban areas; increased period of residence; increased cross-commuting and self-containment in employment. While the arguments for improved population retention are intuitively appealing, few attempts have been made to provide direct evidence of the extent to which retention has increased or the role that it plays in non-metropolitan growth. This is partly due to the difficulties in measuring retention and distinguishing it from other processes. This study employs three indicators of retention: first by measuring increased period of residence (both within the same SLA and within the peri-urban region); secondly by measuring the rate of out-migration over time; thirdly by establishing the extent of cross-commuting within the peri-urban region and self containment in employment.

#### **3.2.4 Centripetal Migration**

Although the majority of in-migration to the peri-urban region originates in the metropolitan area, an important yet greatly neglected source is centripetal migration; that is migration from outlying rural areas, interstate and overseas. In recent decades, rural depopulation has been evident throughout Australia, especially in the wheat/sheep belt and extensive dryland grazing areas. Although migration losses from the rural interior toward the major cities have occurred, it does not necessarily follow that centripetal forces attract all migrants directly to the core metropolitan area, as is often assumed in the literature (Reitsma and Vergoossen 1988). As Rowland (1979, p.53) suggests, the rationale for the movement from the rural interior towards the metropolis taking place in a 'stepwise manner' from smaller to progressively larger settlements is the gradual adjustment to living in more urbanised places.

Bell (1996, p.16) suggests that although much of the population movement from the rural inland is towards the major cities or coast, there is also some movement from rural areas and towns toward larger regional centres. The peri-urban region gains from the centripetal movement of people from outlying rural areas, who often require greater accessibility to the city, whilst retaining a rural location (Smailes 1996a). These migrants may be more likely to move to higher amenity areas, particularly those originating in dry farming and outback locations. For the sake of convenience and simplicity, centripetal migration is also defined in this study as including the movement of people into the peri-urban region from overseas and interstate (originating from both metropolitan and non-metropolitan locations). McKenzie (1996, pp.25-35) highlights the importance of non-urban sources of in-migration to the peri-urban region, including interstate and overseas, suggesting that peri-urban growth 'can be fuelled independently of urban trends'. This aspect of peri-urban growth is one which has received little attention in the literature, despite evidence in studies by Smailes (1992), Smailes and Clermont (1994) and McKenzie (1996) that it is a growth process in some parts of the peri-urban region.

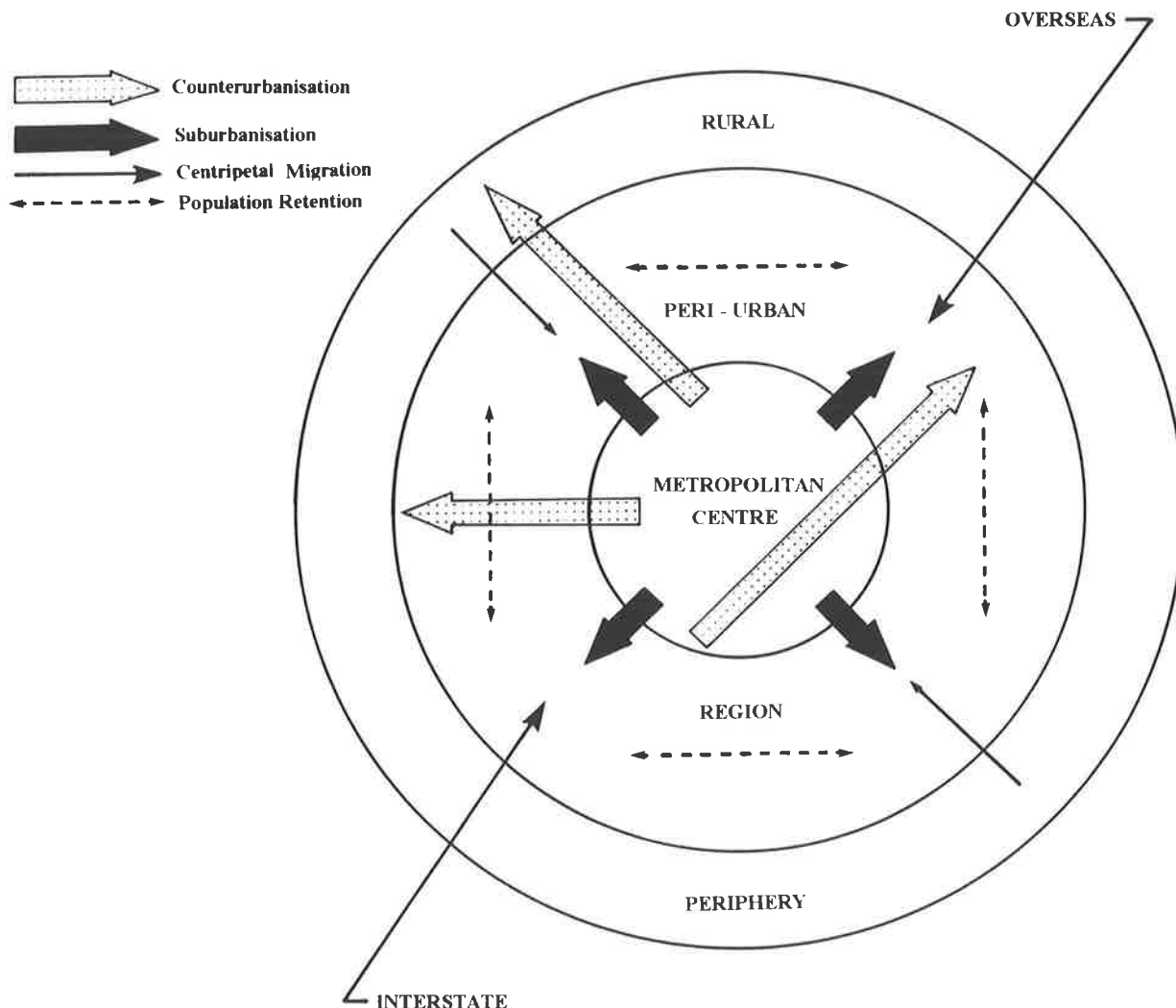
The importance of centripetal migration can be determined by measuring the degree of in-migration from outlying rural areas, interstate and overseas. In addition, the motivation of centripetal migrants, particularly those from outlying rural areas, to move to more accessible peri-urban locations with some amenity value, whilst retaining a rural residence, will also distinguish this process.

### **3.3 Conceptual Framework of Peri-urban Growth**

Although the processes working to produce peri-urban growth dominantly originate in the metropolitan area (suburbanisation, counterurbanisation), as Smailes (1996a, p.284) suggests, 'some processes are generated in the growth zone itself and some originate in the outlying rural periphery' (population retention and centripetal migration). Hence, the peri-urban region may be conceptualised as a ring-shaped

zone in which demographic growth processes generate in-migration from both the inner and outer sides and from within the region itself (Figure 3.1). Previous research has failed to differentiate the four growth processes, which although quite different, are interlinked and operate unevenly across the peri-urban region.

**Figure 3.1 Conceptual Model of Demographic Growth Processes at Work in the Peri-urban Region**



In order to operationalise this conceptual model, each of these processes must be measured. It is proposed that the four processes can be distinguished on six key indicators. Three are concerned directly with the migrants themselves or with their previous place of residence (origin of migrants, connectivity with metropolitan region and motivations of migrants). The remaining three relate indirectly to the migrants' behavioural pattern through their choice of peri-urban residence and are expressed as

qualities of the destination chosen (amenity value of the locality, accessibility and the nature of residential development).

Each of these six indicators will contribute to the measurement and differentiation of the four growth processes. The origin of migrants<sup>1</sup> will vary according to the process being measured. In-migration from throughout the metropolitan region provides evidence for either suburbanisation or counterurbanisation, although the nature of the urban-rural movement will differentiate these two processes; suburbanisation involves moves to peri-urban locations adjacent to the metropolitan region, while counterurbanisation involves moves to peri-urban locations, **both** adjacent and more distant from the metropolitan region. In-migration from outlying rural areas, interstate and overseas (both metropolitan and non-metropolitan origins) provides evidence for centripetal migration. In addition, increased population numbers remaining in the peri-urban region between censuses provides evidence for population retention.

The degree of connectivity with the metropolitan region maintained by migrants is a crucial factor distinguishing between suburbanisation and counterurbanisation. By definition, suburbanites maintain strong connections with the metropolitan region in terms of commuting and social activities, compared with counterurbanites for whom these linkages are more attenuated. A key feature of counterurbanisation is that migrants may initiate both a shift in their residence and employment location to the peri-urban region. Hence the degree of self-containment within a SLA and cross-commuting within the peri-urban region will provide evidence for counterurbanisation. The importance of locally generated growth reflected in the degree of self-containment and cross-commuting also provides evidence for population retention.

---

<sup>1</sup> In this case, 'origin' refers to the place of residence in 1986 (for census data) or the place of residence prior to the most recent move (survey data). This does not necessarily equate to a person's birthplace or place of childhood residence.

Consideration of migrant motivations is an essential element in understanding the complexities of population growth in the peri-urban region. A crucial factor distinguishing the four processes is the rationale behind migration to the peri-urban region. In particular, the primary motivation of counterurbanites to replace an urban lifestyle with a more rural one, will further distinguish this process from suburbanisation.

The qualities of the peri-urban destination are also important distinguishing factors. The importance placed on the amenity value of the location will vary according to the process which brought the migrants to the region. The pursuit of a better quality living environment is the central motivation for counterurbanites, and hence the amenity value of the peri-urban destination will be a key attribute in the location decision for these migrants. Suburbanites may also value the amenity qualities of a peri-urban location, but this will be dominated by the importance placed on accessibility in order to maintain pre-existing employment and social linkages with the metropolitan region. Although high amenity is not the primary motivating factor for all migrants to the peri-urban region, it will certainly be a consideration for many.

The accessibility of a peri-urban location to the metropolitan region will be an important factor in the migration decision of many peri-urbanites. The value of a peri-urban location will increase with accessibility to the metropolitan region in the case of suburbanites, who maintain strong employment and social connections with the metropolitan region. On the other hand, counterurbanites do not maintain the same degree of connectivity with the metropolitan region as suburbanites and are often determinedly seeking to escape the city. Hence, accessibility to the metropolitan region will not be a key attribute of the peri-urban destination for counterurbanites. In addition, in-migration from outlying rural areas (centripetal migration) is often to satisfy requirements of greater accessibility to the metropolitan region, whilst retaining a rural location.



The nature of residential development at the peri-urban destination *site* will also have an impact on the migration decision of the peri-urban population. It is argued that suburbanites are more likely to move to accessible, suburban-like residential developments, allowing them to maintain linkages with the metropolitan region, whilst retaining a peri-urban residential location. On the other hand, counterurbanites are more likely to move to a more rural-like residence in well-established country towns of a 'village' or small-town character, hobby farms and small rural settlements in the pursuit of a peri-urban lifestyle beyond the metropolitan region.

The six indicators and the data sources used to measure them are summarised in Table 3.1. In order to differentiate the four processes based on the measurement of the six indicators, a mix of both primary and secondary data sources must be utilised. Secondary sources such as migration flow data will be used to assess the rate of in- and out-migration over time and establish the origin of in-migration to the peri-urban region<sup>2</sup>. Journey to work data will be utilised to measure the maintenance of employment linkages by the peri-urban population and the degree of cross-commuting within the region. A combination of various sources of secondary information will be utilised to measure the characteristics of the peri-urban location (amenity value, accessibility and nature of residential development). However, secondary data provide only part of the information required to measure the four processes. Survey data will be utilised to provide important insights into the motivations and behaviour of migrants. The following section critically assesses the sources of data used and the methods of data collection.

---

<sup>2</sup> These data show where a person lived 5 years before the Census, but do not record the number of intermediate moves.

Table 3.1 Definition and Measurement of Demographic Growth Processes

Process	Defining Characteristic	Data Source used to Measure Characteristic
<b>Suburbanisation</b>	<ul style="list-style-type: none"> <li>• in-migration from metro area to peri-urban locations adjacent to the metro boundary</li> <li>• strong linkages with metro area (employment and social)</li> <li>• migration to accessible, suburban-like residential destination</li> </ul>	<ul style="list-style-type: none"> <li>• migration flow data/survey data</li> <li>• journey to work data/survey data</li> <li>• survey data/other secondary sources<sup>1</sup></li> </ul>
<b>Counterurbanisation</b>	<ul style="list-style-type: none"> <li>• in-migration from metro area to peri-urban locations, <u>both</u> adjacent to the metro area and those more distant</li> <li>• low level of connectivity with metro area (employment and social)</li> <li>• motivation of migrants to replace an urban lifestyle with a more rural one</li> <li>• migration to moderate access, high amenity locations in well established country towns and small rural settlements</li> </ul>	<ul style="list-style-type: none"> <li>• migration flow data/survey data</li> <li>• journey to work data/survey data</li> <li>• survey data</li> <li>• survey data/other secondary sources<sup>1</sup></li> </ul>
<b>Population Retention</b>	<ul style="list-style-type: none"> <li>• increased period of residence (higher % resident 5yrs+)</li> <li>• reduced rate of out-migration</li> <li>• cross-commuting within peri-urban region and self-containment in employment</li> </ul>	<ul style="list-style-type: none"> <li>• migration flow data/survey data</li> <li>• migration flow data</li> <li>• journey to work/survey data</li> </ul>
<b>Centripetal Migration</b>	<ul style="list-style-type: none"> <li>• in-migration from : -outlying rural areas -interstate/overseas (metro/non-metro)</li> <li>• migration to moderate access, amenity locations</li> </ul>	<ul style="list-style-type: none"> <li>• migration flow data/survey data</li> <li>• survey data/other secondary sources<sup>1</sup></li> </ul>

Note: <sup>1</sup> Other secondary sources include building activity, relief, rainfall, conservation and recreation activities, vegetation cover and travel time (driving distance) information.

### **3.4 The Data and Methodology**

#### **3.4.1 Secondary Data Sources**

##### **3.4.1.1 The Australian Census of Population and Housing**

The major source of secondary data used in this study is the Australian Census of Population and Housing which is undertaken on a *de facto* basis, thus providing a 'snapshot' or typical situation in any one given area, at a single point in time. People are counted where they are on the night of the census, which may not be where they usually live; thus the resulting data may not be a true representation of the residential situation. Census data are also available on a usual residence basis (*de jure*), which is a count of where people usually live, rather than where they were on the night of the census. Usual residence data provide reliable, up-to-date information on the resident population of an area and on internal migration patterns (ABS 1996, p.224).

The Census aims to provide a comprehensive enumeration of the total population, whilst at the same time collecting a variety of social, demographic and economic data pertaining to the whole population. Data from the Australian Census of Population and Housing are used to establish patterns of population change within the peri-urban region, and the role of the growth of this region in the broader population history of South Australia. In order to analyse changes over time, data from the 1961 to 1991 Censuses are employed. The inclusion of 1996 Census data provides an up-to-date picture of peri-urban growth, although only limited data were available at the time of writing.

Journey to work data are also utilised in this study. Tabulations based on usual residence and workplace data obtained from the 1991 Census are aggregated to SLA level, although geographical coverage is restricted to the Outer Adelaide Statistical Division. As a result, the scope of this data source does not completely cover those areas defined as peri-urban in this study.

For the purpose of determining migration flows, information on usual and previous place of residence from the 1991 and 1986 Censuses is used. Internal migration between SLAs can be identified for the 1981-86 and 1986-1991 intercensal periods and a migration indicator denoting whether an individual has changed address allows the differentiation of those who moved within the same SLA from those who did not move.

Although the Australian Census of Population and Housing is the most comprehensive source of data available relating to the total population, it is a self-enumerated count and does have a number of shortcomings. The main limitations are as follows:

- self-enumeration may influence reliability of information collected
- a degree of under-enumeration
- respondent and processing errors
- randomisation of small cell counts

Despite the limitations, there are a number of advantages involved with using census data, which are summarised as follows:

- self-enumeration avoids interviewer bias
- held every 5 years to enable monitoring at regular time periods
- restricted to factual questions consistent with each census

A detailed assessment of both the limitations and advantages of Australian Census data can be found in Appendix A.

#### **3.4.1.2 Other Secondary Sources**

Various other sources of secondary information are utilised in this study to provide a more comprehensive picture of the nature of social and economic change and spatial differentiation within the peri-urban region. These include economic indicators, building activity, motor vehicle registration and unemployment data produced by the ABS. In addition, data from the Reserve Bank of Australia-Adelaide branch (housing

loan interest rates), the Real Estate Institute of South Australia (housing prices) and the Department of Housing and Urban Development (DHUD) (urban development, building activity) provide further insights into the current (and historical) economic factors associated with peri-urban growth.

### **3.4.2 Primary Data Collection**

#### **3.4.2.1 Selection of Case Study Areas**

Secondary data provide a sound basis for the analysis of growth trends, but they offer little insight into the motives or behaviour of people. To complement the regional analysis, additional primary data were collected via a household survey. Due to the time and financial constraints of this study, it was not possible to undertake the collection of detailed primary data in each SLA within the study region. Therefore, three particular case study SLAs, considered to be reasonably typical of the peri-urban region as a whole, were chosen to provide detailed insights about the processes at work. The selection of the three case study areas involved a two-stage process.

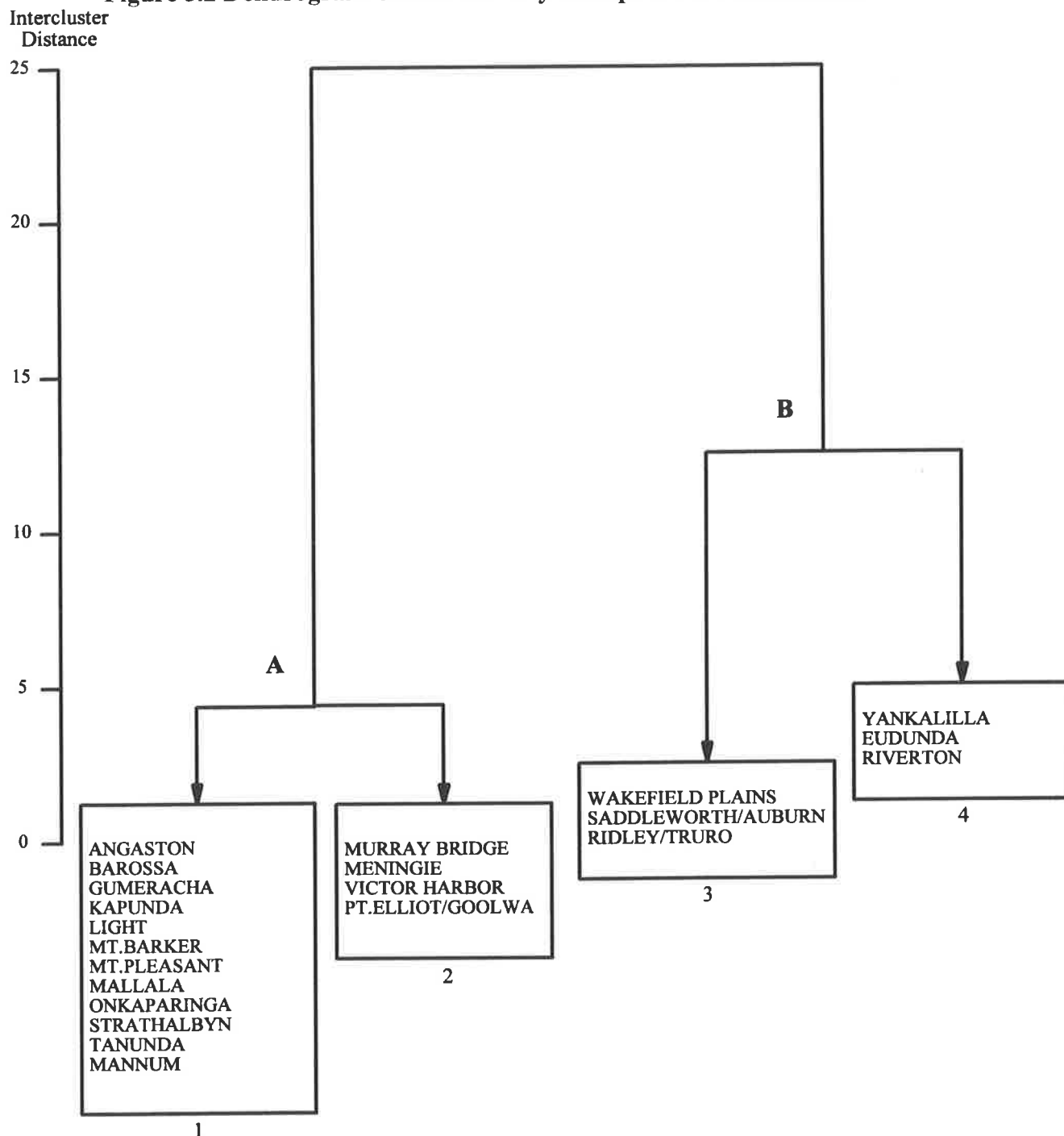
In the first stage, a cluster analysis was used to identify groups of peri-urban SLAs with similar demographic and socio-economic characteristics, so that from these groups, representative case study areas could be selected. Eleven demographic, social and economic characteristics (Table 3.2) were included in the cluster analysis to identify sub-groups of peri-urban SLAs with similar characteristics. The primary division into two clusters (A and B) produced groups of 16 and 6 SLAs respectively. It was decided to select two case studies from the larger cluster (A) and one from the smaller cluster (B). Each of the two main clusters was further divided into two sub-groups (Figure 3.2).

**Table 3.2 Variables Used to Classify Peri-urban SLAs**

Peri-urban SLA	% aged 65+ yrs	% aged 0-14 yrs	Natural Increase as % of 1986-91 pop. change	Net migration as % of 1986-91 pop. change	labour force participation rate	% same residence 5 yrs ago	% with degree/ diploma	% employed man/admin & profes. occups.	% employed blue collar occupations	% employed in agriculture	% employed recreation & personal services
Angaston	14.6	22.0	2.2	1.5	64.7	60.6	8.8	22.5	42.7	12.5	5.9
Gumeracha	7.4	24.5	5.1	7.8	73.8	55.4	16.1	31.3	29.6	11.2	5.0
Light	8.4	23.2	4.5	4.8	65.2	57.6	9.4	29.3	36.1	17.2	7.0
Onkaparinga	10.2	23.7	3.9	5.7	70.1	57.7	11.8	27.0	32.5	12.4	6.5
Mt Barker	8.3	26.4	6.5	11.2	68.8	53.2	12.5	24.2	32.8	7.9	6.3
Kapunda	14.2	25.1	3.5	11.3	60.9	54.8	9.1	30.2	38.3	18.6	4.5
<b>Strathalbyn</b>	<b>13.1</b>	<b>23.3</b>	<b>3.8</b>	<b>15.7</b>	<b>63.2</b>	<b>54.5</b>	<b>11.4</b>	<b>30.6</b>	<b>33.0</b>	<b>18.0</b>	<b>4.9</b>
Mt Pleasant	11.3	23.3	3.6	12.3	67.2	55.0	11.1	31.9	27.7	25.0	4.4
Barossa	8.5	24.6	6.8	23.0	69.4	53.5	12.2	25.8	33.1	10.2	5.0
<b>Mallala</b>	<b>7.2</b>	<b>25.6</b>	<b>4.5</b>	<b>25.8</b>	<b>68.5</b>	<b>48.4</b>	<b>5.1</b>	<b>22.6</b>	<b>40.1</b>	<b>15.1</b>	<b>3.2</b>
Tanunda	18.7	21.8	1.4	7.9	61.9	58.7	10.3	25.9	35.8	8.7	9.8
Mannum	17.4	18.6	0.1	-0.1	54.7	60.9	5.6	28.6	33.9	22.0	6.3
Victor Harbor	26.8	18.8	-1.3	13.1	49.4	49.0	9.6	25.9	29.8	9.5	9.3
Murray Bridge	12.0	24.2	4.2	4.0	63.4	47.7	5.9	22.0	36.9	13.8	4.9
Pt Elliot/Goolwa	20.3	20.3	2.3	17.8	52.5	47.9	9.0	24.0	34.9	11.2	9.5
Meningie	10.5	26.7	5.6	-1.8	61.5	59.2	5.6	28.6	38.0	28.7	6.6
Yankalilla	13.8	20.6	3.8	5.6	62.0	52.3	10.2	36.7	31.6	27.0	11.5
Eudunda	14.6	24.2	1.5	-2.5	60.3	63.7	6.6	41.3	27.7	33.3	2.7
Riverton	16.4	24.6	0.3	5.4	62.2	58.0	9.8	37.6	24.8	25.7	6.6
<b>Wakefield Plains</b>	<b>15.3</b>	<b>24.5</b>	<b>2.2</b>	<b>2.7</b>	<b>59.1</b>	<b>59.7</b>	<b>6.7</b>	<b>34.4</b>	<b>30.9</b>	<b>27.9</b>	<b>5.9</b>
Saddleworth/Auburn	13.4	25.0	4.4	1.2	65.3	70.0	7.6	39.2	33.7	34.5	5.2
Ridley/Truro	10.8	23.8	5.1	-2.0	65.8	54.4	4.5	26.8	35.8	19.6	14.1

Source: ABS 1991 Census; Vital Statistics

**Figure 3.2 Dendrogram Used to Classify Groups of Peri-urban SLAs**



Within the primary division of 16 SLAs (Division A), the largest sub-group (cluster 1) includes the majority of those SLAs located adjacent to the ASD which have experienced rapid in-migration. This sub-group is characterised by a relatively young age structure and includes a mix of socio-economic groups, employed in both white and blue collar occupations. Most of the SLAs in this group also have a traditional, but somewhat declining agricultural function. The other sub-group in Division A

(cluster 2) contains four SLAs. These SLAs characteristically have an older age structure, low labour force participation rates and employment focused on the service sector. Three of the SLAs in this cluster (Meningie, Victor Harbor, Port Elliot/Goolwa) primarily have a resort-retirement function. The fourth SLA in cluster 2 contains a major town (Murray Bridge) which serves as a regional service centre for the whole Murray Mallee area of the State, eastward to the Victorian border. Hence, the SLAs in cluster 2 are not likely to exhibit typical peri-urban trends, given these specialist functions.

Within the second division (B), each sub-group consists of only three SLAs. Cluster 3 includes SLAs primarily dependent on agriculture, with a somewhat older age structure. This group of SLAs characteristically have a lower proportion of the workforce engaged in the service sector, lower educational levels, but higher overall labour force participation rates. Cluster 4 includes SLAs which have a primarily agricultural function and have experienced moderate population growth, with a mix of young and older age groups.

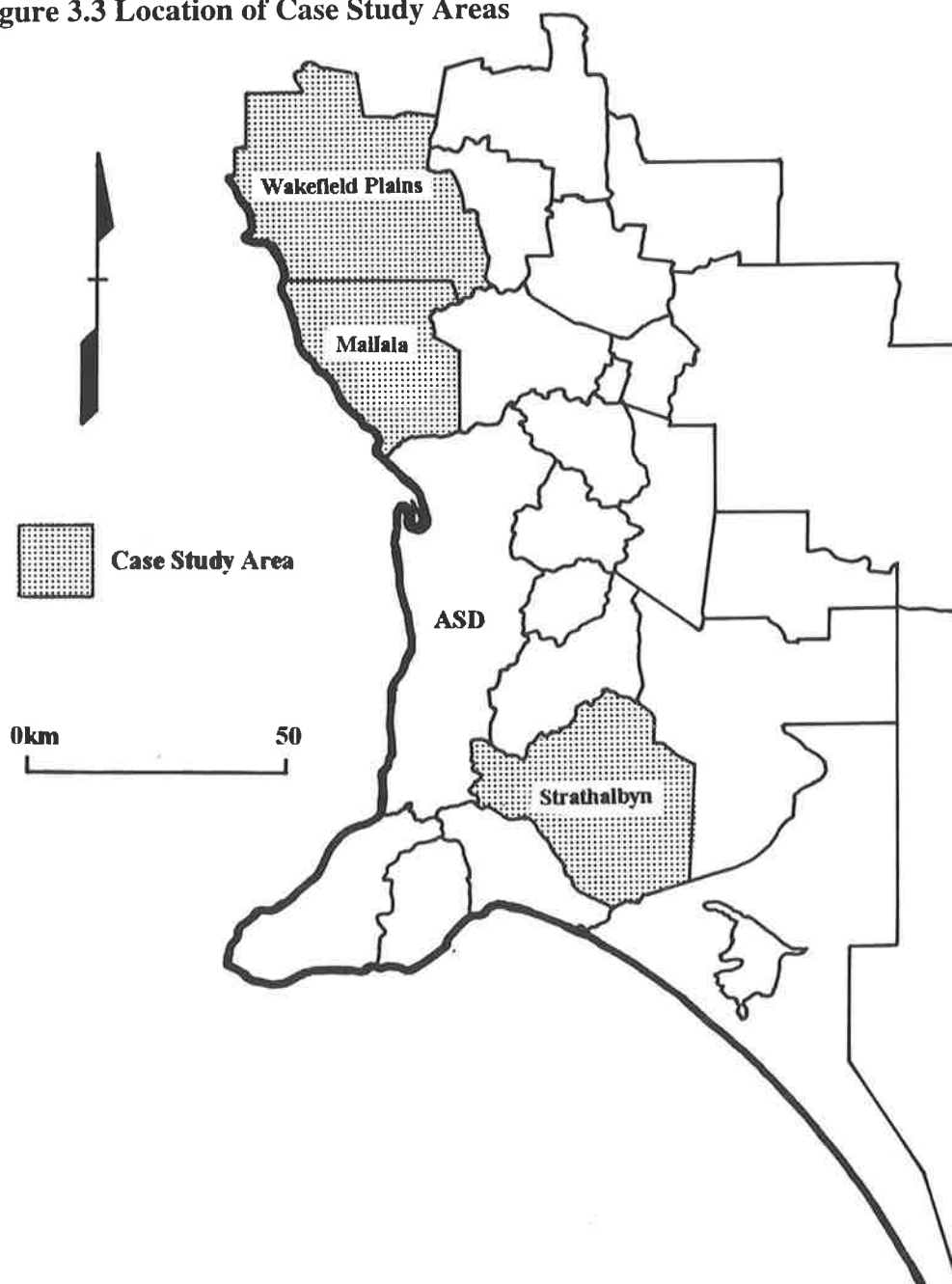
In the second stage of the selection process, the amenity and accessibility characteristics of the SLAs were taken into consideration. These factors are important, so as to be able to compare peri-urban SLAs with different amenity value but similar access to Adelaide and those SLAs with similar amenity value, but different accessibility. A further factor taken into account in the second stage, was the population size of the SLA, affecting the feasibility of achieving a reasonable representation of the total population.

In as much as is possible in only three case study areas, the wide range of socio-demographic characteristics and economic functions across the peri-urban region are reasonably represented by Mallala, Strathalbyn and Wakefield Plains. These case study areas are representative of the two primary clusters (cluster A and B). The



three case study areas are also representative of the continuous differentiation in access to the ASD (Figure 3.3). Both Mallala and Strathalbyn have short common boundaries with the ASD, although the degree of accessibility to Adelaide varies considerably. The close proximity of Mallala to the northern ASD facilitates the maintenance of strong employment and social linkages with the metropolitan region. Linkages from Strathalbyn are much more attenuated, reflecting its more distant location and longer travel times to Adelaide (Ford 1997, p.19). On the other hand, Wakefield Plains is located at the northern edge of Adelaide's peri-urban region and is representative of those SLAs more distant from the metropolitan area (up to 60+ minutes driving time).

**Figure 3.3 Location of Case Study Areas**



The three SLAs of Mallala, Strathalbyn and Wakefield Plains also represent quite different sorts of physical and amenity environment and fulfil somewhat different economic functions. Mallala is on the northern boundary of the ASD and although it is a flat, dry, featureless region (apart from its coastline) which possesses few of the attractive physical characteristics usually associated with rural living (Plate 3.1), it was the fastest growing non-metropolitan SLA in South Australia between 1986 and 1991 (5.52 per cent per annum). Rapid population growth has been imposed on a region largely based on dryland agriculture, with significant low density, semi-agricultural and residential development characterising Mallala in recent years. This development has been accompanied by increased intensive market gardening, irrigation agriculture, hobby farming and a significant commuter population.

**Plate 3.1 Typical Landscape of Mallala SLA**



Wakefield Plains is located on the periphery of the peri-urban region and has experienced continued population increase over the past 15 years. This SLA is also part of the Adelaide Plains, but unlike Mallala, is beyond the main commuting belt. It

is still predominantly a rural area dependent largely on dryland agriculture and increasing diversification of crops and animal production. The eastern side of the SLA includes the edges of the rangelands (Plate 3.2).

**Plate 3.2 Typical Landscape of Wakefield Plains SLA**



On the other hand, Strathalbyn is located within the Fleurieu Peninsula, an attractive and naturally diverse region (Plate 3.3). Although it is traditionally a rural service centre for agricultural industries, population growth was also considerable between 1986 and 1991 (3.73 per cent per annum). While primarily an agricultural region, its retirement, tourism and hobby farming functions are becoming increasingly important.

### Plate 3.3 Typical Landscape of Strathalbyn SLA



#### 3.4.2.2 Survey Methodology

The total populations of the case study SLAs were too large to allow a complete enumeration and hence the survey population was selected by random sampling. The sampling method used in this study was disproportionate stratified sampling, which 'does not imply any departure from the principle of randomness' (Moser and Kalton 1993, p.85). Before any selection occurs, the population is divided into a number of strata and a random sample is drawn from each stratum. The sampling frame used for this study was the 1994/95 Annual Valuation List maintained by the Valuer General's Department. It is available for each SLA in the State and is the most current listing of all properties at this level. The Annual Valuation List includes all properties within an SLA, providing details of location, name and address of owner and improvements made to the property. This source offered several advantages which included:

- the comprehensive register of all properties at SLA level
- the high degree of validity of the listing
- availability in simple printed format



Despite the obvious advantages of the Annual Valuation List, a number of deficiencies were also recognised. These included:

- many absentee owners
- missing data for some entries
- no indication of the date of property purchase

In an attempt to overcome the last of these omissions, a supplementary data source was used- Monthly Sales Reports (Valuer General's Office).

The focus of the fieldwork was to compare various characteristics of recently arrived households (households who had moved to or within the area in the 5 years preceding the survey) and established households (households resident in the area for more than 5 years)<sup>3</sup>. In an attempt to ensure adequate representation of these two population groups, the sample was divided into three strata. The stratification factor was 'property type', with the first stratum consisting of properties which had been sold to a new owner during the 1990-95 period, hence indicating recently arrived households. This information was obtained from the Monthly Sales Reports (1990-1995, Valuer General's Office). The second stratum consisted of rental properties and again was targeted at identifying households recently arrived in the SLA. Here it was assumed that because the rental sector is a high turnover tenure, those in rental accommodation had a high probability of being recent migrants. Finally, the third and by far the largest stratum included all other residential properties listed in the sampling frame. The majority of properties were contained in this stratum and for the purposes of this survey, were taken to represent the established households (resident in the SLA for more than 5 years).

---

<sup>3</sup> A five year interval was chosen so as to be comparable with aggregate census data. In addition, it was decided that after living in a place for five years, the household would have had time to become part of the local community and social structure, and hence could be classified as an established resident. However, differences between recent migrants and established residents are expected to have been more striking if the period was longer than five years.

These strata are by no means equal in size and hence a disproportionate sampling fraction had to be adopted (thereby increasing the overall precision of the sample). The distribution of the sample in each case study area is shown in Table 3.3. The focus of the fieldwork was to collect information pertaining to recent migrants as distinct from established residents, hence the sample fraction was disproportionately weighted in favour of recently arrived households in each case study area. This ensured the adequate collection of information regarding recent migrants as they are a much smaller and more variable group in the total population, relative to the established residents. A total sample size of 100 households was selected in each of the three case study SLAs and these were selected from within each of the three strata using a random numbers table.

**Table 3.3 Distribution of Sample in Case Study Areas**

Type of Property	Strathalbyn		Mallala		Wakefield Plains	
	N	Sample	N	Sample	N	Sample
Changed Ownership	974	31	715	31	473	37
Rental	210	31	174	30	193	36
All Other	1188	38	857	39	1110	27
Total	2372	100	1746	100	1776	100

The questionnaire (Appendix B) collected information regarding the socio-demographic characteristics of households on a *de jure* basis, whereby data relating to temporarily absent household members were included. The questionnaire served specifically to collect information on household behaviour and migrant motivation. (a)

A number of questions were asked concerning reasons for moving. In addition, information was collected in relation to satisfaction and degree of identification with the local area. The questionnaire also covered a broad range of dimensions associated with household behaviour, including shopping activities, commuting patterns, frequency and reasons for travel to Adelaide and participation in the local community. A detailed description of the fieldwork is provided in Appendix C.

### 3.4.3 Spatial Units of Analysis

A key feature of this study is the variation in spatial disaggregation adopted throughout the analysis. A weakness in the literature, recognised in Chapter Two, is the focus of many studies on total population change at the regional scale, whilst neglecting to recognise complex changes at the local level. Hence, this study has adopted a two-fold spatial analysis, linking macro-scale patterns with the local context of change. In order to achieve this, analysis of aggregate census data is complemented by local level survey data.

The regional analysis is largely based on Statistical Local Areas (SLAs) which are the most widely used unit for the dissemination and presentation of census data. One of the advantages of using SLAs is that they correspond to the boundaries of District Councils (DCs) and hence the case study regions. SLAs also have some meaning to local communities and the provision of services and planning frequently corresponds to SLA boundaries. However, in terms of both population and geographical area, the size of SLAs varies considerably and tends to disguise the heterogeneity of some areas. In addition, many SLAs straddle natural physiographical boundaries. Given the complex nature of peri-urban dynamics it is necessary to complement such macro-scale analysis with micro-scale studies in order to obtain a clear understanding of growth patterns.

Analysis of population change over time is also undertaken at the Census Collection District (CD) level, the smallest spatial unit for which census data are made available. Although numerous and often redrawn with each census, the CD provides a more detailed spatial scale at which to address growth patterns in the peri-urban region. Analysis at the CD level facilitates analysis of a range of settlement types and avoids overgeneralisation implicit at the SLA level.

The majority of the local level analysis presented in this study is based on primary data collected in the three case study areas. The survey data greatly extends the depth of analysis possible from the secondary data, providing a finer level of spatial disaggregation against which to examine the interaction between migrant characteristics, space, behaviour and motivation. Not only do primary and secondary data sources provide different sorts of information, but they are also connected to two spatial scales of analysis. The inevitable diversity resulting from the unique nature of each case study area can then be linked to the macro-scale analysis in an effort to extract some degree of generalisation about the peri-urban region as a whole.

### **3.5 Conclusion**

It has been argued that an 'eclectic approach' is not an adequate response to the lack of theory. What is rather required is an understanding of the basic demographic growth processes working in the peri-urban region. Peri-urban growth represents the combined effects of four demographic growth processes (suburbanisation, counterurbanisation, population retention and centripetal migration). These differ from one another not only in terms of the origins of growth but also in the motives and behaviour of migrants. The qualities of the peri-urban destination also influence the spatial mix of growth processes.

This chapter has defined the conceptual framework upon which the subsequent analysis is based. A series of six indicators have been identified which can be used to distinguish the four demographic processes and the data sources from which they can be drawn have been described. Together, it is anticipated that these will not only enable identification of the relative significance of the four processes across the peri-urban region, but will also provide important analytical insights into the composition and impacts of peri-urban growth.



Before the conceptual model can be meaningfully quantified, it is necessary to establish the population growth history of the peri-urban region in order to better understand current trends. This background is provided in Chapter Four which traces peri-urban growth over the 1961-96 period.

## **CHAPTER 4**

### **POPULATION CHANGE IN THE PERI-URBAN REGION**

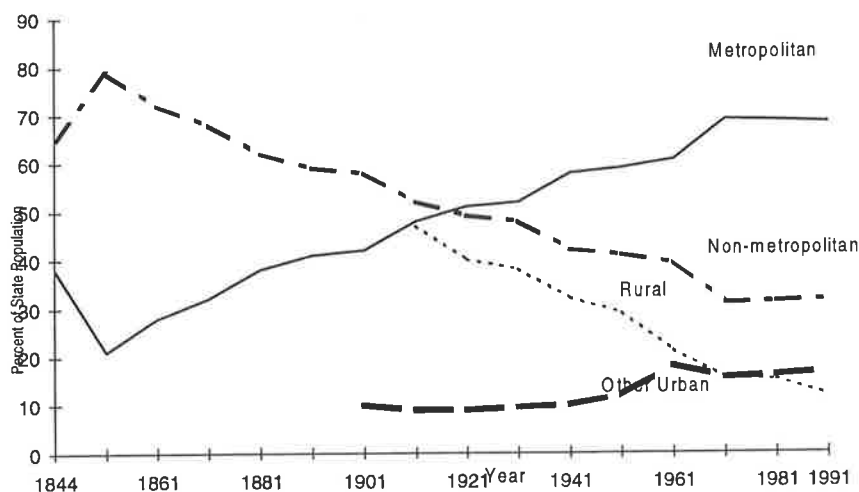
#### **4.1 Introduction**

There has been no part of South Australia in which population change has been more significant than the peri-urban region. The State's non-metropolitan population growth has become spatially concentrated in a belt surrounding the Adelaide Statistical Division (ASD) and extending beyond the commuting shed of the metropolitan area. This chapter traces the population growth history of the peri-urban region over the 1961-96 period to provide the background to the analysis of contemporary population dynamics. The relationship between observed population growth in the peri-urban region and macro-level factors in South Australia as a whole is presented. This is followed by an overview of the spatial distribution of population change in South Australia, and Adelaide's peri-urban region in particular, over the 35 year period. This focus is further pursued by examining the demographic components of change and the age profile of migration. The changing pattern of settlement within the peri-urban region is addressed through analysis of the size categories of urban centres. This is followed by a review of projected growth in the region to the year 2011.

#### **4.2. Population Growth in South Australia**

Australia's level of urbanisation is high by world standards and South Australia has one of the most concentrated settlement patterns in Australia. In 1996, 73.2 per cent of the State's population of 1,045,854 were located in the metropolitan area. This reflects a high degree of primacy in the State's urban hierarchy. Figure 4.1 indicates that from the 1950s to the early 1970s there was a consistent trend towards urbanisation, with an increasing proportion of the South Australian population living in urban areas, and especially in metropolitan Adelaide. In the early 1970s, however, the proportion of the population residing in the State capital began to decline slowly and the non-metropolitan share of the State's population began to rise.

**Figure 4.1 South Australia: Population Distribution Between Metropolitan, Other Urban and Rural Areas, 1844-1991**



Source: Hugo and Smailes (1992 p.38); ABS 1991 Census

The trends depicted in Figure 4.1 are indicative of the national pattern of population change experienced during the 'population turnaround' of the 1970s when there was a reversal of the longstanding trend of increasing concentration of the national population in large urban areas. This trend was maintained at a slower pace during the 1980s and with a greater degree of spatial concentration of non-metropolitan growth. Population gains have been focused particularly on the 'well-watered and attractive areas of the south-east and east coast and the areas at the margins of the commuting zones of large cities' (Hugo 1993, p5).

Like other Australian States, South Australia experienced a slowdown in the population turnaround during the 1980s. After declining steadily since the early 1960s, the average annual growth rate for the Adelaide Statistical Division (ASD) rose from 0.69 per cent between 1976 and 1981 to 0.96 per cent between 1981 and 1986, but declined to 0.79 per cent over the following five year period (Table 4.1). Conversely, the non-metropolitan growth rate increased from 0.51 per cent to 0.84 per cent but then declined

again to 0.47 per cent over the same three intervals. Hence, during the late 1970s to mid 1980s metropolitan and non-metropolitan growth rates tended to converge. Although the ASD continued to account for a progressively larger share of the State's population, this increase occurred at a diminishing rate.

**Table 4.1 Average Annual Population Growth, the State and Selected Regions of South Australia, 1961 to 1996**

Region	1961-66	1966-71	1971-76	1976-81	1981-86	1986-91	1991-96
ASD	4.36	2.97	1.33	0.69	0.96	0.79	0.43
Total Non-metro	-0.93	-0.36	0.79	0.51	0.84	0.47	0.27
Peri-urban	0.36	0.25	2.08	1.72	3.50	2.28	1.58
Balance	-1.25	-2.46	0.40	0.11	-0.15	-0.31	-0.45
Total State	2.41	1.46	1.18	0.64	0.93	0.79	0.39

Source: ABS Censuses

In their study of non-metropolitan population change between 1981 and 1986, Hugo and Smailes (1992) found distinct spatial patterns in the areas recording net migration gains. One of the most distinctive types of zone took the form of arcs around the major capital cities, often extending beyond the boundaries of regular commuting (Hugo 1994, pp. 13-14). These zones represent the peri-urban region of Australian cities. Non-metropolitan population growth in South Australia has become progressively more concentrated in those SLAs surrounding the metropolitan region, although some growth is also evident in the Riverland and in other outlying locations such as Northern Yorke Peninsula, Port Broughton and Port MacDonnell.

Population growth in the State as a whole declined between 1986-91 and 1991-96 and this was reflected in a drop in growth within the peri-urban region, from 2.3 to 1.6 per cent per annum. Nevertheless, the region continued to experience growth well above that recorded elsewhere in the State, adding a further 9824 people to its population over the five year period, an overall rise of 8.2 per cent. The following section addresses various

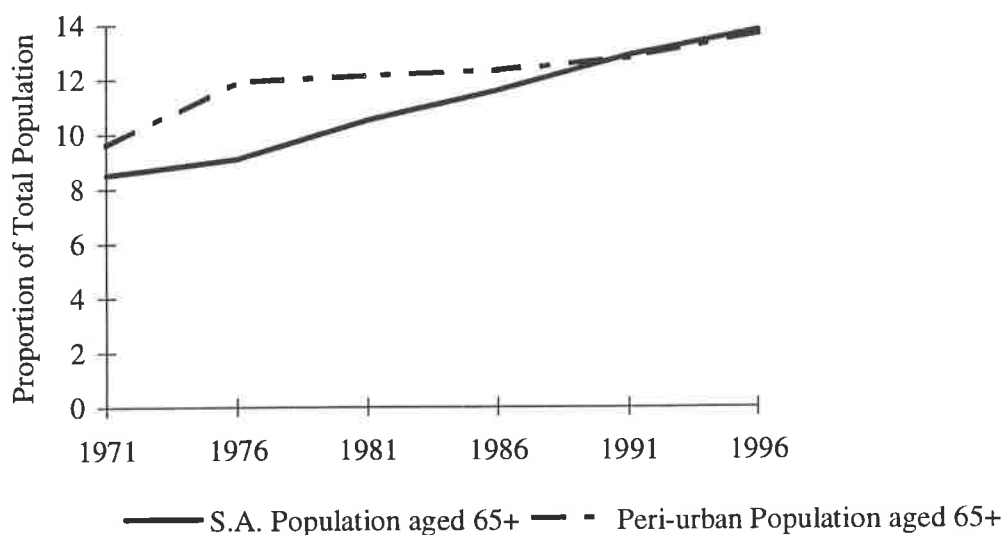
broad scale social and economic changes in South Australia over the 1971-1996 period. This analysis is intended to provide some background to the decision-making environment within which migration to the peri-urban region has taken place.

### **4.3 Macro-Scale Factors Influencing Peri-urban Growth**

The foregoing analysis provides a broad picture of overall trends in population growth within South Australia. It has been suggested (Grafton and Bolton 1987; Gordon 1988; Hugo and Smailes 1985) that population growth patterns implicit in the population turnaround are essentially a response to pressures both internal and external to the non-metropolitan region itself. It is suggested (Frey 1991; Jarvie 1981) that a clear relationship exists between observed demographic growth processes in the peri-urban region and temporal causal factors inherent across the regional settlement system. This section provides an assessment of emerging economic and social forces that have accompanied population growth in the peri-urban region, such as population ageing, increased personal mobility, improved communications and personal incomes and the nature of the housing market.

One of the most clearly documented components of peri-urban growth is the migration of retired and semi-retired persons (Murphy and Zehner 1988; Neyland and Kendig 1996; Pollard 1996). Figure 4.2 shows that the aged population (65+ years) has consistently increased as a proportion of the total population since the early 1970s, accounting for 13.8 per cent of the State's population at the 1996 Census. Although people aged 65+ years account for a comparable proportion of the peri-urban population (13.7 per cent), the attraction of specific resort-retirement SLAs such as Victor Harbor (28.5 per cent) and Port Elliot/Goolwa (21 per cent) for the retired population is evident.

**Figure 4.2 Growth of Proportion of Population Aged 65+ Years in S.A. and the Peri-urban Region, 1971-1996**

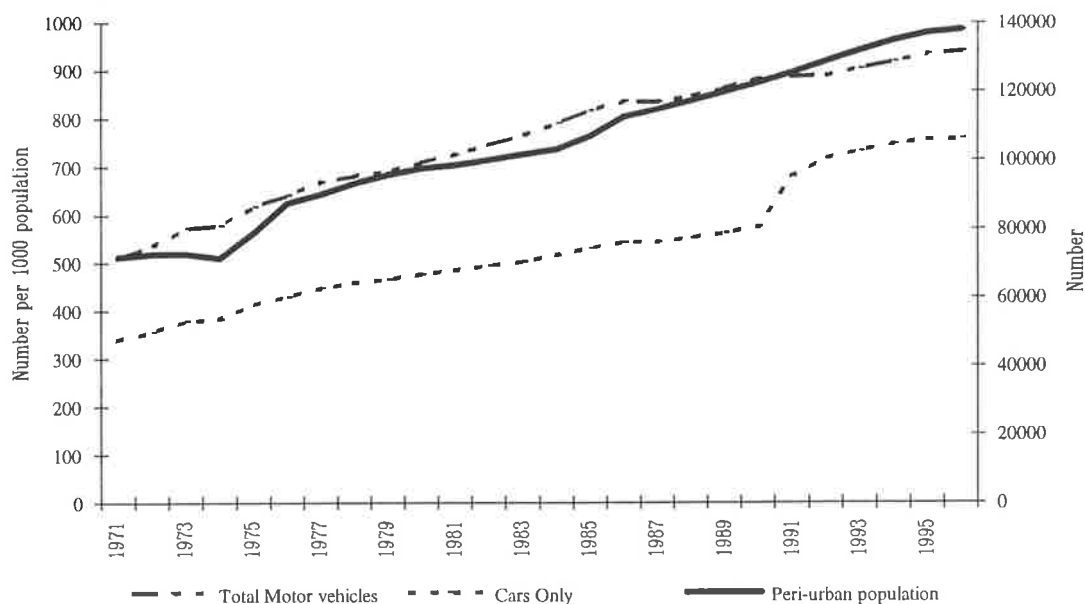


Source: ABS South Australian Yearbooks (various issues); ABS Censuses

It has been suggested that improved transport and increased car ownership over the past two decades has been an influential factor in the pattern of peri-urban growth (Faulkner 1981; Hugo 1997; Wardwell 1980). Increased personal mobility has been afforded by increases in motor vehicle ownership, allowing people greater flexibility and access from peri-urban regions. The increase in motor vehicle ownership mirrors the pattern of peri-urban population growth (Figure 4.3) and suggests that this has been an important factor in Adelaide's peri-urban region. At the 1996 Census, a greater proportion of peri-urban households owned 3 or more cars (16.7 per cent) compared with the State as a whole (11.3 per cent). Furthermore, a smaller proportion of households were without a car in the peri-urban region (6.3 per cent), compared with 15 per cent of S.A. households.

According to Hugo (1997, p.18), 'the revolution in communication systems within Australia...[has allowed]... many people to live considerable distances from where they conduct business'. The use of personal computers, the internet, mobile phones and fax machines have provided a greater degree of freedom in the location decision of both people and businesses.

**Figure 4.3 Increase in Motor Vehicles (S. A.) and Total Peri-urban Population, 1971-1996**



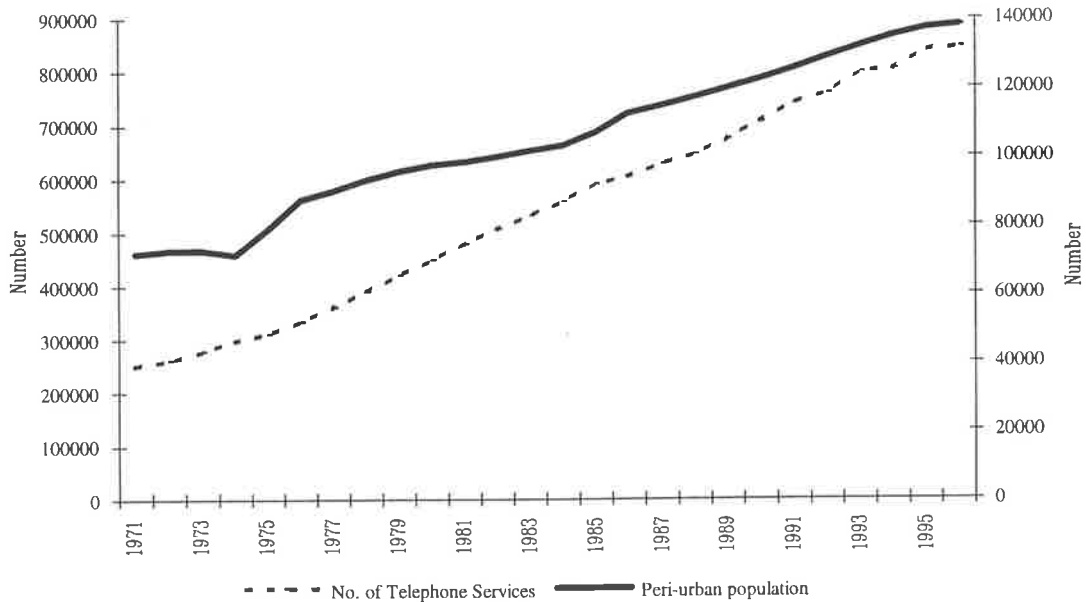
Source: ABS South Australian Yearbooks (various issues); ABS Censuses

As an indication of improved communications, Figure 4.4 shows that the number of telephones has increased in South Australia, mirroring the pattern of growth in the peri-urban region. Although corresponding data are not available for the peri-urban region, several studies have found that modern telecommunications now extend further into the peri-urban region, supporting the growth of population in these locations (Davis, Nelson and Dueker 1994; Hugo 1993; Nelson 1991)

As personal incomes have improved, so too has in-migration to Adelaide's peri-urban region (Figure 4.5). It is argued (Wardwell 1980; Hugo and Smailes 1985) that growth in personal affluence allows people to live farther from the metropolitan centre in preferred peri-urban locations. With greater disposable incomes to spend on leisure activities and travel costs, income growth combined with improved transportation and communication technologies facilitates migration to the peri-urban region, whilst sustaining connections with the metropolitan region. Despite this, at the 1996 Census the median personal weekly income of the peri-urban population (\$252) was somewhat

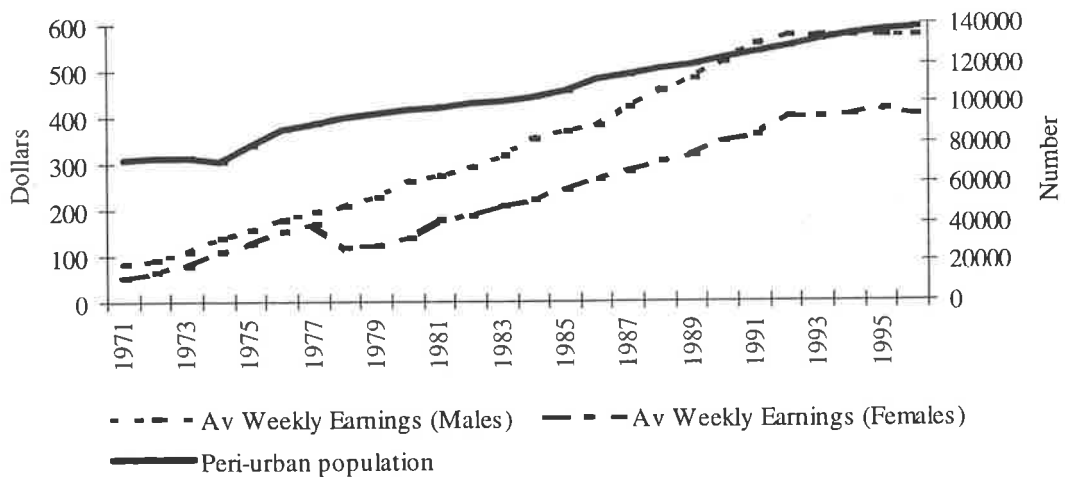
lower than that of the metropolitan population (\$273) and South Australian population as a whole (\$267).

**Figure 4.4 Growth in the Number of Telephones (S. A.) and Total Peri-urban Population, 1971-1996**



Source: ABS South Australian Yearbooks (various issues); ABS Censuses

**Figure 4.5 Increase in Average Weekly Earnings (S. A.) and Total Peri-urban Population, 1971-1996**

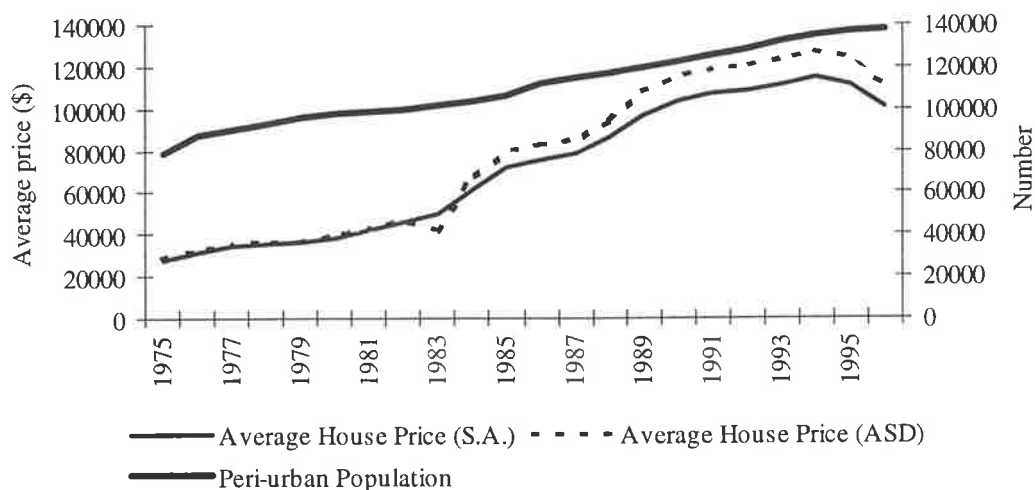


Source: ABS South Australian Yearbooks (various issues); ABS Censuses



The cost and availability of housing may also provide the impetus for peri-urban growth. As average housing prices have risen steadily in Adelaide since the early 1980s (Figure 4.6), the difference in housing costs has continued to favour non-metropolitan areas. In 1992, the average sale price of single unit housing in metropolitan Adelaide was 70 per cent above that in country towns (Hugo and Bell forthcoming, p.8).

**Figure 4.6 Average House Prices (S. A. and Adelaide) and Total Peri-urban Population, 1975-1996**



Source: Real Estate Institute of South Australia; ABS Censuses

Despite this, the average price of a rural residence sold in South Australia has risen to the highest level for five years (*The Advertiser*, October 11, 1997, p.21). However, housing loan interest rates have decreased significantly in the early 1990s, declining from 17 per cent in 1989 to 7.6 per cent in 1996 (Reserve Bank of Australia- Adelaide Branch). This may offset the increase in non-metropolitan property values to an extent. As net immigration to the peri-urban region reached a peak in the early-mid 1980s, so too did average house prices in Adelaide and housing loan interest rates. Hence, a causal relationship between peri-urban population growth and the nature of the housing market may be inferred, with the attraction of lower housing costs providing a stimulus for migration to Adelaide's peri-urban region.

Various macro-level factors have been suggested to explain peri-urban growth (see Hugo and Smailes 1985). The relationship between these temporal causal factors and growth patterns in Adelaide's peri-urban region suggests that social and economic changes occurring in South Australia have exerted some influence on peri-urban migration trends. However, this analysis only provides a background to the decision-making environment within which migration has taken place and does not explain the underlying population dynamics responsible for population change in the peri-urban region. The following section addresses the spatial pattern of non-metropolitan growth in South Australia over the 1961 to 1996 period, focusing particularly on population change in the peri-urban region.

#### **4.4 Population Change in South Australia and Adelaide's Peri-urban Region, 1961 to 1996**

Since 1971, the peri-urban region has steadily increased its share of the State's population and has consistently displayed higher annual average population growth than the ASD or the State as a whole. Despite this, the pattern of growth over the past 35 years has been sporadic and patchy. This section presents an overview of the spatial distribution of population change in South Australia and Adelaide's peri-urban region over the 1961-91 period. The growth history of the region is progressively established focusing on four intercensal periods: 1961-71, 1971-81, 1981-91 and 1991-96.

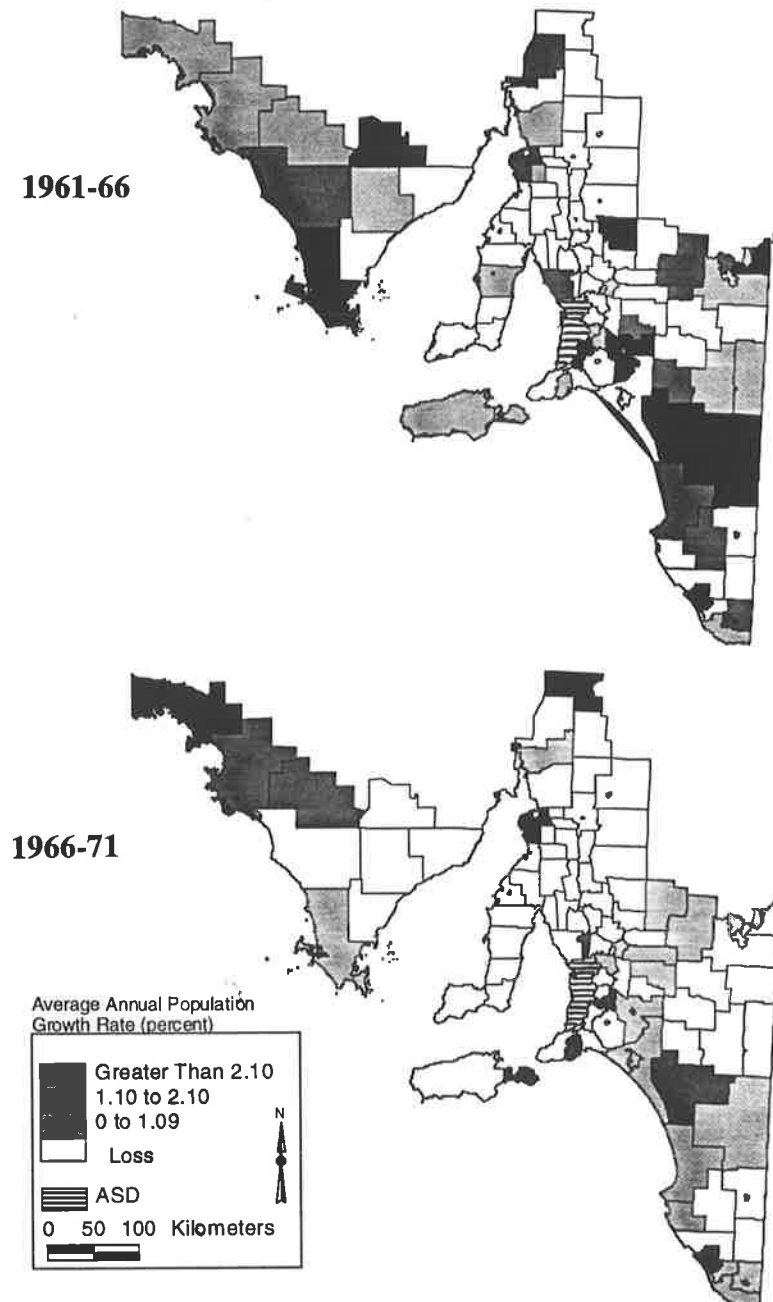
##### **4.4.1 Population Change, 1961-71**

During the 1961-66 intercensal period (Figure 4.7) population growth was scattered throughout non-metropolitan South Australia, with the main pockets in the Murray Mallee and South-eastern regions. Between 1966 and 1971 non-metropolitan growth contracted and fewer non-metropolitan SLAs registered growth.

Between 1961 and 1966, Adelaide's peri-urban region as a whole experienced a modest growth rate of 0.36 per cent per annum. However, the only SLAs to experience positive

population growth were Angaston (0.8 per cent), Mt. Barker (0.02), Mallala (1.4), Onkaparinga (0.4), Mannum (1.7), Murray Bridge (2.1), Kapunda (15.3) and Victor Harbor (1.1).

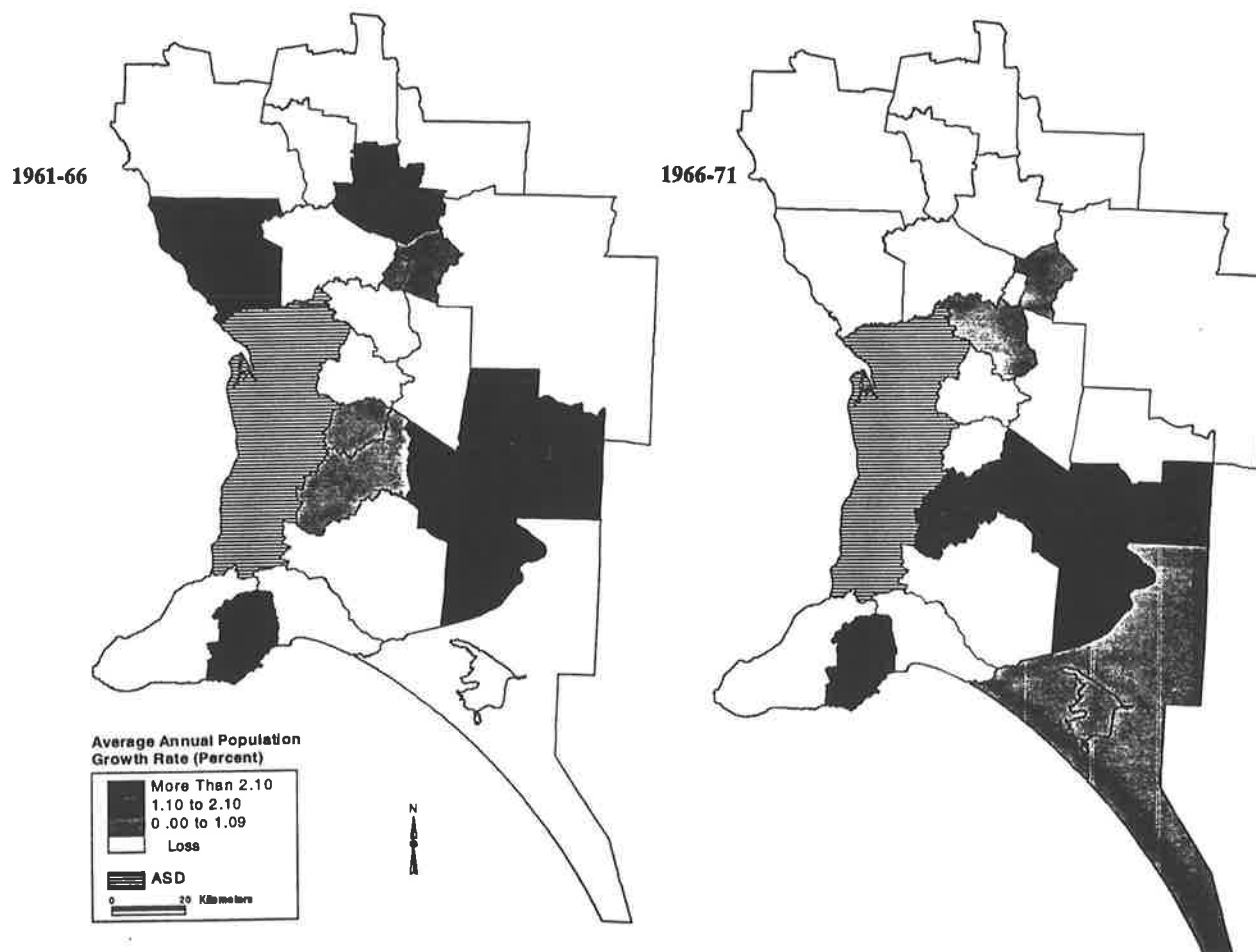
**Figure 4.7 Population Growth by SLA, Non-metropolitan South Australia, 1961-66 and 1966-71**



Source: ABS 1961, 1966 and 1971 Censuses

Figure 4.8 shows a similar pattern for the period 1966-71: Barossa (0.5 per cent) and Meningie (0.2) joined the list of growth SLAs but five others; Onkaparinga (-1.1 per cent), Mannum (-0.3), Mallala (-0.2), Kapunda (-1.3) and Tanunda (-0.1) reverted from growth to decline.

**Figure 4.8 Population Growth by SLA, Adelaide's Peri-urban Region, 1961-66 and 1966-71**

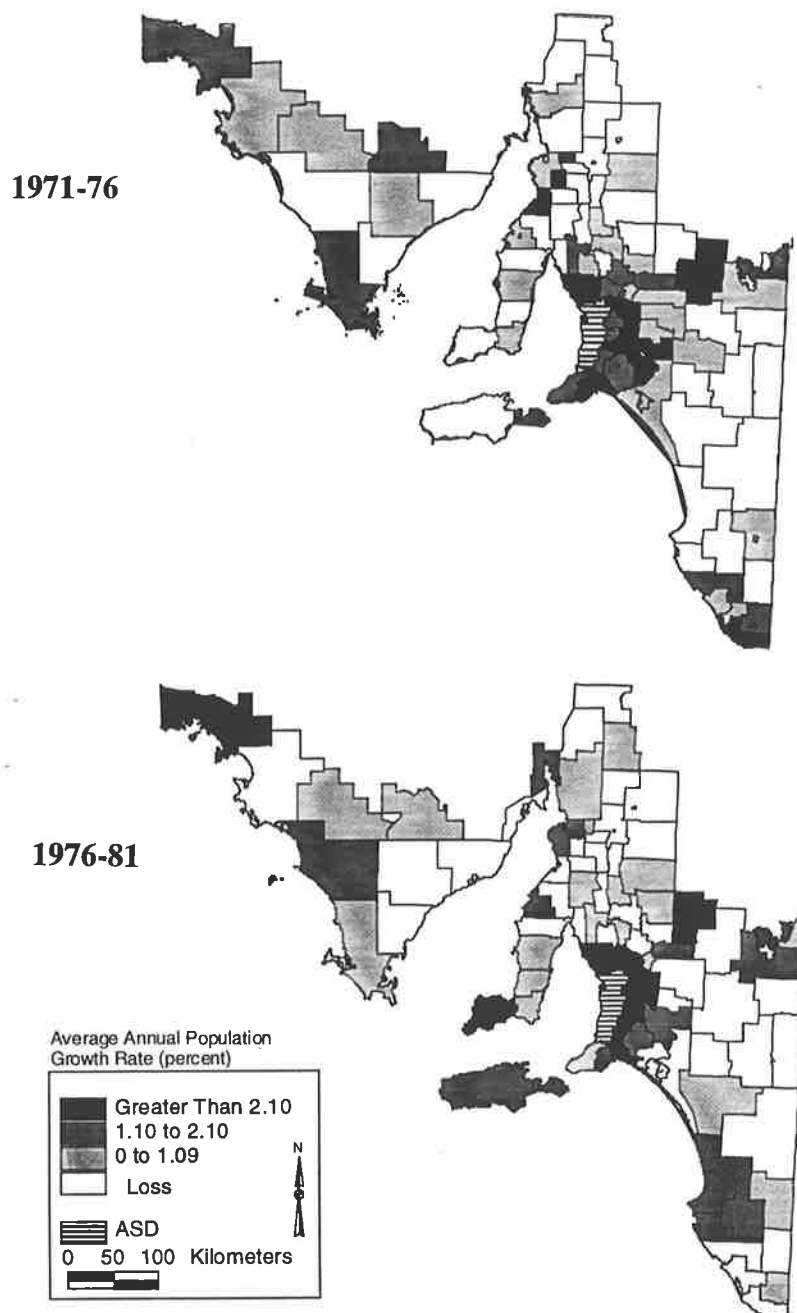


Source: ABS 1961, 1966 and 1971 Censuses

#### 4.4.2 Population Change, 1971-81

South Australia shared in a general trend of improved non-metropolitan growth that occurred throughout Australia over the 1971-76 intercensal period and the peri-urban region became an area of significant population increase (Figure 4.9). This growth intensified and expanded during the 1976-81 period as the number of non-metropolitan SLAs experiencing population growth increased.

**Figure 4.9 Population Growth by SLA, Non-metropolitan South Australia, 1971-76 and 1976-81**

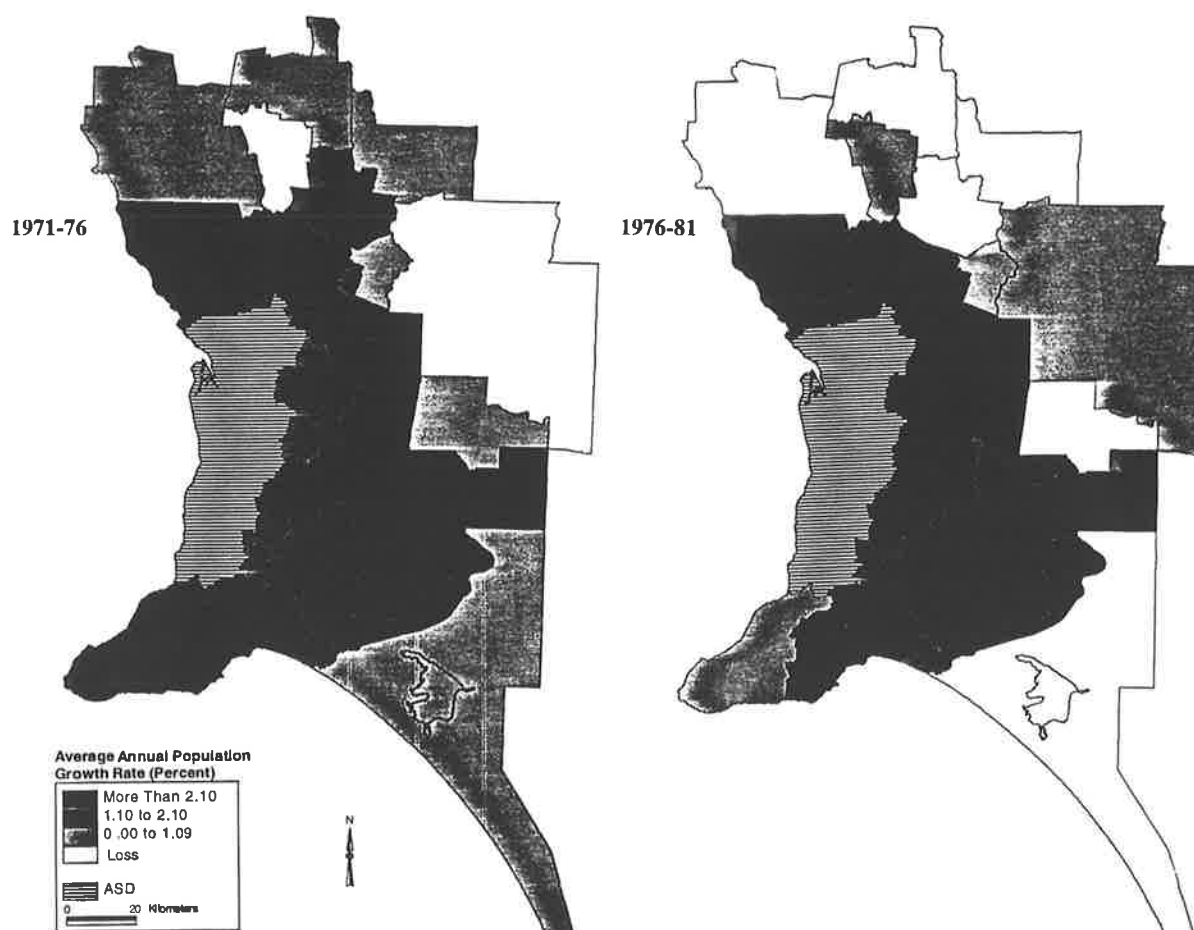


Source: ABS 1971, 1976 and 1981 Censuses

Over the 1971-76 period, population growth suddenly became virtually universal throughout the peri-urban region (Figure 4.10). This revival saw the peri-urban region increase its population by 8144 persons, accounting for 61.2 per cent of the total non-

metropolitan gain. Perhaps the most significant change during the 1971-76 period was that many SLAs that experienced population losses in the 1966-71 period reversed this trend, with all SLAs in the peri-urban region except Ridley/Truro (-0.3 per cent) and Riverton (-0.1 per cent), experiencing gains.

**Figure 4.10 Population Growth by SLA, Adelaide's Peri-urban Region, 1971-76 and 1976-81**



Source: ABS 1971, 1976 and 1981 Censuses

The 1976-81 intercensal period again saw declines in the populations of a number of peri-urban SLAs. As can be seen from Figure 4.10, the SLAs reverting to population decline were generally those located at the outer edges of the peri-urban region. Many

inner peri-urban SLAs, however, especially those adjacent to the ASD, consolidated their position and recorded growth rates far greater than those experienced by metropolitan Adelaide or State as a whole.

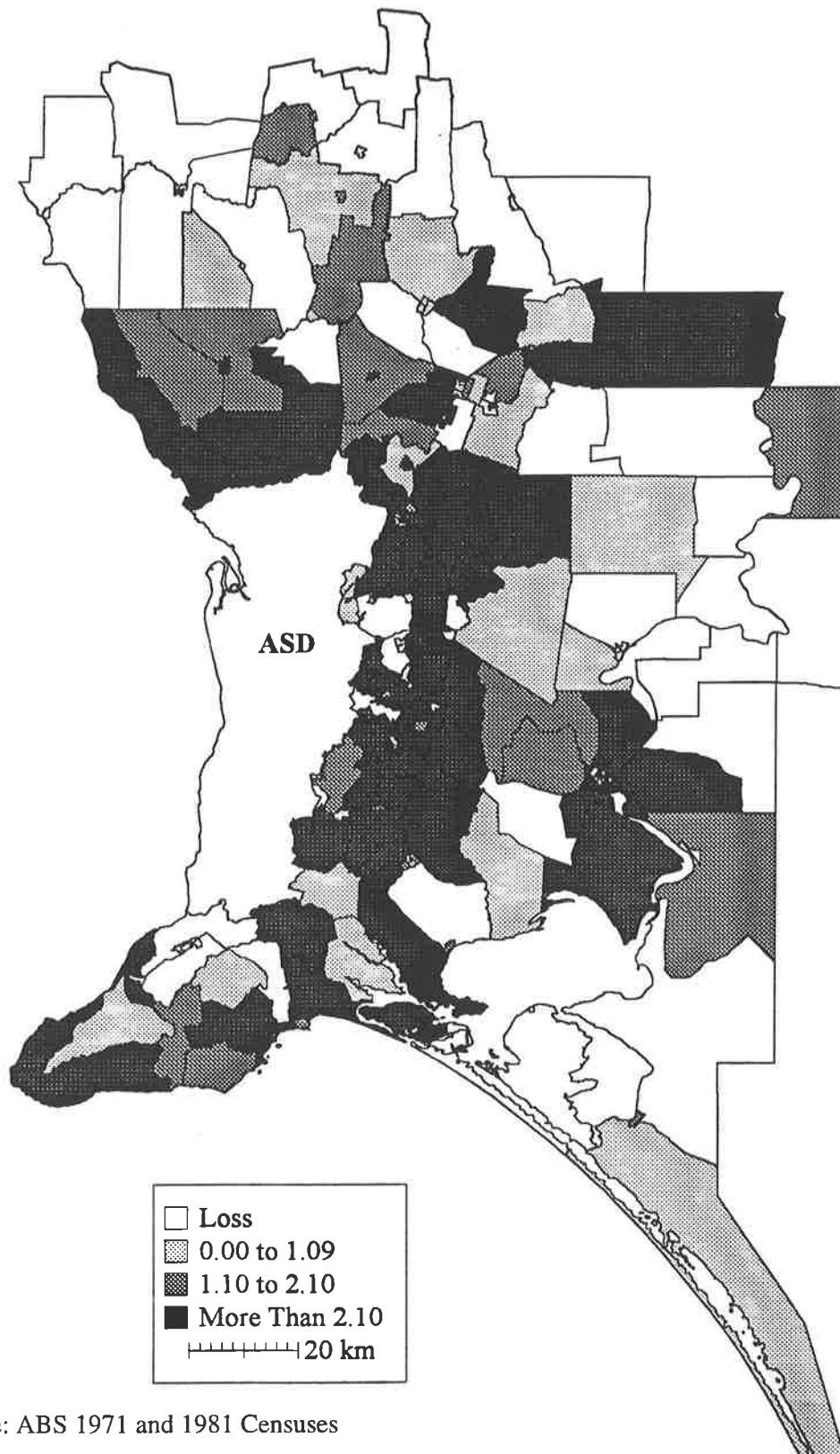
Population growth in the peri-urban region accelerated in the 1970s, but analysis of patterns at the SLA level masks the distinctive heterogeneity of some areas. Analysis at the smaller collection district (CD) scale (Figure 4.11) shows that significant growth over the 1971-81 period was disproportionately concentrated along, or close to the metropolitan boundary. Accessible townships along the south-eastern freeway<sup>1</sup> such as Mount Barker and Hahndorf (see Figure 4.12 for location of towns and major transport routes), together with rural areas adjacent to the northern ASD, experienced significant population increase.

The rural centre of Murray Bridge and surrounding rural hinterland and a number of coastal townships in the south (Normanville, Victor Harbor, Port Elliot, Goolwa) also recorded high average annual growth rates. Clearly, population growth was not confined to established townships, with surrounding rural areas also experiencing population increase. Nonetheless, pockets of population decline are also evident, mainly at the edges of the region in the rural hinterlands of established rural service towns.

---

<sup>1</sup> The south-eastern freeway was opened to the public in the early 1970s.

**Figure 4.11 Population Growth by Collection District, Adelaide's Peri-urban Region, 1971-81**

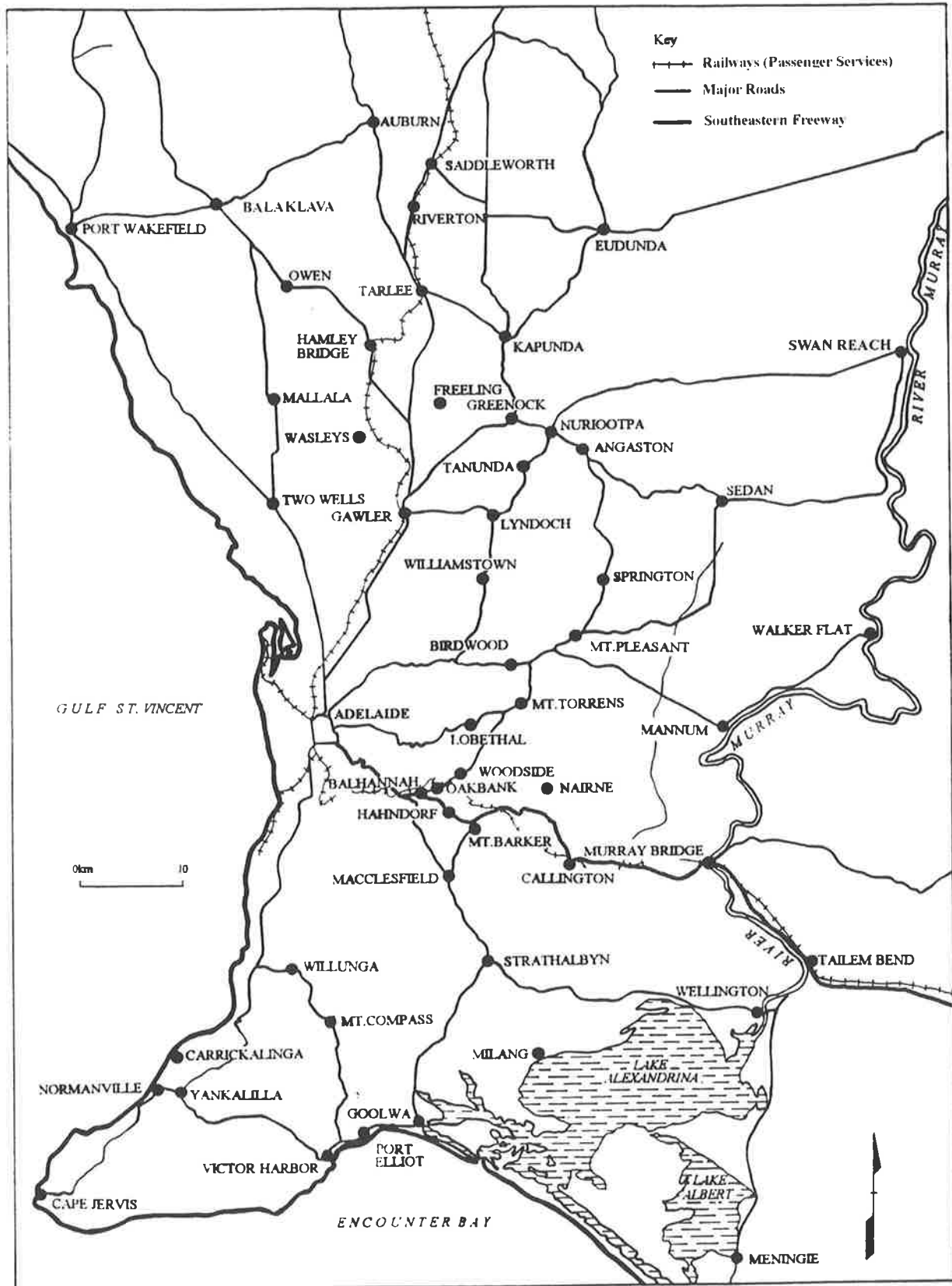


Source: ABS 1971 and 1981 Censuses

Note: Due to the limited size of the maps showing population growth by collection district, intra-urban boundaries in some of the large centres (eg. Murray Bridge and Mount Barker) are not readily visible. Nevertheless, all CDs have been included in the analysis.



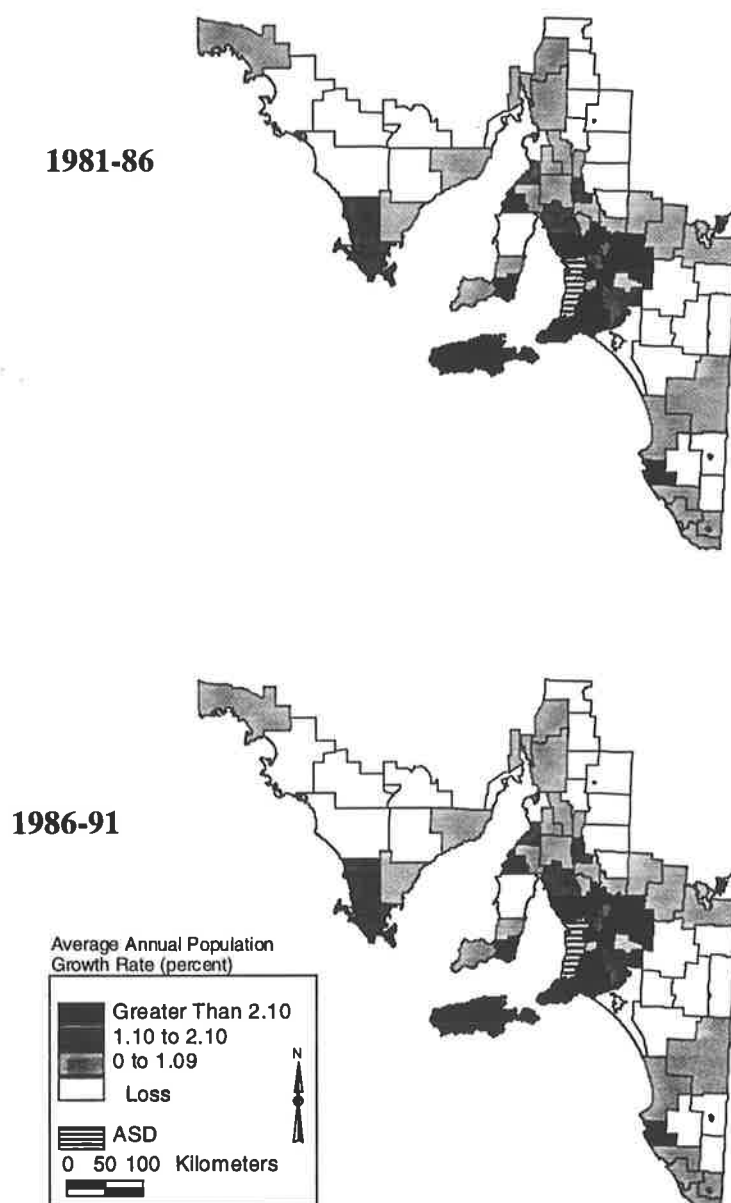
**Figure 4.12 Location of Peri-urban Centres and Localities and Major Transport Routes**



#### 4.4.3 Population Change, 1981-91

Since 1981, non-metropolitan growth has been increasingly clustered into the peri-urban region and by 1986-91 (Figure 4.13) there were only a few outliers of population growth elsewhere: principally in the upper Murray and some coastal regions.

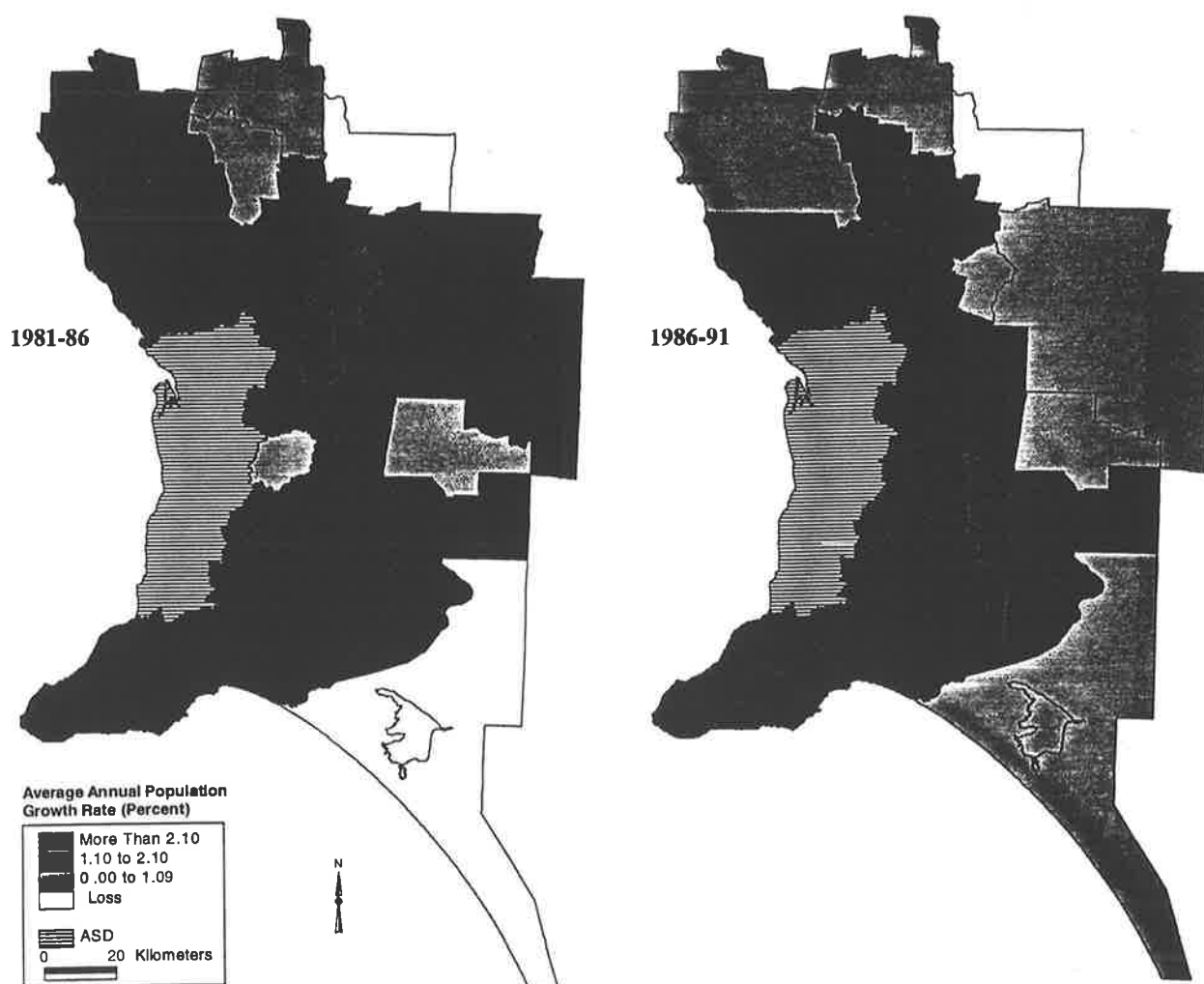
**Figure 4.13 Population Growth by SLA, Non-metropolitan South Australia, 1981-86 and 1986-91**



Most dry farming areas have experienced severe population loss, almost certainly due in large measure to the rural crisis, drought and declining world markets (see Smailes 1997).

By the 1981-86 intercensal period, population growth had become universal throughout the peri-urban region, except in Meningie (-0.6 per cent) and Eudunda (-0.05 per cent) (Figure 4.14).

**Figure 4.14 Population Growth by SLA, Adelaide's Peri-urban Region, 1981-86 and 1986-91**



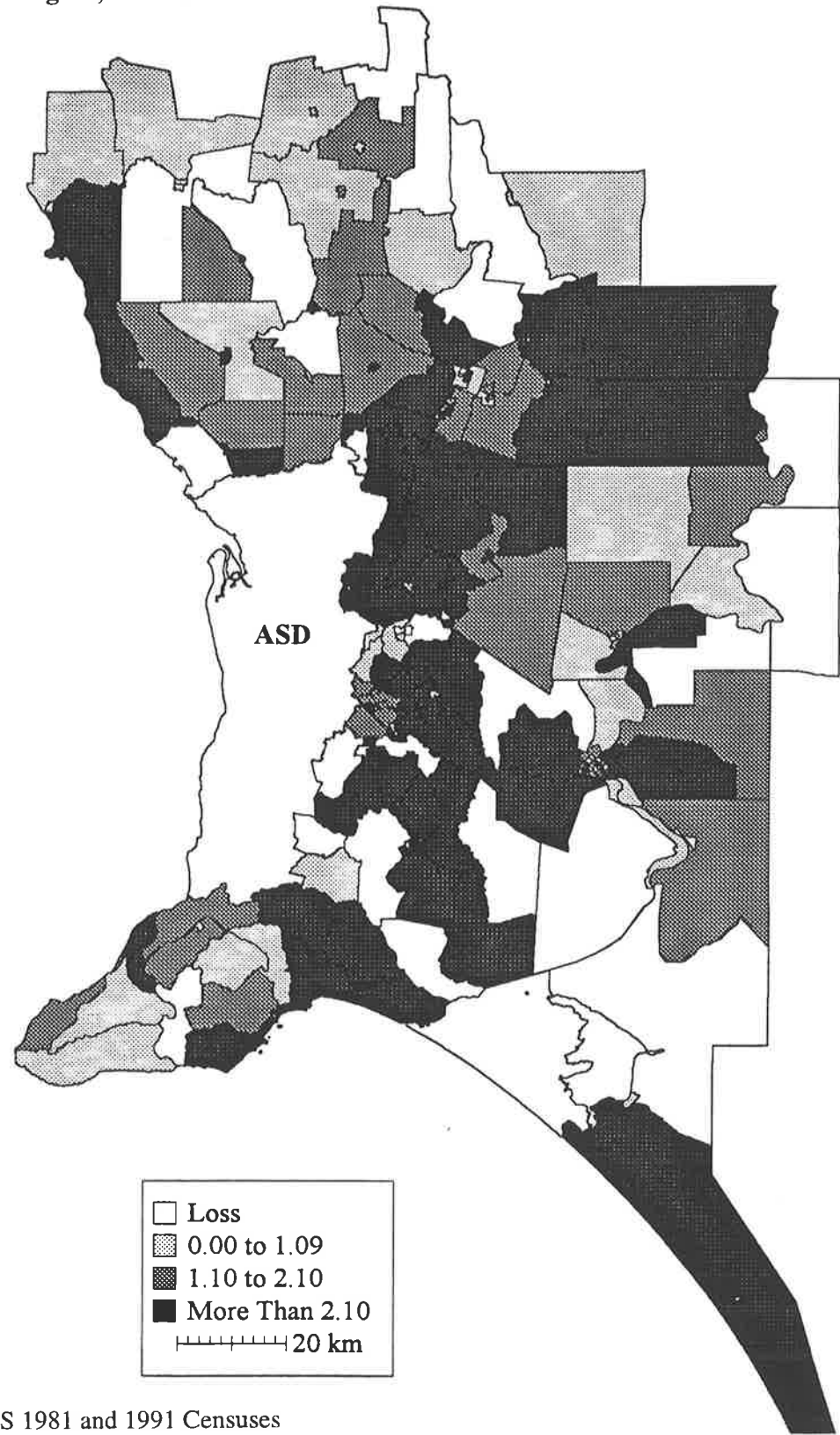
Source: ABS 1981, 1986 and 1991 Censuses

These are primarily agriculturally-based regions serving no significant resort-retirement-tourism function. In addition, their location at the edge of the peri-urban region reduces their attractiveness to commuters. Nevertheless, by 1986-91 even Meningie was gaining and the peri-urban region as a whole experienced a population increase of 12,833 persons, accounting for 23.5 per cent of the State's population growth.

Population growth also became more widespread throughout the settlement hierarchy over the 1981-91 period (Figure 4.15), as many outlying rural areas recorded population increases. A concentration of population growth is again clearly evident along the south-eastern freeway, extending from Mount Barker through to Murray Bridge (see Figure 4.11), incorporating both small townships and rural areas. Significant population growth in the region surrounding Murray bridge may be partly accounted for by the cancellation of plans to build the new city of Monarto. It was intended that this new city would be built near the town of Murray Bridge to absorb overflow of population from Adelaide. However, the cancellation of the Monarto development plan in 1980 resulted in any urban growth being directed to Murray Bridge and the surrounding townships.

Growth throughout the Barossa Valley region and adjacent Gumeracha and Mount Pleasant SLAs suggests that it was not only the largest centres that experienced population increases, but that this also occurred in the small rural settlements and surrounding hinterland. Similarly, population growth was virtually universal throughout the Fleurieu Peninsula, incorporating the full range of settlement size categories. The stringent controls on land sub-division imposed by the *Outer Metropolitan Planning Area Development Plan* (1975), may have influenced this settlement pattern. Restrictions on further residential development within defined townships meant that population growth was directed toward the numerous small landholdings available in the rural parts of the peri-urban region (see Figure 1.6).

**Figure 4.15 Population Growth by Collection District, Adelaide's Peri-urban Region, 1981-91**

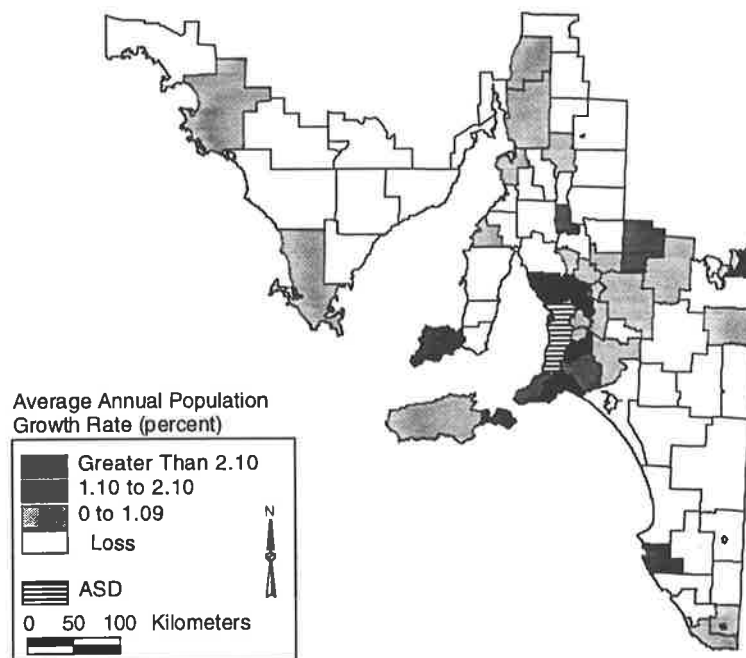


Source: ABS 1981 and 1991 Censuses

#### 4.4.4 Population Change, 1991-96

The spatial pattern of non-metropolitan growth evident in the late 1980s, has continued during the 1991-96 intercensal period, indicating continued concentration in the peri-urban region (Figure 4.16).

**Figure 4.16 Population Growth by SLA, Non-metropolitan South Australia, 1991-96**



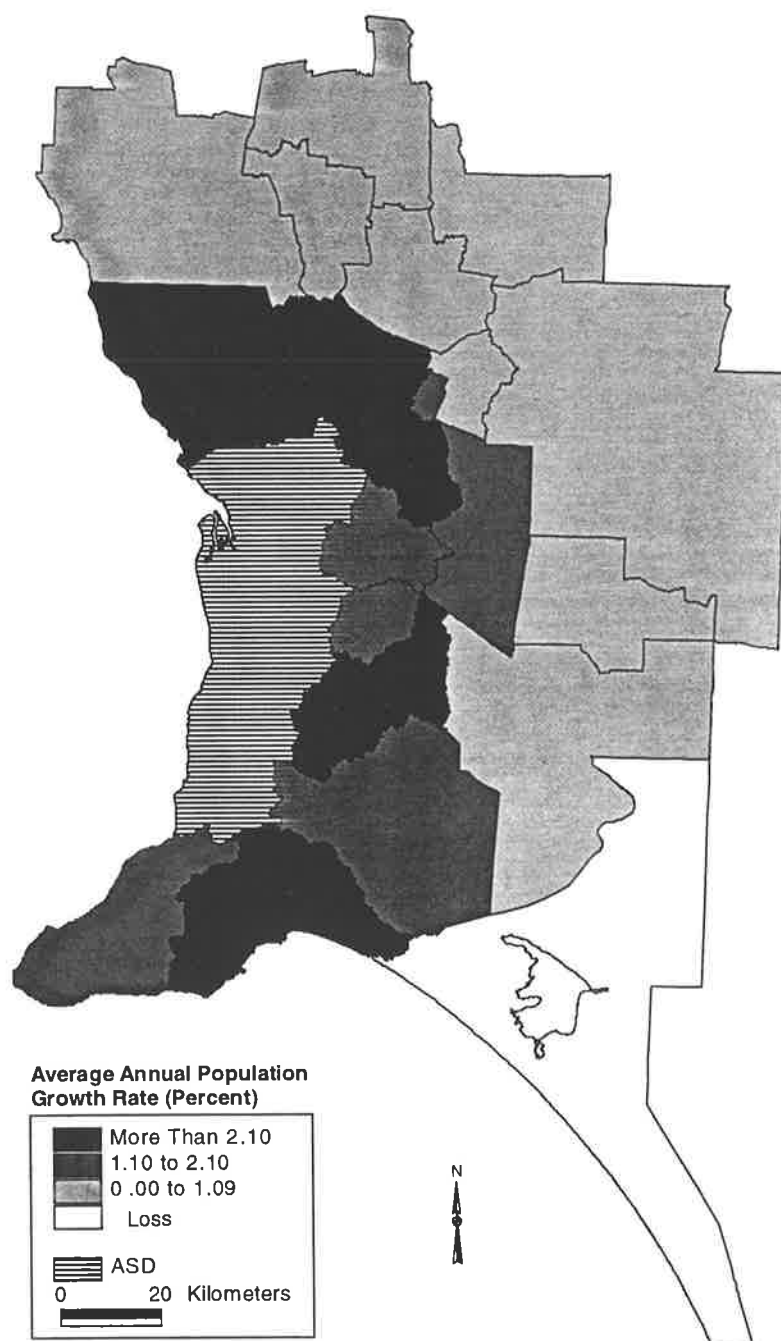
Source: ABS 1991 and 1996 Censuses

At the 1996 Census, the peri-urban region accounted for 9.1 per cent of the State's population and had a population growth rate around four times that of the ASD and the State as a whole. This underlines the continued concentration of population growth in the peri-urban region during the first half of the 1990s.

Growth within the peri-urban region also continued to be spatially concentrated in the early 1990s (Figure 4.17). SLAs adjacent to the ASD registered the highest growth rates suggesting that accessibility for commuters may be a major influence. Retirement and tourism-related movements also continued apace with both Port Elliot/Goolwa (3.36 per

cent per annum), and Victor Harbor (3.67 per cent per annum) recording annual growth rates twice that of the peri-urban average (1.58 per cent per annum). On the other hand, declines continued in the predominantly agricultural SLA of Meningie.

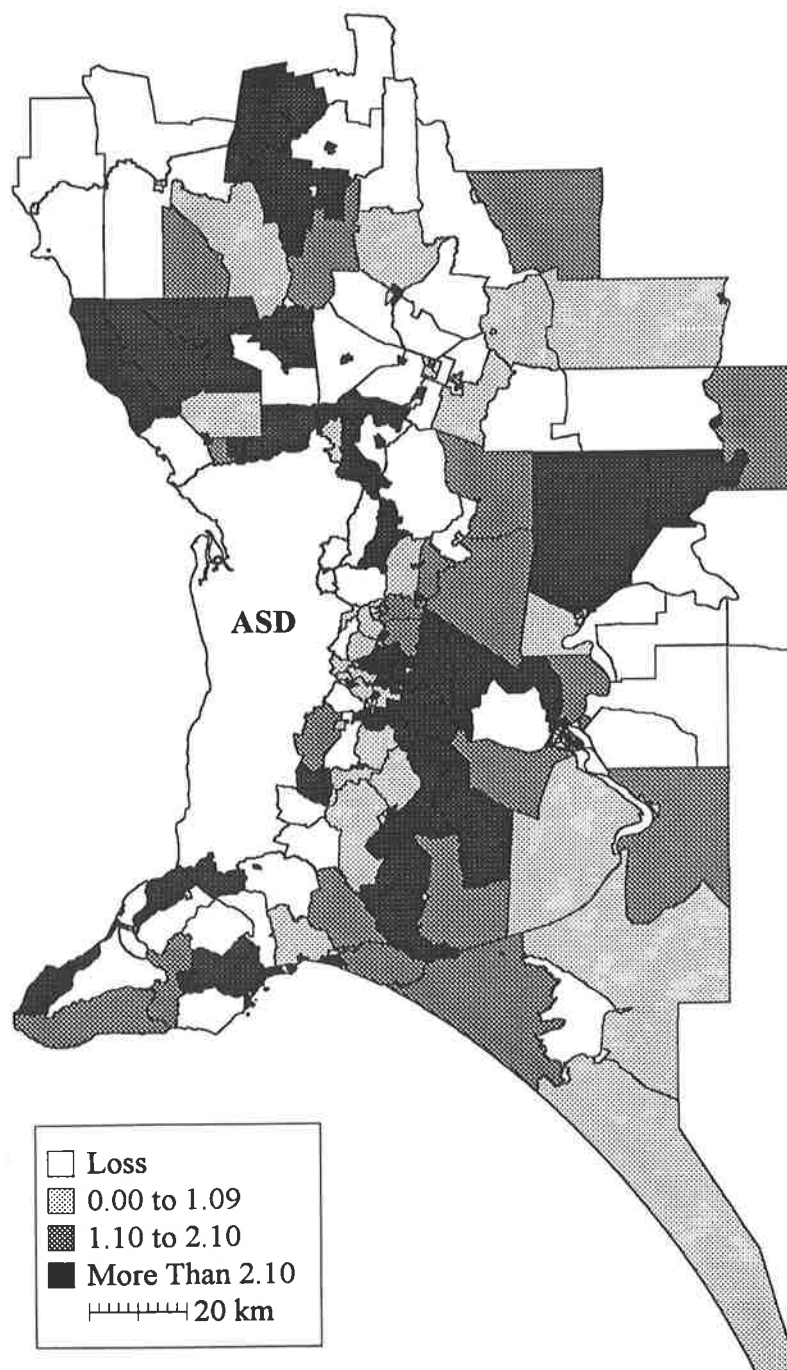
**Figure 4.17 Population Growth by SLA, Adelaide's Peri-urban Region, 1991-96**



Source: ABS 1991 and 1996 Censuses

Accessible townships such as Mount Barker, along with several smaller centres (Woodside, Freeling and Williamstown) continued to experience significant population growth (Figure 4.18).

**Figure 4.18 Population Growth by Collection District, Adelaide's Peri-urban Region, 1991-96**



Source: ABS 1991 and 1996 Censuses



Nevertheless, the spatial pattern of population change at the SLA level masks some significant pockets of growth in several outer peri-urban SLAs. In fact, a definite shift towards the periphery is evident, with several small settlements in the north (Mallala, Saddleworth, Auburn) and the surrounding hinterland recording high rates of population increase. The observed extension of growth further out from the most accessible locations is perhaps due to exhaustion of development opportunities in areas close to Adelaide. Sustained enforcement of strict development controls in the Mount Lofty Ranges and Barossa Valley, have significantly limited residential development in these locations. This has resulted in a shift in population growth toward the northern Adelaide Plains and smaller settlements throughout the peri-urban region.

#### 4.5 The Components of Population Change

##### 4.5.1 Peri-urban Growth 1966-96

During the 1966-71 intercensal period population growth in the peri-urban region was attributable entirely to natural increase (Table 4.2). Indeed, the region recorded a net migration loss of 2834 persons during this period. Similarly, population growth in South Australia as a whole was primarily attributable to natural increase, although there was a small net population gain from interstate and overseas.

**Table 4.2 South Australia: Components of Population Growth in the State and Peri-urban Region, 1966-71 to 1991-96**

Intercensal Period	Peri-urban region					State		
	Natural increase	Net migration	Total increase	% from NI	% from NM	% from NI	% from NM	Total increase
1966-71	2951	-2834	117	100.0	-	87.6	12.4	81832
1971-76	2781	5828	8609	32.3	67.7	89.7	10.3	71049
1976-81	2931	4464	7395	39.6	60.4	71.5	28.5	40277
1981-86	3577	13435	17012	21.0	79.0	85.8	14.2	60912
1986-91	3977	8854	12831	31.0	69.0	79.0	21.0	54677
1991-96	4787	5037	9824	48.7	51.3	100.0	-	32854

Source: ABS Vital Statistics and Censuses

During the 1971-76 period, this net migration loss from the peri-urban region reversed and a net migration gain of 5828 persons was recorded. Net migration had become the dominant component of population change and natural increase contributed less than one third of the region's increase. In comparison with the 1966-71 period, the shift toward significant peri-urban growth and the contribution of net migration to population change in the region, is particularly striking. This contrasts with the picture for the State as a whole where natural increase accounted for almost 90 per cent of population growth.

The peri-urban region has recorded sustained population growth since 1971 and Table 4.2 shows that this has been due predominantly to net migration. Net migration gains accounted for 68 per cent of population growth between 1971 and 1976, 60 per cent between 1976 and 1981, 79 per cent from 1981 to 1986 and 69 per cent between 1986 and 1991. By comparison natural increase has been consistently more significant in the growth of the State as a whole: only one fifth of the State's population growth between 1986 and 1991 was due to migration.

Over the most recent intercensal period, S.A. experienced a reduction in the rate of natural increase, and this was accompanied by heavy net migration losses, particularly to interstate. In contrast, the peri-urban region recorded a net migration gain of <sup>5037</sup> 9824 persons between 1991-96. Natural increase also assumed a more important role in the growth of the peri-urban region, accounting for 48.7 per cent of population growth.

#### **4.5.2 Migration at the SLA level**

Table 4.3 shows the components of population growth in each peri-urban SLA over the 1986-91 period and reveals some disparate patterns. It can be seen that all SLAs (except Eudunda) experienced population increase. However, the relative shares contributed by natural increase and net migration differed widely. Population increase in Riverton, Mannum and Victor Harbor was due entirely to migration, whereas natural increase was the principal component of growth in Meningie, Ridley/Truro and Saddleworth/Auburn.

Other SLAs with high net migration components include Port Elliot/Goolwa (90 per cent), Tanunda (86 per cent), Mallala (85 per cent), Strathalbyn (81 per cent) and Kapunda (79 per cent). On the other hand, natural increase was largely responsible for the population increase in Angaston (72 per cent) and Wakefield Plains (68 per cent).

There is a clear, inverse association between net migration and distance from the metropolitan region: SLAs in close proximity to Adelaide recorded high rates of net migration gain, whereas in those more distant from the metropolis, total increase was lower and natural increase assumed a more important role.

**Table 4.3 Components of Population Growth, Peri-urban SLAs, 1986-91**

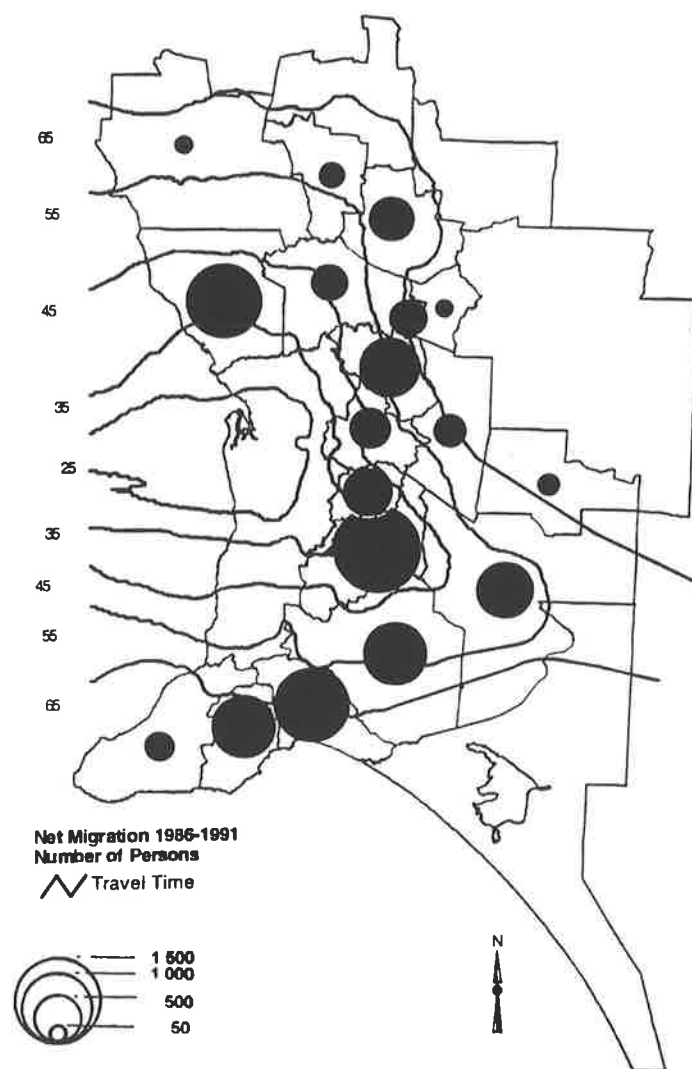
SLA	Natural increase	Net migration	Total increase	Per cent from natural increase	Per cent from net migration
Angaston	141	55	196	71.9*	28.1
Barossa	235	730	965	24.4	75.6*
Eudunda	23	-40	-17	-	-
Gumeracha	260	343	603	43.1*	56.9
Kapunda	95	367	462	20.6	79.4*
Light	215	250	465	46.2*	53.8
Mallala	196	1150	1346	14.6	85.4*
Meningie	214	-133	81	100.0*	-
Mannum	-4	67	63	-	100.0*
Mt. Barker	972	1524	2496	38.9*	61.1
Mt. Pleasant	68	204	272	25.0	75.0*
Murray Bridge	620	630	1250	49.6*	50.4
Onkaparinga	260	477	737	35.3*	64.7
Pt. Elliot/Goolwa	126	1112	1238	10.2	89.8*
Strathalbyn	200	846	1046	19.1	80.9*
Ridley/Truro	109	0	109	100.0*	-
Riverton	0	105	105	-	100.0*
Saddleworth/Auburn	85	-45	40	100.0*	-
Tanunda	43	258	301	14.3	85.7*
Victor Harbor	-87	777	690	-	100.0*
Yankalilla	114	134	248	46.0*	54.0
Wakefield Plains	92	43	135	68.1*	31.9
Total peri-urban region	3977	8854	12831	31.0	69.0

Source: ABS Vital Statistics

Note: \* denotes proportion greater than peri-urban average

Figure 14.19 shows that it was those SLAs within commuting range<sup>2</sup> of Adelaide that experienced the greatest increases in population through in-migration. This may reflect the desire of many peri-urban migrants to maintain functional linkages with the urban centre both in terms of employment locations and in their social and cultural connections.

**Figure 4.19 Net Migration and Distance from Metropolitan Adelaide, Adelaide's Peri-urban Region, 1986-91**



Source: ABS 1986 and 1991 Censuses; DHUD 1993

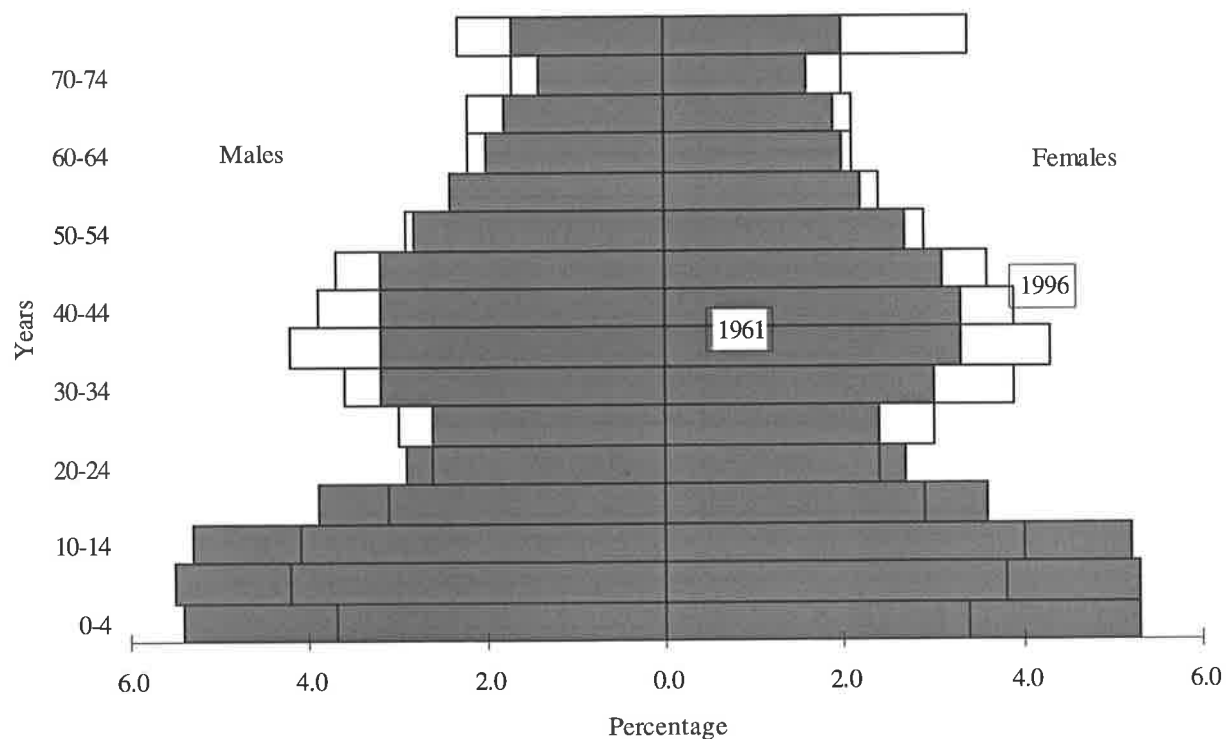
<sup>2</sup> Commuting range is defined to be approximately 60 minutes driving time (non-rush) from the Adelaide GPO.

Nonetheless, population growth within the commuting shed of the peri-urban region cannot be solely attributed to this. It will be shown later in this study that these locations are also attractive to people who do not want to maintain connectivity with the ASD and for whom the amenity value of this region is the primary motivation for migration.

#### 4.5.3 The Age Profile of Migration

The age structure of a population is an important factor influencing its population growth. As can be seen from Figure 4.20, the age-sex profile of the peri-urban region has changed over the 35 year period (1961 to 1996). The concentration in age cohorts 30-49 years and 65+ years has increased over this period. On the other hand, the peri-urban population aged 0-14 years and 15-24 years has declined in relative terms between 1961 and 1996. This partly reflects changes in fertility and mortality, but it is also a product of the age-selective nature of migration.

**Figure 4.20 Age-Sex Profile of Adelaide's Peri-urban Population, 1961 and 1996**



Source: ABS 1961 and 1996 Censuses.

One method of calculating the age-sex composition of migration at the local level is to use the Life Table Survival Ratio (LTSR) method<sup>3</sup>. The accuracy of estimates produced by the LTSR method depends on a number of factors including the extent of spatial variations in mortality rates, the completeness of the base data sets employed and differential underenumeration at the two censuses under analysis. Accuracy is also prejudiced by the size of the population in the area under consideration (Hugo 1971, p.96). Many SLAs do not have large enough populations to produce accurate and informative age-sex net migration profiles. Hence, the majority of the analysis here will focus on the peri-urban region as a whole.

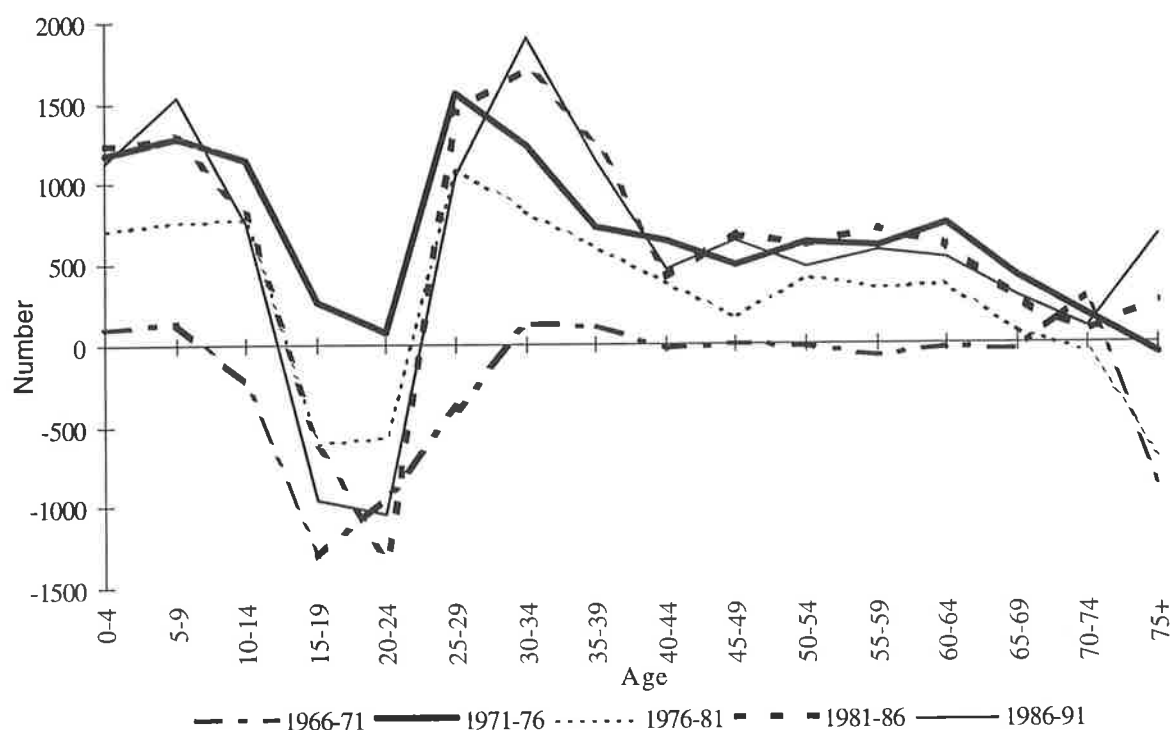
Figure 4.21 reveals that while the absolute level of migration gains has varied, the age-specific profile of net-migration in the peri-urban region has remained remarkably stable throughout the period under review (1966-1991). However, it should be noted that the only period to record positive net migration in all age cohorts was 1971-76. This reflects the shift towards widespread population growth in the peri-urban region during the early 1970s, which was largely attributable to net migration. Nevertheless, peaks in the 0-9 and 25-34 age cohorts are evident in each intercensal period as is the pattern of net gains at ages 40-69. It is only in the later periods (1981-1991) that net migration gains have become evident at ages 70 and over, although the numbers are small and subject to considerable error in estimation. On the other hand, the net out-migration of people aged 10-24 years seems to have increased in the later period, with the 1981-86 and 1986-91 patterns resembling that for 1966-71. This reflects the out-migration of school leavers and young adults from non-metropolitan regions (Hugo 1994; Lichter, Heaton and Fuguitt 1979; Serow 1991). This occurs for a variety of reasons including the lack of

---

<sup>3</sup> The LTSR method uses survival rates derived from a set of life tables to estimate the mortality of a population in a given age group (x) in a region over a specific time period (t). The estimated number of survivors is then compared to the population in the next highest age group (x+5) as enumerated at the following census (t+5). The difference between the two figures is taken to represent net intercensal migration (UN 1970). For example, the age distribution of the peri-urban region in 1986 is taken as a base population and using survival ratios derived from the 1991 Australian life table, each age cohort is survived to 1991. This estimate of the number of survivors is then compared with the actual numbers enumerated at the 1991 Census in each age group and the difference is assumed to represent net in- or out-migration (Hugo 1993, p.13).

tertiary education opportunities in non-metropolitan areas, the search for work and the establishment of an independent household, all of which exert a pull towards urban areas (Hugo 1994; Serow 1991). This tendency toward out-migration of young adults is inconsistent with the some of literature, which suggests improved retention of young adult age groups in the peri-urban region (Engels and Healy 1979; Hugo 1988b; Johnson and Beale 1992).

**Figure 4.21 Age-Specific Net Migration Profile, Adelaide's Peri-urban Region, 1966-71 to 1986-91**

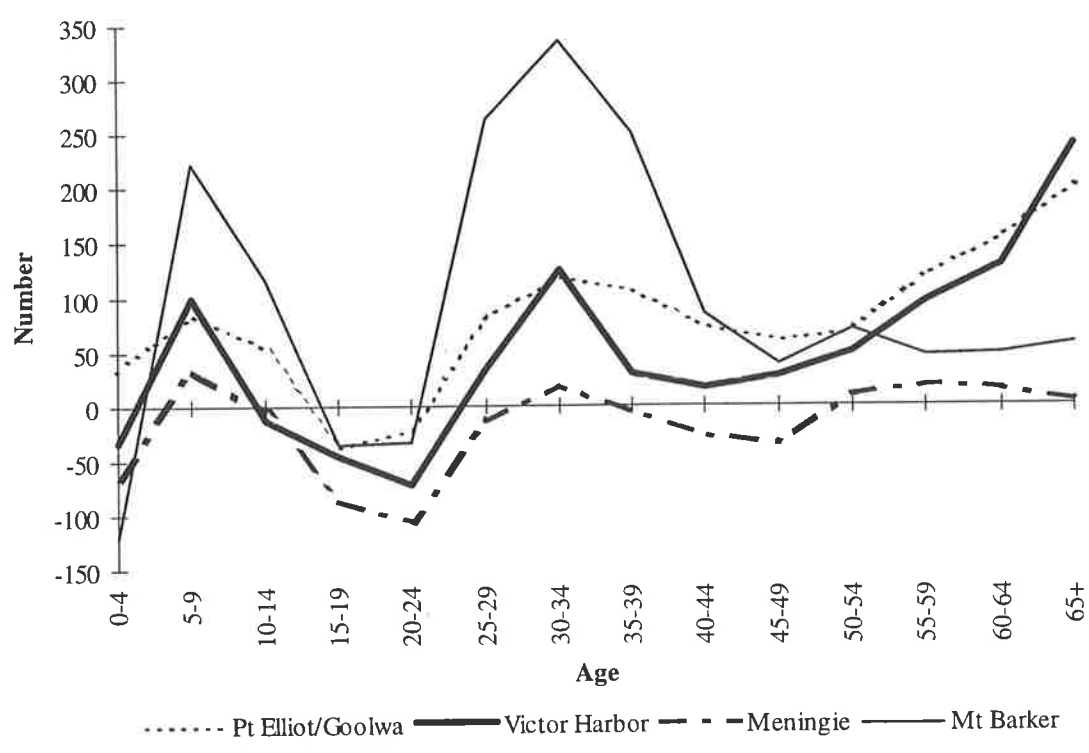


Source: Calculated from Census Data and Australian Life Tables

Despite the consistency in the age profile of migration over time for the region as a whole, there is considerable variation in the profiles for individual SLAs. Figure 4.22 compares the profiles for four functionally different peri-urban SLAs – Victor Harbor and Port Elliot/Goolwa are resort-retirement SLAs; Meningie is a predominantly rural SLA; Mount Barker is largely a commuter settlement with good access to Adelaide. Although the aged make up a comparatively small proportion of in-migration to the peri-urban

region, it is clear that they play a significant role in the two southern resort-retirement SLAs of Victor Harbour and Port Elliot and Goolwa. Both profiles show substantial gains of people aged 55 and over, suggesting a significant incidence of early retirement. In contrast, the net migration profile for Mount Barker is dominated by a net migration gain in the 0-10 and 25-39 age cohorts and much smaller gains in the older age cohorts. On the other hand, despite small net gains in the 5-9, 30-34 and 50+ age cohorts, the profile for the outlying SLA of Meningie shows greater net out-migration in the school leaver and young adult cohorts.

**Figure 4.22 Age-Specific Net Migration Profiles, Mount Barker, Meningie, Port Elliot/Goolwa and Victor Harbor, 1986-1991.**



Source: Calculated from Census Data and Australian Life Tables

#### 4.6 The Settlement Pattern

Prior to the population turnaround of the 1970s, non-metropolitan population growth was concentrated mainly in the largest non-metropolitan centres. According to the international literature, growth was generally positively associated with settlement size



(Beale 1975; Fuguitt 1991b). However, with the onset of the population turnaround this pattern changed and an inverse relationship between the size of urban centres and rates of population growth emerged. Growth was no longer associated with the largest urban centres. Instead, non-metropolitan areas with medium sized centres and small rural towns began to experience positive growth rates, in many cases greater than the largest non-metropolitan centres (Tucker 1976; Dahms 1984).

In the United States, Fuguitt (1991a p.2) found that 'not only were non-metropolitan areas growing more rapidly than metropolitan areas, but villages and small towns were outpacing larger cities'. A similar pattern is evident in South Australia. Although the State displays a high degree of metropolitan primacy, with almost three-quarters (73.5 per cent) of the population residing in metropolitan Adelaide in 1996, Table 4.4 shows that non-metropolitan settlements in several size categories increased their populations at a faster rate than metropolitan Adelaide over the 1971-91 period.

**Table 4.4 Population Change by Settlement Category, South Australia, 1971 to 1991**

Size category	Population			Average annual growth (per cent)	
	1971	1981	1991	1971-81	1981-91
Metropolitan Adelaide	809482	882520	957480	0.87	0.82
Other urban centres					
25 000-49 999	32109	29962	25526	-0.69	-1.59
10 000-24 999	45614	60504	99650	2.87	5.12
2 500-9 999	60484	70364	60486	1.52	-1.50
1 000-2 499	42660	44650	49426	0.46	1.02
Rural localities 200-999	40947	40415	43950	-0.13	0.84
Rural balance	142411	156618	164248	0.96	0.48
Total State	1173707	1285033	1400766	0.91	0.87

Source: ABS 1971, 1981 and 1991 Censuses

Note: The 25000-49999 size category includes only one settlement: the industrial city of Whyalla, which has experienced significant downsizing in the workforce since the 1970s, following the closure of shipbuilding and mechanisation of smelting and rolling mill operations

Between 1971 and 1981, the most rapid growth occurred in the 'middle order' settlement categories, that is in towns with populations between 2500 and 24,999. Growth in the larger towns accelerated during the 1980s with the 10-24,999 settlement category registering a growth rate more than six times that of metropolitan Adelaide.

Turning to the distribution of population between settlement categories in the peri-urban region, Table 4.5 reveals that the largest settlement category (includes Murray Bridge, Mount Barker, Nuriootpa and Victor Harbor) continued to attract a disproportionate share of population growth over the 1976 to 1996 period. Similarly, the 'middle order' settlement category (500-999) continued to gain population both in absolute terms and as a proportion of the total region. Although the rural balance increased in population number, in relative terms it declined, as did the population living in the 1000-2499 category. In contrast, the population in rural localities (small clustered settlements of 200-499) steadily increased its share of the peri-urban population, both in absolute and relative terms.

**Table 4.5 Growth of the Peri-urban Population by Settlement Size, 1976-1996**

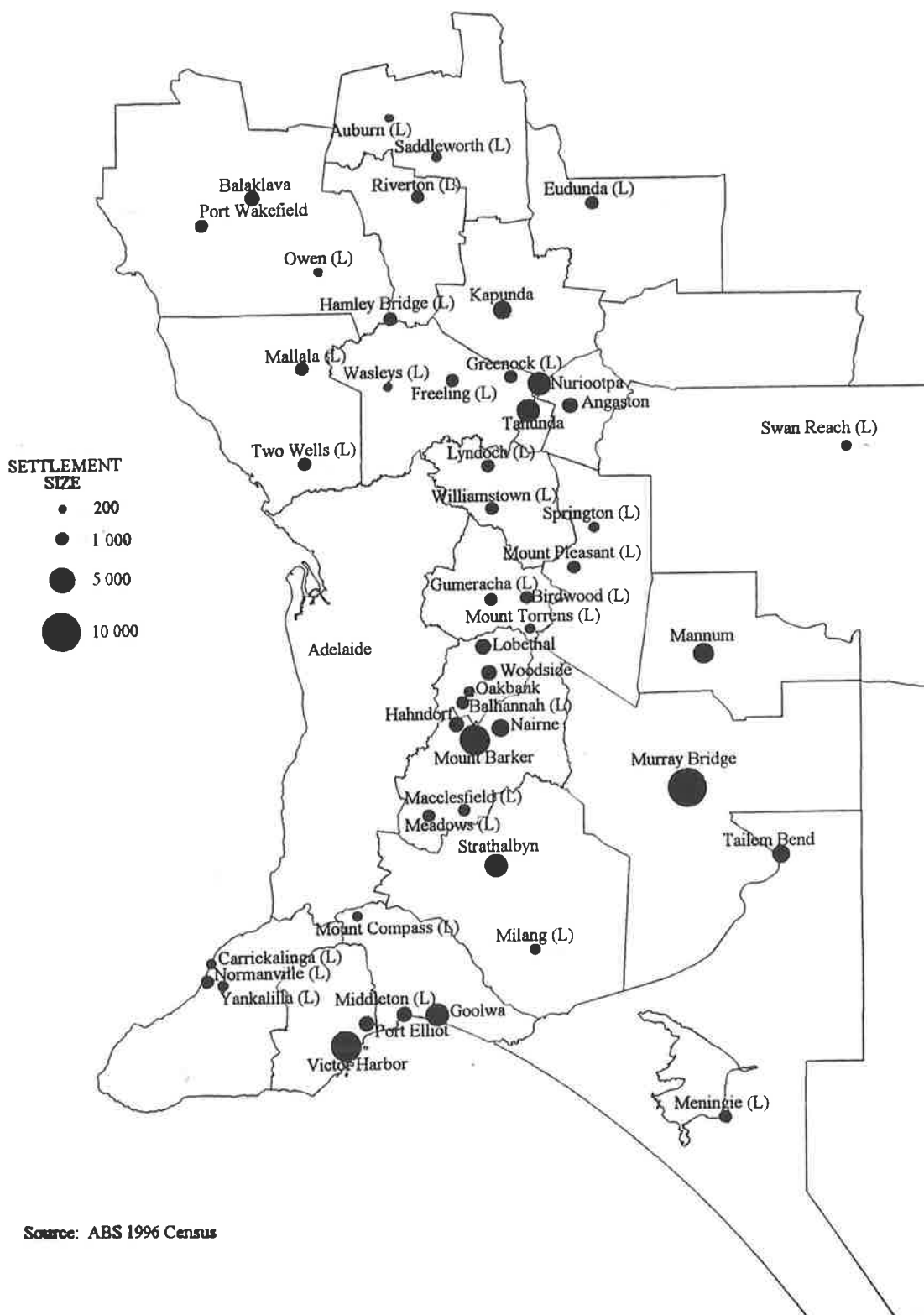
Size category	1976	1981	1986	1991	1996	Difference 1976-1996
	Number					
>= 2500	19031	20227	25790	28215	31568	12537
1000-2499	14994	15583	17127	19013	20694	5700
500-999	6086	6739	7988	9059	11003	4917
200-499	7109	8170	10411	12354	16369	9260
Rural balance	42274	47012	50086	55739	50548	8274
Total	89494	97731	111402	124380	130183	40689
	Per cent					
>= 2500	21.3	20.7	23.1	22.7	24.2	2.9
1000-2499	16.7	15.9	15.4	15.3	15.9	-0.8
500-999	6.8	6.9	7.2	7.3	8.5	1.7
200-499	7.9	8.4	9.4	10.0	12.6	4.7
Rural balance	47.3	48.1	44.9	44.7	38.8	-8.5
Total	100.0	100.0	100.0	100.0	100.0	0.0

Source: ABS 1976, 1981, 1986, 1991 and 1996 Censuses

Note: Urban centres/ rural localities are classified according to population size at the 1976 Census and this classification membership is maintained through to 1996.

Population growth has occurred throughout the settlement hierarchy from the largest centres to the smaller towns and their surrounding rural hinterlands (Figure 4.23). Table 4.6 shows that few centres or localities experienced population decline over the 1986-96 intercensal period.

**Figure 4.23 Peri-urban Centres, 1996**



**Table 4.6 Urban Centres/ Rural Localities Ranked by Settlement Size, 1996**

Urban centre/ locality	Total population			Difference 1986-96	
	1986	1991	1996	Number	Per cent
Murray Bridge	11893	12725	12831	938	7.9
Mount Barker	5370	6239	7908	2538	47.3
Victor Harbor	5318	5930	7343	2025	38.1
Goolwa	2359	3018	3723	1364	57.8
Tanunda	2856	3087	3499	643	22.5
Nuriootpa	3209	3321	3486	277	8.6
Strathalbyn	1924	2623	2962	1038	54.0
Nairne	889	1346	2450	1561	175.6
Kapunda	1622	1979	2195	573	35.3
Mannum	2056	2025	1966	-90	-4.4
Angaston	1823	1819	1862	39	2.1
Hahndorf	1618	1661	1727	109	6.7
Lobethal	1580	1521	1558	-22	-1.4
Tailem Bend	1542	1502	1488	-54	-3.5
Balaklava	1365	1439	1441	76	5.6
Port Elliot	1050	1203	1427	377	35.9
Woodside	853	1085	1384	531	62.3
Williamstown	626	855	1154	528	84.3
Freeling	827	888	1144	317	38.3
Lyndoch	706	957	1137	431	61.0
Balhannah (L)	734	889	947	213	29.0
Meningie (L)	803	818	918	115	14.3
Middleton (L)	295	395	730	435	147.5
Riverton (L)	707	757	694	-13	-1.8
Macclesfield (L)	253	318	692	439	173.5
Meadows (L)	479	528	686	207	43.2
Birdwood (L)	520	582	668	148	28.5
Mallala (L)	536	588	652	116	21.6
Greenock (L)	369	451	644	275	74.5
Eudunda (L)	657	647	642	-15	-2.3
Two Wells (L)	487	519	624	137	28.1
Hamley Bridge (L)	584	654	617	33	5.7
Normanville (L)	369	513	590	221	60.0
Gumeracha (L)	384	448	590	206	53.6
Port Wakefield (L)	517	512	543	26	4.8
Mount Pleasant (L)	466	546	516	50	10.7
Oakbank (L)	230	340	439	209	90.9
Yankalilla (L)	384	408	434	50	13.0
Saddleworth (L)	403	421	409	6	1.5
Mount Compass (L)	na	310	367	-	-
Milang (L)	300	352	347	47	15.7
Carrickalinga (L)	267	291	333	66	24.7
Wasleys (L)	182	233	319	137	75.3
Auburn (L)	325	331	303	-22	-6.8
Mount Torrens (L)	221	243	278	57	25.8
Swan Reach (L)	226	230	255	29	12.8
Springton (L)	na	220	238	-	-
Owen (L)	234	237	229	-5	-2.1

Source: ABS 1986, 1991 and 1996 Censuses

Those that did tended to be 'middle order' urban centres located at the outer edges of the peri-urban region, which have experienced declines in the employment base. For example, Mannum and Lobethal experienced manufacturing plant closures and Taillem Bend experienced the closure of the railway and reduction of railway employment. The majority of the smaller centres experienced population increases and many recorded high annual growth rates. Nevertheless this growth was outpaced by the larger centres ( $\geq 2500$  and 1000-2499) and in absolute terms the small towns contributed around a third of aggregate peri-urban growth. Thus, the tendency in the early 1990s has been towards continued concentration of the peri-urban population, with a disproportionate part of the growth occurring in the larger centres.

#### **4.7 Projected Population Change**

As a final step in providing the background to population change in the peri-urban region, it is instructive to examine population projections for SLAs which have been prepared by the Information and Data Analysis Branch of the Department of Housing and Urban Development as part of its regular program of population forecasting activities. The latest series of projections (DHUD 1996) are based on the 1991 estimated resident population and cover the period 1996 to 2011. With the release of preliminary estimates based on the 1996 Census, some discrepancies will inevitably become apparent in the projections. However, census results indicate that the broad trends anticipated in the projections were accurate and this suggests that reasonable confidence can be attached to the forecasts for the longer term.

For the state as a whole, the key assumptions in the Series B<sup>4</sup> population projections may be summarised as follows:

- a continuing decline in mortality at a relatively rapid rate for the first few years of the projection with a slower rate of decline thereafter

---

<sup>4</sup> Series B assumptions are used because they are based on the median mortality and migration profiles and constant fertility rate.

- a constant Total Fertility Rate of 1.714 throughout the projection period
- a national overseas migration gain of 40,000 in 1993/94 rising to 70,000 persons per annum by 2001 and constant thereafter
- interstate migration losses falling to zero by 2000 and constant thereafter
- an increase in the net outflow from Adelaide and corresponding gains in Outer Adelaide and Yorke and Lower North Statistical Divisions.

The projections for Adelaide, the peri-urban region, the non-metropolitan parts of the State, and South Australia as a whole are set out in Table 4.7. The results indicate that the State population will grow at a little over 0.6 per cent per annum between 1996 and 2006, declining to 0.54 per cent per annum between 2006 and 2011. Adelaide and non-metropolitan South Australia are expected to grow at similar rates, suggesting that the proportion of the population resident in Adelaide is likely to remain relatively constant in the future. Within the non-metropolitan area, however, the peri-urban region is expected to continue to grow rapidly. Indeed, according to these projections, the peri-urban region will grow at approximately three times the State average between 1996 and 2011. This points to an expected increasing concentration of population within the peri-urban region and reflects the assumption of an increased net outflow from Adelaide to the Outer Adelaide, and Yorke and Lower North Statistical Divisions.

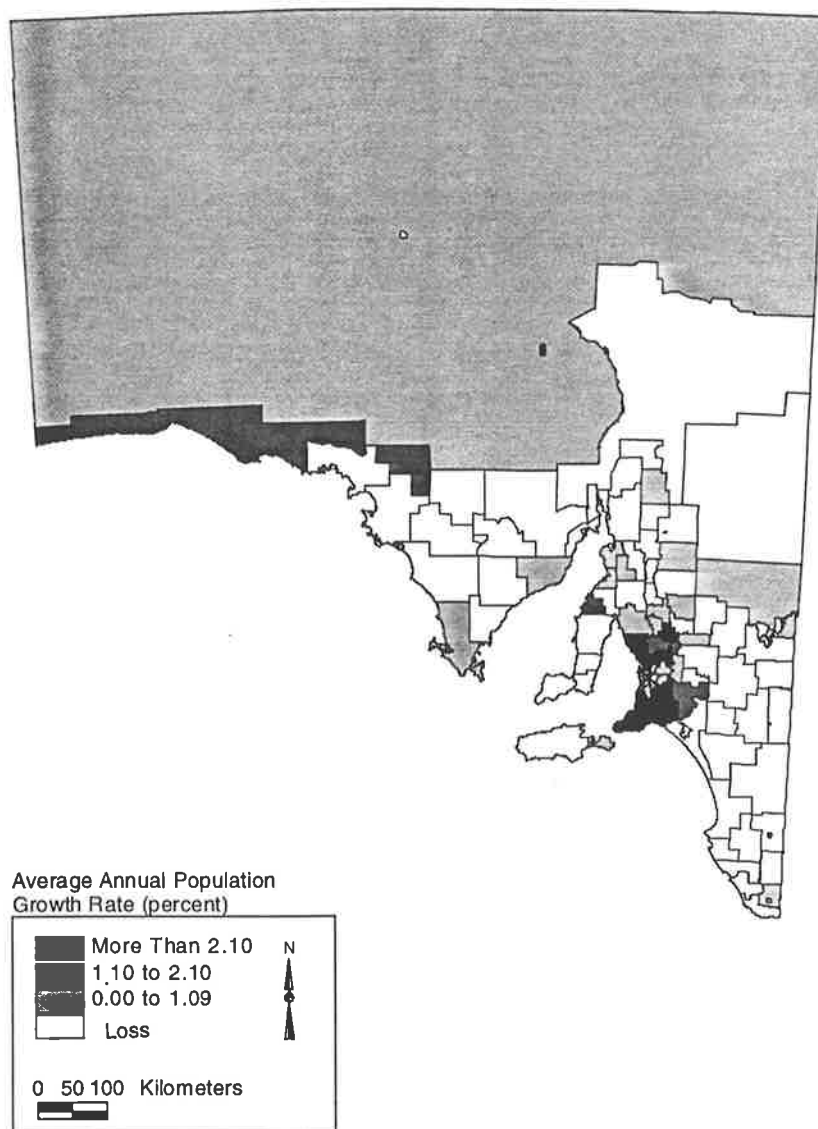
**Table 4.7 Projected Population Growth of Adelaide, the Peri-urban Region, Non-metropolitan South Australia and the Total State, 1991-2011 (%)**

Region	1991-96	1996-2001	2001-2006	2006-2011
Adelaide Statistical Division	0.57	0.64	0.63	0.53
Total Non-metropolitan S.A.	0.36	0.60	0.60	0.54
Peri-urban region	2.19	1.89	1.78	1.64
Balance	-0.60	-0.14	-0.13	-0.22
Total State.	0.52	0.63	0.62	0.54

Source: DHUD 1996 (Series B)

Figure 4.24 illustrates the projected pattern of growth within non-metropolitan South Australia and indicates a continuing concentration in the peri-urban region.

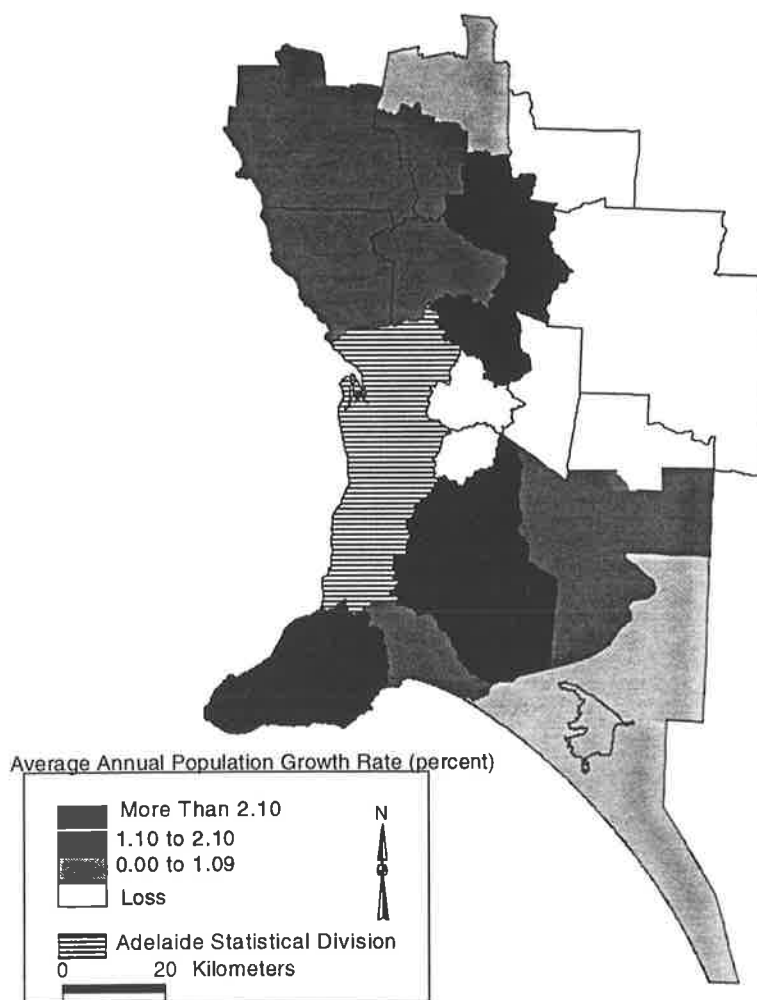
**Figure 4.24 Projected Population Growth, SLAs in Non-metropolitan South Australia, 1991-2011**



Source: DHUD 1996 (Series B)

Within the peri-urban region, the map of projected growth for 1991-2001 (Figure 4.25) shows that the highest annual growth rates are concentrated in the Fleurieu and Barossa Valley regions.

**Figure 4.25 Projected Population Growth, SLAs in Adelaide's Peri-urban Region, 1991-2001**



Source: DHUD 1996 (Series B)

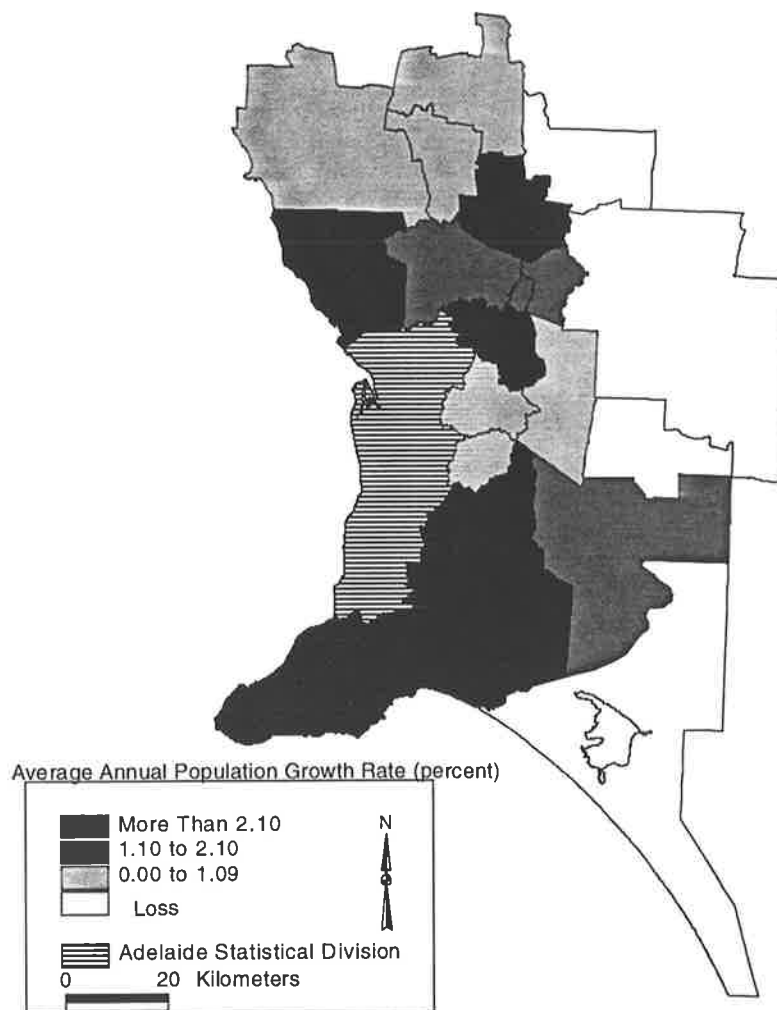
These contain some of the most environmentally attractive and habitable areas of South Australia including the Barossa wine-growing region and the resort-retirement centres of Victor Harbor, Port Elliot/Goolwa and Yankalilla. The corridor of eastern SLAs experiencing small negative growth rates is also significant and reflects the limitations to growth imposed by planning regulations to protect the Mount Lofty Ranges water catchments.

Figure 4.26 indicates that growth is expected to continue throughout the 1991-2011 period. Although some SLAs are projected to register decline, the broad picture for the



region is overwhelmingly one of high annual population growth. As existing residential sites within metropolitan Adelaide are progressively consumed the peri-urban region will come under increasing pressure to accommodate new housing and at least part of the growth projected for the region will represent the response to this residential land pressure.

**Figure 4.26 Projected Population Growth, SLAs in Adelaide's Peri-urban Region, 1991-2011**



Source: DHUD 1996 (Series B)

However, as has been demonstrated above, the peri-urban region fulfils a variety of functions and demand arising from other factors such as retirement migration, hobby farms, and so on, is also likely to continue unabated.

## 4.8 Conclusion

Rapid population growth in Adelaide's peri-urban region dates from the 1970s and has continued to the 1990s with in-migration performing the dominant role in population growth. There are significant differences in growth between and within SLAs. This chapter has endeavoured to analyse the dynamics of population growth within the region.

To summarise the key findings:

- Since the 1970s the population growth rates of the metropolitan and non-metropolitan parts of South Australia have tended to converge. Non-metropolitan areas experiencing growth have become spatially concentrated in the peri-urban region which recorded a growth rate almost three times that of the ASD and the state as a whole between 1986 and 1991.
- Emerging social and economic forces such as improved incomes, transportation and communications in South Australia have accompanied population growth in the peri-urban region. The relationship between these factors provides the background to the decision making environment within which migration has taken place.
- Non-metropolitan growth accelerated in the 1971-76 intercensal period, and population growth became widespread across the peri-urban region.
- The dominant factor contributing to population growth has been in-migration. In comparison, in the State as a whole, natural increase continued to account for the majority of population growth.
- The age profile of migration to the region has been fairly consistent throughout the 1966-91 period, with gains peaking in the 0-9 and 25-34 age groups and smaller inflows at older ages. Net out-migration of people aged 10-24 years increased during the 1980s. However, individual peri-urban SLAs exhibit quite distinct patterns of net migration.
- Population growth has occurred throughout the settlement hierarchy from the large non-metropolitan centres to the smaller towns and their surrounding rural hinterlands.

- Population growth is projected to continue throughout the peri-urban region over the 1991-2011 period

While there may be similarities in growth rates between peri-urban locations, the sources of growth vary and can be expected to change further in the future. Peri-urban growth is not dependent solely on the existing metropolitan population. Significant growth is also generated from within the region itself and from outlying rural areas and interstate. Conceptually, the peri-urban region consists of overlapping zones of net growth representing the product of four growth processes. Chapter Five distinguishes these processes and differentiates the peri-urban region in terms of their relative significance.

## **CHAPTER 5**

### **GROWTH PROCESSES IN THE PERI-URBAN REGION**

#### **5.1 Introduction**

The central argument of this study is that a clear understanding of the nature and determinants of peri-urban growth can only be obtained from a detailed analysis of the underlying demographic growth processes that are responsible for population change in the peri-urban region. In Chapter Three, a conceptual model was established which defined the peri-urban region as a ring-like zone in which processes working to produce growth originate dominantly in the metropolitan region, but also in the peri-urban region itself, outlying rural areas, interstate and overseas. This chapter aims to quantify this conceptual framework by differentiating the four processes (suburbanisation, counterurbanisation, centripetal migration, population retention) based on the six key indicators identified in Chapter Three (migrant origin, motivation and connectivity with the metropolitan region, amenity value, accessibility and nature of residential development at the peri-urban destination). Each of the key indicators is addressed one by one, in order to differentiate the four processes at both the broad regional scale and local level. First, the four processes are quantified at the broad macro-scale using SLAs as spatial units. This analysis is based on secondary data sources and the broad pattern of process influence is established, based on the cumulative evidence from the key indicators. Differentiation of the four growth processes is then undertaken utilising survey data within each of the three case study areas, in order to assess whether the general pattern inferred from secondary data is also evident at the local level.

#### **5.2 Definition of Growth Processes**

The conceptual model of peri-urban growth proposed that the region essentially consists of overlapping zones of net growth representing the product of the aforementioned growth processes. Each of the four processes will contribute to peri-

urban growth, although the relative contribution will vary spatially. To recapitulate, the measures used to distinguish the processes, established in Chapter Three:

**Suburbanisation:** - in-migration from throughout the ASD to peri-urban locations adjacent<sup>1</sup> to the ASD boundary (broad *situation*)

- strong linkages maintained by migrants with the ASD in terms of employment and social activities
- migration to accessible, suburban-like residential destinations (specific *site*)

**Counterurbanisation:** - in-migration from throughout the ASD to peri-urban locations, **both** adjacent to the ASD and more distant (broad *situation*)

- more tenuous linkages maintained with the ASD in terms of employment and social activities
- the motivation of migrants to replace an urban lifestyle with a more rural one
- migration to moderate access, high amenity locations in well-established country towns and small rural settlements, including hobby farms and other dispersed residences (specific *site*)

**Centripetal Migration:** - in-migration from outlying rural areas (beyond the peri-urban region), interstate and overseas

**Population Retention:** - reduced out-migration of local population

- increased period of residence (both within the same SLA and within the peri-urban region)
- increased self containment in employment and cross-commuting within the peri-urban region

Although significant spatial overlap of these processes is certain to characterise the region, based on the foregoing definition of each process, broad zones of influence are hypothesised as follows:

- suburbanisation will be the dominant growth process in suburban-like locations adjacent to the metropolitan boundary with good access to Adelaide.

---

<sup>1</sup> 'Adjacent' refers to those SLAs with a common boundary with the metropolitan and does not necessarily equate to metropolitan accessibility

- counterurbanisation will be most important in locations with moderate access to Adelaide, particularly in areas of high amenity.
- centripetal migration will be most important in locations further from the metropolitan area, particularly in areas with some amenity value.
- population retention will be most important in locations with moderate access to Adelaide, with improved employment and social opportunities.

It is hypothesised that these broad zones of process influence will be distinguishable at the local level, although more complex spatial patterns of growth processes are expected also *within* the case study SLAs. At the SLA level, the spatial pattern of growth processes is restricted to a broad regional overview by the aggregate data. Consideration at the local level will greatly extend the depth of analysis by the use of survey data, providing a finer level of spatial disaggregation against which to examine the interaction between the six indicators. Furthermore, the unique nature of each case study area will result in a greater degree of local diversity than can be assessed at the macro scale analysis.

These expectations will now be tested at the SLA level by addressing five of the six key indicators in turn. Consideration of migrant motives is not possible at the SLA level of analysis, due to the absence of aggregate data dealing with individual motivation. This deficiency can, however, be overcome at the local level of analysis.

### **5.3 Differentiation of Growth Processes at the SLA Level**

#### **5.3.1 Origin of Migrants**

One of the key indicators proposed to distinguish between the four demographic growth processes is the 'origin' of migrants<sup>2</sup>. It is anticipated that the metropolitan area will be the dominant origin, indicating the processes of suburbanisation and/or

---

<sup>2</sup> In this case, 'origin' refers to the place of previous residence in 1986 (for census data) or the place of residence prior to the most recent move (survey data). This does not necessarily equate to a person's birthplace or place of childhood residence.

counterurbanisation. Differentiation of these two processes will be based on the nature of the movement. By definition suburbanisation involves in-migration from throughout the ASD to adjacent peri-urban locations, while counterurbanisation includes moves to peri-urban locations, **both** adjacent to the ASD and beyond the existing metropolitan boundary. However, the metropolitan region will not be the only source of migrants to the peri-urban region. Local movers originating from within the peri-urban region itself (population retention) and outlying rural areas, interstate and overseas (centripetal migration) will also be significant.

The importance of the total net migration component of population growth in Adelaide's peri-urban region has been established in Chapter Four. The peri-urban region as a whole recorded a total net gain of 6161 persons between 1986 and 1991. Table 5.1 shows that most peri-urban SLAs recorded a net migration gain over this period, with the exception of Angaston and the outlying SLAs of Saddleworth/Auburn, Eudunda and Meningie which recorded net losses. SLAs in close proximity to the ASD recorded the greatest net migration gains and include Mount Barker, Mallala, Barossa and Strathalbyn. The resort-retirement SLAs of Port Elliot/Goolwa and Victor Harbor also recorded significant net migration gains between the 1986 and 1991 Censuses.

In the peri-urban region as a whole, in-migrants from outside the region accounted for 30.4 per cent of the total population in 1991. However, Figure 5.1 shows that the relative significance of in-migration varies throughout the peri-urban region. In-migration from outside the SLA accounted for the greatest proportion of the 1991 population in Mallala (42 per cent), and for around 35 per cent of the population in Barossa, Port Elliot/Goolwa, Gumeracha, Light and Mount Pleasant. Conversely, in the outlying SLAs of Saddleworth/Auburn, Eudunda, Meningie and Murray Bridge, in-migration from outside the SLA accounted for less than 25 per cent of the total population in 1991.

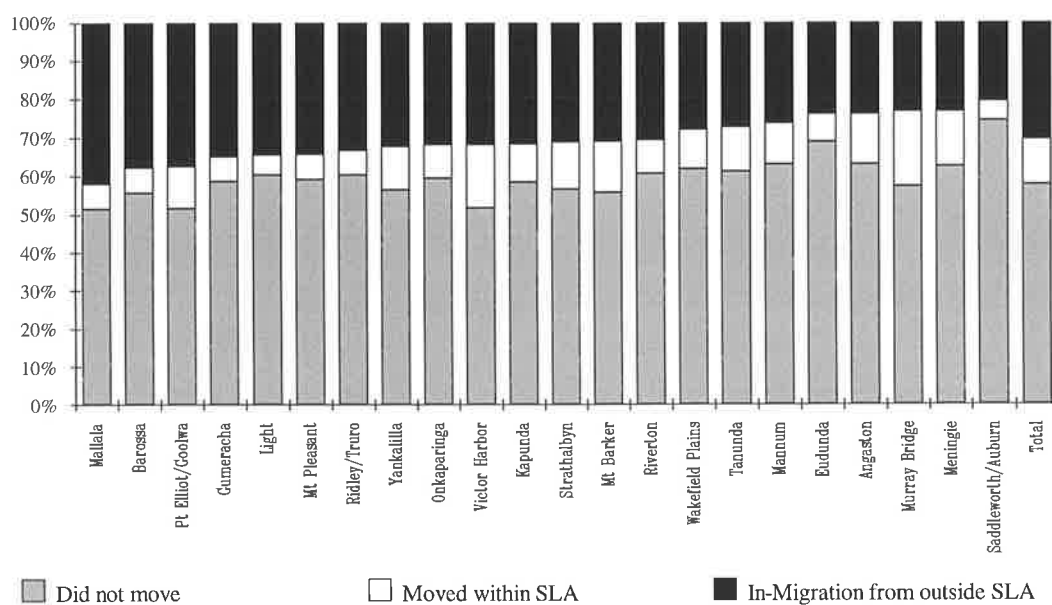
cf. 11.3.  
2005-2

3  
✓

**Table 5.1 Net Migration by Peri-urban SLA, 1986-91 (No.)**

SLAs	In-Migration	Out-Migration	Net Migration	Total 1991 Population
Mallala	2105	1051	1054	5012
Barossa	1490	1011	479	3951
Port Elliot/Goolwa	2206	1494	712	5886
Gumeracha	1803	1495	308	5159
Kapunda	874	584	290	1192
Light	1588	1227	361	4611
Mt Pleasant	659	501	158	1928
Ridley/Truro	843	826	17	2554
Yankalilla	942	873	69	2928
Onkaparinga	2108	1748	360	6659
Victor Harbor	2122	1517	605	6697
Strathalbyn	1713	1016	697	5505
Mount Barker	4773	3922	851	15425
Riverton	413	392	31	1387
Wakefield Plains	1135	1101	34	4076
Tanunda	930	794	166	3415
Mannum	729	721	8	2786
Eudunda	272	315	-43	1084
Angaston	1460	1471	-11	6158
Meningie	785	983	-198	3375
Murray Bridge	3233	2920	313	13935
Saddleworth/Auburn	374	474	-100	1822
<b>Total Peri-urban</b>	<b>32573</b>	<b>26406</b>	<b>6161</b>	<b>107178</b>

Source: ABS 1986 and 1991 Censuses (unpublished data)

**Figure 5.1 Place of Previous Residence of Adelaide's Peri-urban Population by SLA, 1986-1991**

Source: ABS 1986 and 1991 Census (unpublished data)

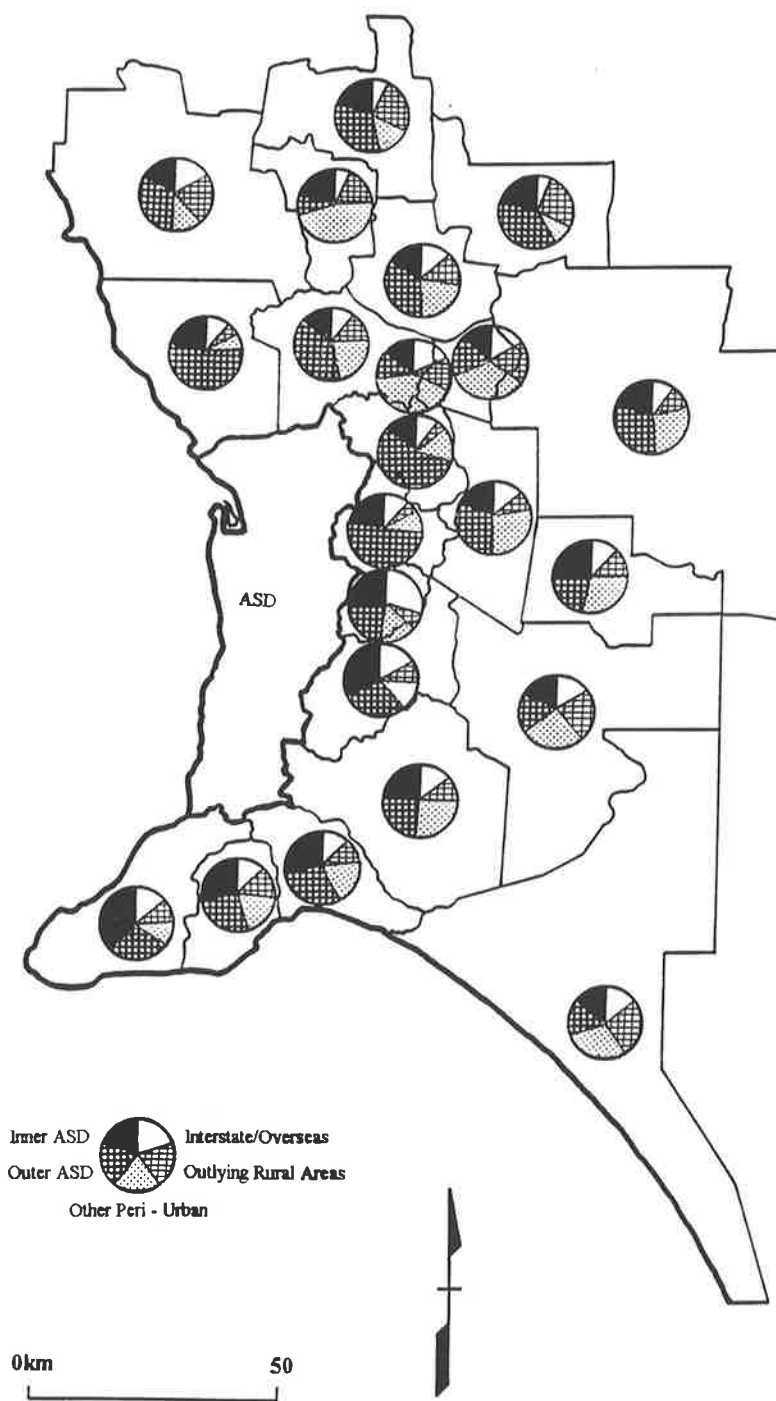


Retention of the local population has also been an important factor in population dynamics, with 57.9 per cent of the total peri-urban population in 1991 retaining their 1986 place of residence. As expected, some movement within the peri-urban region is apparent, although this was generally the smallest component (11.7 per cent) of population change in the region between 1986 and 1991.

In terms of the differentiation of the four growth processes contributing to peri-urban growth, the source of in-migration must be established. In the peri-urban region as a whole, only half of the total inflow originated in the ASD (53.2 per cent). A further 27 per cent of all in-migrants to the peri-urban region originated in outlying rural areas, interstate or overseas and 20 per cent moved within the peri-urban region itself. Figure 5.2 shows that the contribution of various external sources to aggregate in-migration also vary throughout the peri-urban region.

The greatest rates of in-migration from the ASD per thousand population were recorded in the northern SLAs located adjacent to the ASD: Mallala (423.2 per 1000) and Barossa (333.7 per 1000). Similarly, several SLAs located on the accessible, eastern boundary of the ASD (Gumeracha (287.3 per 1000) and Mount Barker (219.4 per 1000) and the southern peri-urban region (Port Elliot/Goolwa (249.2 per 1000) and Yankalilla (231.1 per 1000) also recorded above average rates of in-migration from this source. The significance of this migrant source extends past these adjacent locations, with several SLAs located at the outer edge of the peri-urban region recording above average rates of in-migration from the ASD: Kapunda (173.2 per 1000), Riverton (151.1 per 1000) and Ridley/Truro (181.3 per 1000). Nevertheless, there is clear evidence of the effects of distance decay, with the proportion of in-migration originating in the ASD being greatest in the most accessible SLAs.

**Figure 5.2 Source of In-Migrants to Adelaide's Peri-urban SLAs, 1986-1991 (%)**



Source: ABS 1986 and 1991 Censuses (unpublished data)

Theoretically, suburbanisation and counterurbanisation can be distinguished (in part) according to the relationship between the origin and the destination of migrants. Suburbanisation involves the outward movement of population across the metropolitan

boundary to adjacent peri-urban locations. It has been argued (Maher and Stimson 1994; Ward 1975) that suburbanisation essentially involves short distance sectoral moves from the outer metropolitan region to adjoining peri-urban locations. However, increasingly cross-town flows and considerable 'leap-frogging' from inner metropolitan areas to the peri-urban region are also associated with this process (Bell 1992). Hence, the nature of suburbanisation has become more complex and can no longer be measured solely on the basis of in-migration from the adjoining outer ASD.

By definition counterurbanisation also originates in the metropolitan area, but can be distinguished from suburbanisation as taking place **not only** in those areas immediately adjacent to the metropolitan region, but also in areas more distant. There are still some pockets of land where a counterurban lifestyle can be achieved quite close to the built up area, and hence the broad *situation* of the peri-urban destination may be similar for both suburbanites and counterurbanites. Nevertheless, most counterurbanites probably need to move further to avoid the suburbs rapidly catching up with them.

In terms of the spatial differentiation of these two processes, this indicator is problematic. The ASD is clearly an important source of in-migration throughout the peri-urban region, although it contributed a greater proportion of total in-migration in peri-urban SLAs located at the boundary of the ASD. Nevertheless, it cannot be assumed that all growth in locations adjacent to the ASD represents suburbanisation, because counterurbanisation also takes place in these locations. Hence, differentiation of suburbanisation and counterurbanisation in those SLAs located at the ASD boundary is not possible. On the other hand, Figure 5.2 shows that at least 30 per cent of the migrant in-flow to outer peri-urban SLAs originated in the ASD. This provides strong supportive evidence for counterurbanisation in these locations.

Local retention of population has also played a significant role in peri-urban growth. Table 5.2 shows that improved retention of the local population is evident in all peri-

urban SLAs (except Kapunda and Light), as the proportion of population who did not move has uniformly increased throughout the region over the 1981/86 and 1986/91 period. Except in the case of several outer peri-urban SLAs, the increase in the proportion of the population who had not moved over the two periods was quite evenly distributed across the region.

**Table 5.2 Population Retaining Same Place of Residence, 1981-86 and 1986-91**

SLA	Population with Same Address as 5 Years Ago				Difference 1981/86-1986/91	
	1981- 86		1986- 91		Number	%
	Number	%	Number	%		
Angaston	3595	60.6	3877	64.9	282	4.3
Barossa	1700	59.7	2197	69.6	497	9.9
Eudunda	764	60.5	786	66.4	22	5.9
Gumeracha	2531	59.9	3021	65.3	490	5.4
Kapunda	1436	65.4	1618	63.7	182	-1.7
Light	2410	65.8	2787	65.3	377	-0.5
Mallala	1994	59.2	2574	67.0	580	7.8
Mannum	1683	61.1	1759	63.3	76	2.2
Meningie	1870	50.8	2112	62.7	242	11.9
Mount Barker	6528	56.8	8608	64.7	2080	7.9
Mount Pleasant	929	60.0	1142	66.6	213	6.6
Murray Bridge	6643	51.1	8004	60.7	1361	9.6
Onkaparinga	3690	60.0	3959	65.2	269	5.2
Port Elliot/Goolwa	1958	51.8	3037	59.5	1079	7.7
Ridley/Truro	1392	58.6	1540	65.6	148	7.0
Riverton	752	58.3	842	61.5	90	3.2
Saddleworth/Auburn	1183	61.9	1357	74.7	174	12.8
Strathalbyn	2429	59.1	3124	65.9	694	6.8
Tanunda	1917	66.1	2090	67.4	173	1.3
Victor Harbor	2741	51.5	3468	56.5	727	5.0
Wakefield Plains	2254	58.1	2521	63.7	267	5.6
Yankalilla	1306	52.7	1655	61.2	338	8.5
<b>Total Peri-urban</b>	<b>51705</b>	<b>57.3</b>	<b>62066</b>	<b>63.8</b>	<b>10361</b>	<b>6.5</b>

Source: ABS 1981, 1986 and 1991 Censuses (unpublished data)

Note: Calculated as the number of persons who did not move as a proportion of the total population enumerated at the *beginning* of the period, eg. number of persons in the area in 1991 with the same address as in 1986 as a proportion of the total 1986 population (If the terminal year were used as the basis of the calculation, any change in the proportion counted at the same place of residence could simply be a function of varied levels of in-migration).

The peri-urban region itself (as a whole) also serves as an important local source of in-migrants on the move between (and within) SLAs within the region. This suggests a degree of self containment in employment and the selection of residential location.

However, Table 5.3 indicates that little difference exists between SLAs in the proportion of population retaining their peri-urban residence (1981/86-1986/91). This implies that peri-urban migrants on the move within the peri-urban region (between or within SLAs) were distributed quite evenly across the region, with little spatial variation. Nevertheless, as a proportion of the total in-flow, Figure 5.3 shows that the overall contribution of other peri-urban SLAs was greatest in the outer peri-urban SLAs: Tanunda, Angaston, Meningie, Mount Pleasant, Mannum, Ridley/Truro.

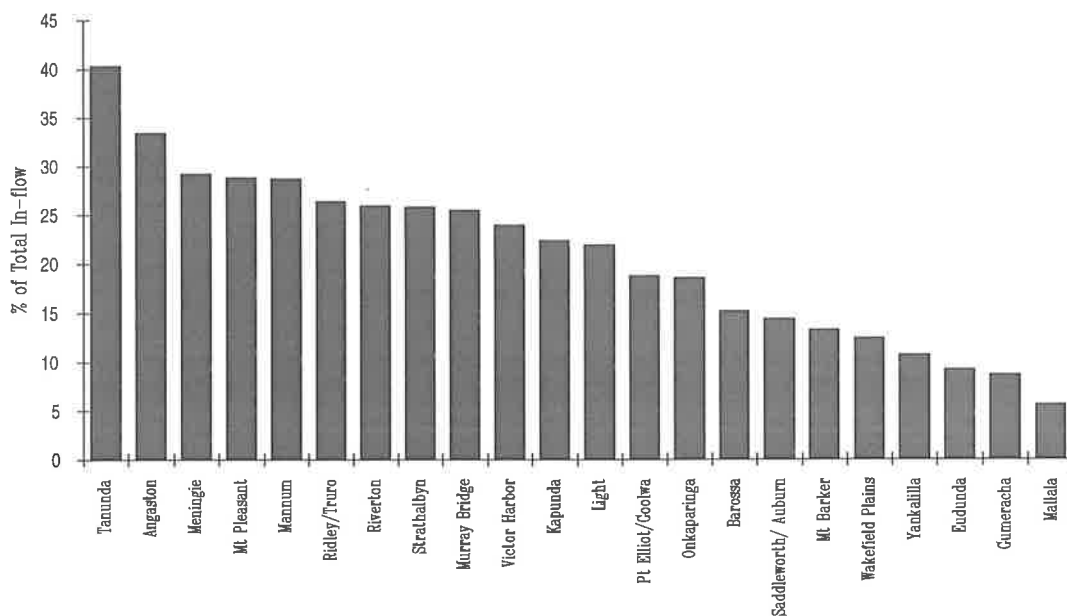
**Table 5.3 Population Retaining Peri-urban Residence, 1981-86 and 1986-91 (%)**

SLA	1981-86	1986-91	Difference 1981/86-1986/91
Angaston	22.7	21.9	-0.8
Barossa	16.2	15.6	-0.6
Eudunda	14.6	9.1	-5.5
Gumeracha	10.9	11.3	0.4
Kapunda	16.0	18.6	2.6
Light	14.7	13.7	-1.0
Mallala	14.6	11.7	-2.9
Mannum	20.4	18.2	-2.2
Meningie	21.6	21.0	-0.6
Mount Barker	23.0	20.1	-2.9
Mount Pleasant	20.3	18.5	-1.8
Murray Bridge	31.2	26.7	-4.5
Onkaparinga	14.4	16.2	1.8
Port Elliot/Goolwa	28.3	20.7	-7.6
Ridley/Truro	18.1	16.3	-1.8
Riverton	17.5	16.7	-0.8
Saddleworth/Auburn	14.5	8.0	-6.5
Strathalbyn	26.5	23.4	-3.1
Tanunda	23.6	24.8	1.2
Victor Harbor	30.7	26.4	-4.3
Wakefield Plains	19.6	14.2	-5.4
Yankalilla	23.5	16.0	-7.5
<b>Total Peri-urban Region</b>	<b>22.0</b>	<b>19.5</b>	<b>-2.5</b>

Source: ABS 1981, 1986 and 1991 Censuses (unpublished data)

Note: Calculated as the number of persons who moved within the peri-urban region (between or within SLAs) as a proportion of the total population enumerated at the beginning of the period.

**Figure 5.3 In-migration from Within the Peri-urban Region as a Proportion of Total In-flow, 1986-1991 (%)**



Source: ABS 1986 and 1991 Censuses (unpublished data)

The peri-urban region is growing not only as a result of an increased flow of in-migrants, but also because the flow of out-migrants has declined. Table 5.4 shows that the greatest declines in the rate of out-migration per thousand over the 1981/86 and 1986/91 period were evident in several outer peri-urban SLAs: Meningie, Riverton, Saddlemouth/Auburn, Kapunda, Murray Bridge and Eudunda. At the same time, the adjacent peri-urban SLAs of Mallala, Onkaparinga and Strathalbyn also recorded reduced rates of out-migration per thousand over the 1981/86 and 1986/91 period. As a measure of population retention, reduced out-migration appears to be most evident in the outer peri-urban region.

The importance of population retention clearly extends across the peri-urban region. The local retention of population (both persons who did not move or moved within the peri-urban region) was evenly distributed throughout the region, although reduced out-migration appears to be more evident in the outer peri-urban SLAs.

**Table 5.4 Rate of Out-Migration of Total Population from Adelaide's Peri-urban Region, 1981-86 and 1986-91**

SLA	Out-Migration Rate		Difference
	1981-86	1986-91	1981/86-1986/91
Angaston	236.7	246.2	9.5
Barossa	294.1	320.3	26.2
Eudunda	284.2	266.0	-18.2
Gumeracha	321.6	322.9	1.3
Kapunda	257.4	229.8	-27.6
Light	264.9	287.6	22.7
Mallala	289.2	273.7	-15.5
Mannum	245.8	259.4	13.6
Meningie	330.3	292.0	-38.3
Mount Barker	260.5	294.9	34.4
Mount Pleasant	297.6	291.9	-5.7
Murray Bridge	235.2	221.4	-13.8
Onkaparinga	304.7	288.1	-16.6
Port Elliot/Goolwa	302.4	292.7	-9.7
Ridley/Truro	312.9	341.0	28.1
Riverton	314.2	286.1	-28.1
Saddleworth/Auburn	272.3	261.0	-11.3
Strathalbyn	224.8	214.4	-10.4
Tanunda	222.3	246.5	24.2
Victor Harbor	258.4	247.2	-11.2
Wakefield Plains	263.3	258.4	-4.9
Yankalilla	304.5	322.7	18.2
<b>Total Peri-urban Region</b>	<b>269.3</b>	<b>271.2</b>	<b>19.0</b>

Source: ABS 1981, 1986 and 1991 Censuses (unpublished data)

Note: Calculated as rates per 1000 population enumerated at the beginning of the period.

Turning to an often neglected source of in-migration to the peri-urban region, centripetal migration is defined here as the in-movement of population from outlying rural areas, interstate and overseas. In terms of the rate of centripetal in-migration, this was an important source of migrants to Wakefield Plains (111.7 per 1000 population), Onkaparinga (117.4 per 1000) and Port Elliot/Goolwa (101.7 per 1000). If the source of centripetal migration is differentiated, Table 5.5 shows that the in-flow from outlying rural areas was most important in the peripheral SLAs of Eudunda, Murray Bridge, Meningie, Riverton, Saddleworth/Auburn and Wakefield Plains. These outer SLAs also recorded the lowest rate of in-migration from interstate and overseas per 1000 population in 1986-91. Conversely, the adjacent SLAs of Onkaparinga<sup>3</sup>, Mallala and Mount Barker recorded the greatest in-migration rates per 1000 population from interstate and overseas.

<sup>3</sup>The high rate of in-migration from interstate or overseas to Onkaparinga (92 per 1000) can largely be explained by the location of the Woodside Army barracks within this SLA.

**Table 5.5 Rate of Centripetal In-migration, 1986-91**

SLA	Rate of In-flow from Outlying Rural Areas	Rate of In-flow from Interstate/overseas	Rate of Total Centripetal Migration
Angaston	44.4	41.2	85.6
Barossa	20.0	46.6	66.6
Eudunda	61.7	12.7	74.4
Gumeracha	20.3	41.7	62.0
Kapunda	47.6	46.0	93.6
Light	49.4	40.1	89.5
Mallala	34.4	60.2	94.6
Mannum	34.5	30.2	64.8
Meningie	60.9	32.1	93.0
Mount Barker	32.1	59.5	91.6
Mount Pleasant	31.5	54.2	85.7
Murray Bridge	55.6	40.3	95.9
Onkaparinga	25.4	92.0	117.4
Port Elliot/Goolwa	47.0	54.7	101.7
Ridley/Truro	40.0	34.7	74.7
Riverton	52.6	19.7	72.3
Saddleworth/Auburn	52.3	13.8	66.1
Strathalbyn	38.8	52.6	91.4
Tanunda	41.9	54.2	96.1
Victor Harbor	47.8	45.8	93.6
Wakefield Plains	60.4	51.3	111.7
Yankalilla	32.2	47.7	79.9
<b>Total Peri-urban Region</b>	<b>41.8</b>	<b>48.6</b>	<b>90.4</b>

Source: ABS 1981, 1986 and 1991 Censuses (unpublished data)

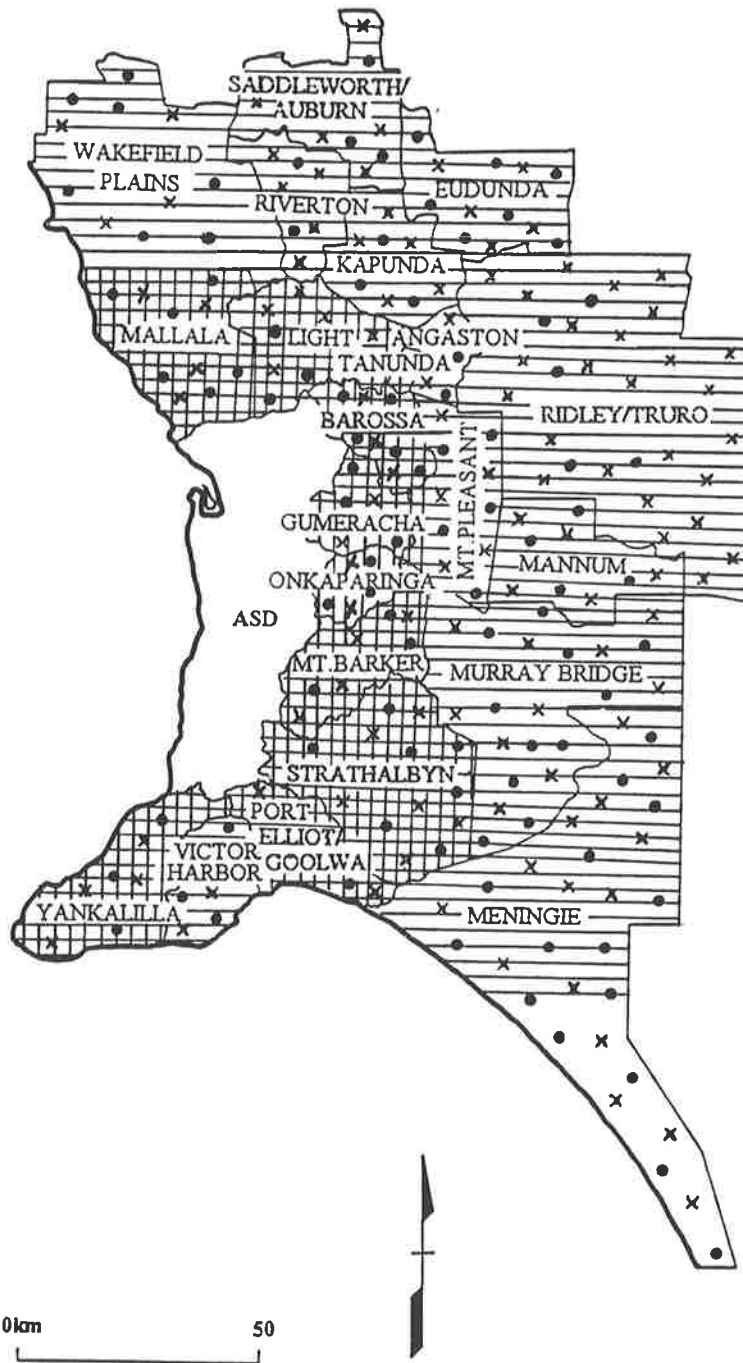
Note: Calculated as rates per 1000 population enumerated in the SLA in 1986.

The importance of centripetal migration across the peri-urban region is evident and it is clear that significant peri-urban growth is fuelled independently of Adelaide's own urban trends. The relative importance of outlying rural areas as a source of in-migration was greatest in the outer peri-urban region and declined with proximity to the ASD. In contrast, in-migration from interstate and overseas was evenly distributed throughout the peri-urban region. Hence, based on this indicator the importance of centripetal migration (outlying rural areas, interstate and overseas) appears to be marginally greater in the outer peri-urban region.

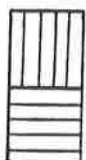
Based on the origin of migrants, an attempt has been made (Figure 5.4) to map the approximate spatial pattern of the four growth processes and their relative significance throughout the peri-urban region. The general picture which emerges from Figure 5.4 is one of complex spatial overlap in terms of the origin of migrants.



**Figure 5.4 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on the Origin of Migrants**



**GROWTH PROCESS**



Suburbanisation

Counterurbanisation



Population Retention

Centripetal Migration

Although the ASD was an important source of migrants throughout the peri-urban region, it accounted for a comparatively small proportion of total in-migration to several SLAs. Contrary to the assumptions often made in the literature (Berry *et al* 1995; Maher and Stimson 1994; Wardwell and Brown 1980), peri-urban growth is not solely due to the spatial expansion of the metropolitan region (urban overspill or growth of the urban field).

In terms of differentiating and measuring the relative intensity of the four growth processes, the origin of migrants is useful in distinguishing population retention and centripetal migration from the other two processes. A broad pattern emerges from Figure 5.4 which indicates that the importance of centripetal migration and population retention extends throughout the peri-urban region with little spatial variation between SLAs.

In terms of the differentiation between suburbanisation and counterurbanisation, this indicator provides strong evidence for the role of counterurbanisation in the outer peri-urban SLAs, clearly beyond the limits of any suburban development. Nevertheless, this distinction is not possible in those SLAs located at the boundary of the ASD on the basis of this indicator. In Figure 5.4, each SLA is treated as a spatial unit and, based on the careful consideration of the data above, the four processes appear to occur as follows (Table 5.6).

**Table 5.6 Relative Contribution of the Four Growth Processes in Adelaide's Peri-urban Region Based on Migrant Origin**

SLA	Growth Process			
	Suburbanisation	Counterurbanisation	Centripetal Migration	Population Retention
<b>Inner Ring SLAs</b>				
Mallala	XX	XX	XX	X
Light	XX	XX	XX	X
Barossa	XX	XX	X	X
Gumeracha	XX	XX	X	X
Onkaparinga	XX	XX	XX	X
Mount Barker	XX	XX	XX	X
Strathalbyn	XX	XX	XX	X
Port Elliot/Goolwa	X	XX	XX	X
Yankalilla	X	XX	X	X
<b>Outer Ring SLAs</b>				
Wakefield Plains		XX	XX	X
Riverton		XX	X	XX
Saddleworth/Auburn		XX	X	XX
Eudunda		XX	XX	XX
Kapunda		XX	XX	XX
Angaston		X	XX	X
Tanunda		XX	XX	X
Mount Pleasant		XX	XX	X
Ridley/Truro		XX	X	X
Mannum		XX	X	X
Murray Bridge		X	XX	XX
Meningie		X	XX	XX
Victor Harbor		XX	XX	X

Note: Intensity of Process: x = weak  
xx = moderate

### 5.3.2 The Journey to Work

The second indicator proposed to differentiate the four demographic growth processes is the degree of connectivity with the metropolitan region maintained by migrants. Much of the literature (Errington 1994; Kayser 1988; Mitchelson and Fisher 1987) highlights the functional links between peri-urban and urban areas, particularly in terms of commuting. It is argued here that the degree of connectivity maintained with the metropolitan region in terms of employment is an essential indicator to distinguish between counterurbanisation and suburbanisation.

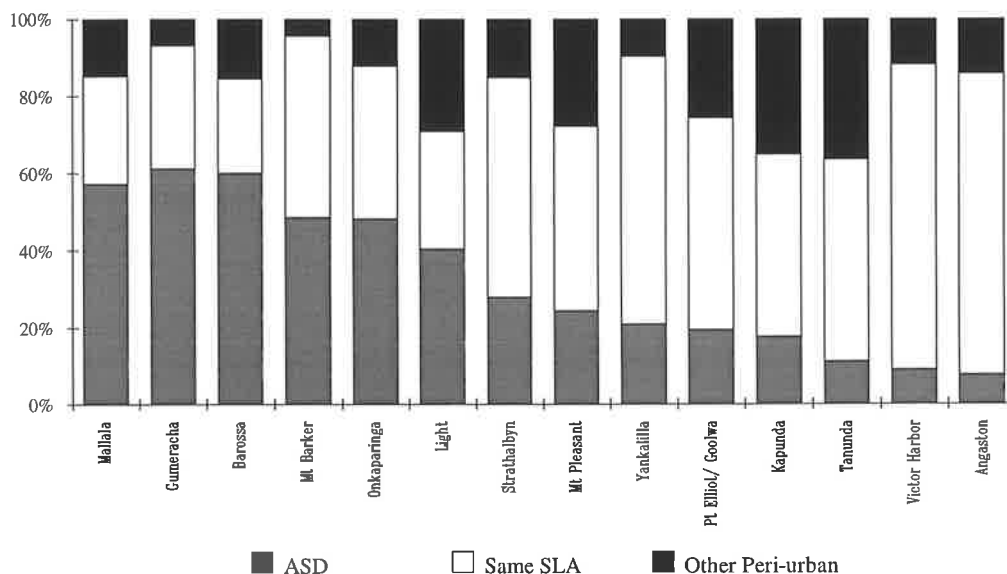
By definition, the suburbanised population maintains strong connections with the metropolitan area, with high levels of commuting and participation in social activities within the metropolitan region. In contrast, counterurbanites often sever many of their ties with the metropolitan region in their pursuit of a peri-urban lifestyle. Although they may retain their metropolitan employment and contacts initially, counterurbanites are principally motivated by other considerations, and in many cases intend to reduce this link as soon as possible. Hence, a shift in both job location and social activities is often initiated soon after migration. In addition, any increase in the extent of cross-commuting within the peri-urban region is an important indicator of self-generating employment growth within the peri-urban region and provides evidence for population retention.

As a measure of the degree of connectivity maintained with the metropolitan region, the journey to work data from the 1991 Census are analysed at the SLA level. Two important limitations which are associated with the use of this data source must be noted at the outset. First, it is not possible to differentiate the commuting patterns of recent migrants from established residents, as the patterns identified pertain to the entire population. Second, the journey to work data are not available for the entire peri-urban region as defined in this study. Hence, the analysis is restricted to those SLAs surrounding the ASD (Outer Adelaide Statistical Division). At the local level, both of these deficiencies can be resolved with the use of survey data and this analysis is undertaken in Section 5.5.

Although it is often argued (Burnley and Murphy 1995b; Davis 1993; Fuguitt 1991c; McKenzie 1996) that many peri-urban migrants remain functionally connected to the metropolitan area, commuting to jobs in the CBD or outer suburbs, at the 1991 Census, only 30 percent of the employed population residing in the adjoining peri-urban SLAs commuted to the ASD. Although not all of these commuters were recent migrants, this suggests that the majority of peri-urban residents have not continued to

maintain employment linkages with the ASD. Analysis of the journey to work destinations of employed peri-urban residents reveals variations in the degree of connectivity with the metropolitan region (Figure 5.5).

**Figure 5.5 Journey to Work Destination from Adelaide's Peri-urban SLAs, 1991**



Source: ABS 1991 Census (unpublished data)

The relative importance of the ASD as a work destination is clearly greatest in the adjacent SLAs of Mallala (67.6 per cent) and Barossa (59.8 per cent). This reflects the proximity of these SLAs to Gawler, a town now defined as part of the ASD, but which in practice has long been a principal regional service centre for the surrounding Adelaide Plains and Barossa Valley. It is also a product of their proximity to the other parts of the Northern Statistical Sub-Division<sup>4</sup> which has experienced significant decentralisation of employment in recent years. In addition, around half of the workforce in Gumeracha (60 per cent), Mount Barker (48.4 per cent) and Onkaparinga (48 per cent) also commuted to Adelaide for employment. This degree of connectivity with the metropolitan region provides evidence of the importance of

<sup>4</sup> The Northern Statistical Sub-Division includes the following SLAs: Elizabeth, Enfield (Pt A), Gawler, Munno Para, Salisbury, Tea Tree Gully

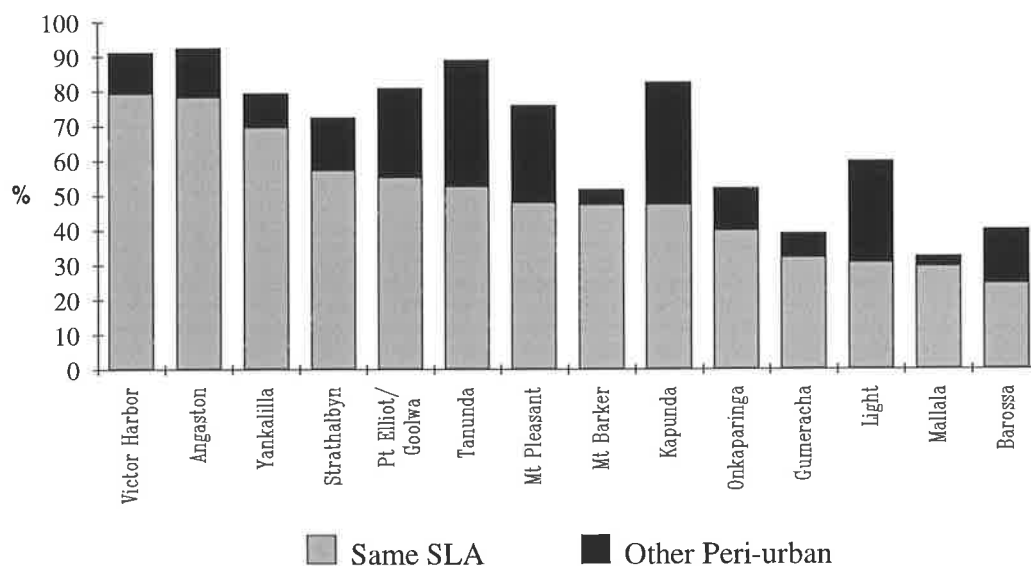
suburbanisation as a growth process in these SLAs, as clearly functional linkages with the metropolitan region are maintained by the peri-urban population in terms of employment. Those SLAs with the smallest proportion of their workforce commuting to the ASD tend to have less access to it (Angaston and Tanunda) or are located in the southern peri-urban region (Victor Harbor, Yankalilla, Port Elliot/Goolwa and Strathalbyn). In these locations, the SLA of residence and surrounding peri-urban region were the dominant work destinations. Hence as expected, those SLAs that have the best access to the metropolitan labour market had the highest level of commuting to the ASD.

Analysis of commuting for employment is often restricted to the flow between the metropolitan and peri-urban regions, with little focus on shorter-distance journeys to work within the peri-urban region itself. Commuting within the peri-urban region may be between, or within SLAs and where this occurs it provides evidence of a degree of employment self-containment<sup>5</sup> within this region. Figure 5.6 shows that more than 80 percent of the workforce in a number of SLAs worked within the peri-urban region (Victor Harbor, Angaston, Tanunda, Kapunda, Yankalilla) and that almost 80 percent of Victor Harbor and Angaston's workforce were employed within those SLAs. Clearly, commuting to the metropolitan region was limited in these SLAs. Similarly, around three quarters of the workforce in Strathalbyn and Mount Pleasant were employed within the peri-urban region. Those SLAs in which self containment and cross-commuting were important have less ready access to the ASD. These are generally the SLAs which are located in the south-eastern peri-urban region and in the non-adjacent Barossa Valley region. One exception is the northern adjacent SLA of Light where, although 40.2 per cent of the workforce commuted to the ASD, a greater proportion (59.8 per cent) were employed within the peri-urban region.

---

<sup>5</sup>Self-containment refers to a significant proportion of the workforce employed within the region itself.

**Figure 5.6 Journey to Work Destination from Adelaide's Peri-urban SLAs: Self-Containment, 1991**



Source: ABS 1991 Census (unpublished data)

Table 5.7 shows that the extent of self-containment in the region increased between 1986 and 1991, except in Light, Mallala and Barossa. The greatest relative increases in the locally retained workforce were evident in those SLAs with less ready access to the ASD: Victor Harbor, Angaston, Kapunda, Strathalbyn and Yankalilla. A similar pattern was apparent in the extent of cross-commuting, with the greatest increases in the proportion of the workforce employed within other peri-urban SLAs evident in the non-adjacent SLAs.

Improved cross-commuting and self-containment provide a means of measuring population retention. It is suggested that improvements in the local economic base promote cross-commuting within the peri-urban region and that they also contribute to retention within the region as a whole (Smailes 1996b). Development of the local market, coupled with reduced employment opportunities in the metropolitan region mean that people are increasingly choosing to retain both residential and employment locations in the peri-urban region. Hence, the importance of locally generated growth

reflected in the degree of self-containment and cross-commuting within SLAs such as Victor Harbor, Angaston, Port Elliot/Goolwa, Kapunda and Yankalilla confirms that local retention is an important process in these SLAs.

**Table 5.7 Population Employed Within the Peri-urban Region, 1986 and 1991**  
(%)

SLA	% Employed Within the SLA of Residence			% Employed Within Other Peri-urban SLA		
	1986	1991	Difference 1986-1991	1986	1991	Difference 1986-91
Victor Harbor	69.3	79.4	10.1	8.4	11.8	13.4
Angaston	69.4	78.3	8.9	10.6	14.2	3.6
Yankalilla	62.3	69.6	7.3	7.4	9.7	2.3
Kapunda	40.0	47.3	7.3	24.3	35.2	10.9
Strathalbyn	50.0	57.2	7.2	12.1	15.1	3.0
Pt Elliot/Goolwa	48.3	55.2	6.9	19.6	25.6	6.0
Tanunda	45.7	52.5	6.8	24.3	36.5	12.2
Mt Pleasant	42.6	48.0	5.4	24.7	27.8	3.1
Mt Barker	44.8	47.3	2.5	5.9	4.3	-1.6
Onkaparinga	37.6	39.9	2.3	10.7	12.1	1.4
Gumeracha	30.9	32.2	1.3	6.7	6.8	0.1
Light	31.6	30.7	-0.9	25.6	29.1	3.5
Mallala	30.9	29.6	-1.3	2.5	2.8	0.3
Barossa	26.1	24.7	-1.4	16.9	15.5	-1.4

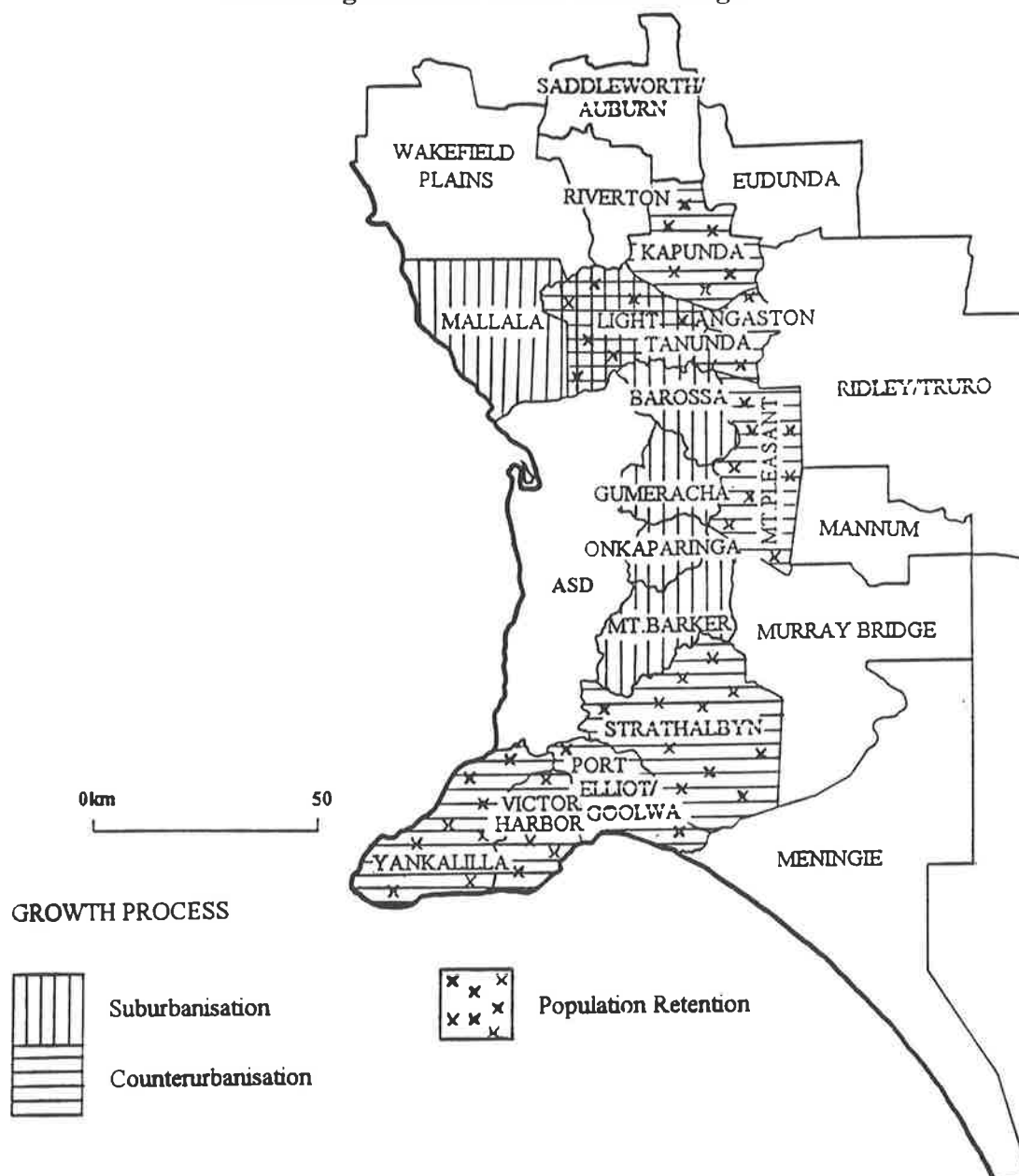
Source: ABS 1986 and 1991 Censuses (unpublished data)

Although it is not possible to distinguish the commuting patterns of recent migrants and established residents from the aggregate data, increased proportions of the peri-urban workforce commuting within the region itself or working within the SLA of residence implies that employment linkages with the metropolitan region are often severed upon or relatively soon after migration. The dependence of counterurbanites on the metropolitan region is often reduced after migration, as migrants are no longer tied to the need to work there. Hence the degree of self-containment within an SLA and cross-commuting within the peri-urban region will also be an indication of the importance of counterurbanisation.



Based on the commuting patterns of the peri-urban workforce, Figure 5.7 shows the broad patterns of demographic processes which have emerged. Clearly, the influence of suburbanisation is strongest in the accessible northern SLAs, in which the majority of the workforce commuted to the ASD for employment. This pattern is also evident in the SLAs located on the eastern boundary of the ASD. Counterurbanisation, on the other hand, is most evident in the southern SLAs and those not adjacent to the ASD. A clear link between access to the ASD and the relative influence of suburbanisation and counterurbanisation is apparent and this relationship will be addressed further in Section 5.3.5.

**Figure 5.7 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on the Commuting Patterns of the Workforce**



Based on the degree of connectivity maintained with the ASD through commuting, this indicator has served to better clarify the relative importance suburbanisation and counterurbanisation in those SLAs surrounding the ASD (inner ring SLAs). This was not possible based on the previous indicator (origin of migrants) due to the complex spatial overlap apparent within these locations. Table 5.8 shows that based on the strong employment linkages maintained by the peri-urban population, suburbanisation is the dominant process contributing to growth in Mallala, Barossa, Gumeracha, Onkaparinga and Mount Barker. In contrast, counterurbanisation is a more important process in the inner ring SLAs which have less ready access to the ASD: Strathalbyn, Port Elliot/Goolwa and Yankalilla. In these SLAs, the degree of self-containment and cross-commuting are significant and this provides evidence of the degree of counterurbanisation, and also population retention, within these SLAs.

**Table 5.8 Relative Contribution of the Four Growth Processes by Peri-urban SLA Based on the Journey to Work**

SLA	Growth Process		
	Suburbanisation	Counterurbanisation	Population Retention
<b>Inner Ring SLAs</b>			
Mallala	xxx		
Light	xx	x	x
Barossa	xxx		
Gumeracha	xxx		
Onkaparinga	xxx		
Mount Barker	xxx		
Strathalbyn		xx	xx
Port Elliot/Goolwa		xx	xx
Yankalilla		xx	xx
<b>Outer Ring SLAs</b>			
Angaston		xx	xx
Tanunda		xx	xx
Mount Pleasant		xx	xx
Victor Harbor		xx	xx
Kapunda		xx	xx

Note: Intensity of Process: x = weak

xx = moderate

xxx = strong

### 5.3.3 Nature of Residential Development

The nature of residential development at the peri-urban location has an impact on the migration decision of the peri-urban population. Although difficult to quantify, the nature of the potential residential environment in the destination pattern is indicated by the extent of urban development and the provision of services and facilities. Figure 5.8 shows the extent of urban settlement in metropolitan Adelaide and surrounding peri-urban towns and localities.

**Figure 5.8 Extent of Urban Settlement in Metropolitan Adelaide and Surrounding Peri-urban Region, 1991**

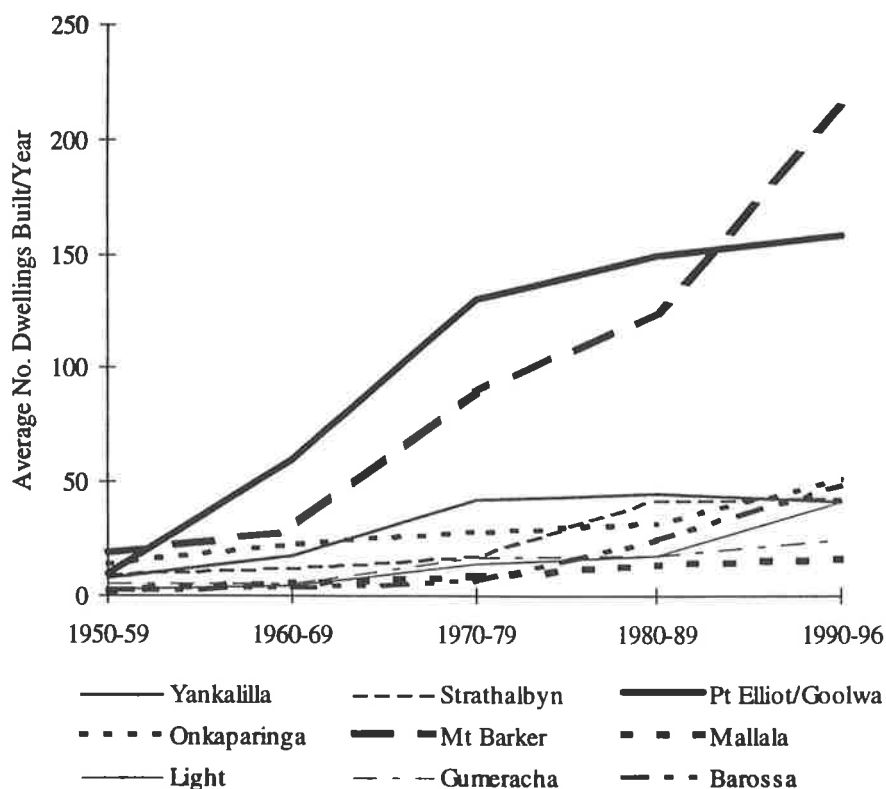


Source: ABS, 1991 Census

A clustering of urban centres is evident along the eastern boundary of the ASD in the SLAs of Barossa, Onkaparinga and Mount Barker. The extent of urban growth in this region is clearly associated with the accessibility of these locations to the ASD, particularly along or close to the southeastern freeway. In the 1986-96 intercensal period, several townships in this region recorded considerable population growth: Nairne (175.6 per cent), Mount Barker (47.3 per cent) and Woodside (62.3 per cent). Many of these urban centres (Figure 5.8) are well established rural service towns, providing most services needed on a daily or weekly basis. Victor Harbor is the main service centre in the south and increased its population by 38.1 per cent over the 1986-96 period. Similarly, the urban centre of Strathalbyn (54 per cent) and the Barossa Valley centres of Kapunda (35.3 per cent), Nuriootpa (8.6 per cent), Tanunda (22.5 per cent) and Angaston (2.1 per cent) in the north also experienced population growth during this period.

Residential development resembling that occurring in the ASD (700m<sup>2</sup> blocks) has been consistent since the 1950s in these urban centres (Figure 5.9). This has been a feature of all peri-urban SLAs located adjacent to the ASD, but more prevalent overall in the SLAs of Mount Barker and Port Elliot/Goolwa. Since the 1980s, the greatest relative increases in 'suburban-like' dwelling construction have been in the northern SLAs of Light and Barossa, in which the number of dwellings built annually doubled, whilst the number of dwellings completed was also substantial in Mount Barker and Port Elliot/Goolwa. Whilst this does not provide any indication of where residential development has occurred within SLAs, it does suggest that 'suburban-like' development is in many cases increasing, particularly in those SLAs with good access to the ASD (Light, Barossa, Mount Barker).

**Figure 5.9 Total 'Suburban-Like' Development in Peri-urban SLAs Surrounding Metropolitan Adelaide, 1950-1996**



Source: Department of Housing and Urban Development

Residential development is not only occurring within the main urban centres, but also in smaller townships and rural locations. Figure 5.10 shows that urban development is evident in localities such as Macclesfield, Echunga, Oakbank and Mount Torrens, together with the urban centres of Gumeracha and Mount Barker. In an attempt to quantify the nature of residential development in each peri-urban SLA, settlement size data from the 1991 Census were utilised. However, this data source was not an effective measure, due to the nature of the settlement classifications: urban centres (1000+ persons), rural localities (200-999 persons), rural hinterland (< 200 persons). For example, in Mallala SLA, the majority of recent population growth has been concentrated in Lewiston. However, this settlement was classified as part of the rural hinterland in the Census and hence, provides no indication of the considerable growth occurring in these suburban-like destinations.

**Figure 5.10 Extent of Urban Development Surrounding Metropolitan Adelaide to 1996**



Settlements such as Lewiston (Mallala SLA) were developed as a result of an entrepreneur seeing its potential for a particular group of people wanting to move out of the ASD, whilst maintaining strong daily linkages (Harris 1993). Substantial subdivision of land into suburban sized residential blocks has occurred in such locations, often without the provision of associated services and infrastructure. It is suggested that these isolated settlements have been developed solely for the purpose of providing cheap housing for the metropolitan population, hence attracting suburbanites. These peri-urban locations are both accessible to the metropolitan region and provide a residential site similar to the metropolitan region, but without many of the restrictions eg. building and zoning controls.

Theoretically, the nature of residential development at the peri-urban destination provides a further means of distinguishing suburbanisation and counterurbanisation. Although suburbanites and counterurbanites may share the same broad residential *situation*, ie. the inner peri-urban region, they will certainly choose a different residential *site*. Suburbanites want a peri-urban residential location, but with all the advantages of urban opportunities. Hence, suburbanites are more likely to move to accessible, suburban-like residential destinations such as Mount Barker, Hahndorf, Nairne, Oakbank and Two Wells/Lewiston. In these locations, substantial suburban-like residential development allows suburbanites to move to housing similar to that which they have left in the city, whilst retaining an accessible, peri-urban residential location.

On the other hand, counterurbanites are more likely to move to the well-established, but unspoiled country towns (or the open countryside) in the pursuit of a peri-urban lifestyle beyond the metropolitan region. These migrants do not require the degree of metropolitan accessibility of suburbanites, and often prefer to relocate to a more rural-like residence, eg. hobby farm or larger sized block. Counterurbanites sever their ties with the metropolitan region as soon as possible upon migration, with the local area

becoming the new focus for employment and social activities. Hence, it can be concluded that the more distant, established centres of Strathalbyn, Victor Harbor, Angaston and Kapunda and surrounding small settlements which have retained more of the characteristics of the perceived 'rural idyll', are relatively more attractive to counterurbanites. However, the extent of intra-SLA diversity in settlement types precludes accurate quantification of the influence of suburbanisation and counterurbanisation in the peri-urban region. Further analysis of the amenity and accessibility qualities of the peri-urban destination is required to assess the relative importance of these processes.

#### **5.3.4 Amenity Value of Destination Areas**

Some peri-urban locations appear more able than others to attract in-migrants, whilst at the same time retaining their existing populations. One important factor is the amenity value of the location. Amenity refers to 'the positive pull factor' of an environment perceived as having attractive scenic qualities (Coppack 1985, p.83). The importance of amenity as a factor attracting migrants to a peri-urban location has been suggested by a number of authors (Beale 1997; Coppack 1985, 1988c; Dahms 1991; Dahms and Hallman 1991; Halfacree 1994).

Amenity value is difficult to measure objectively, but subjective interpretation is consistently associated with the scenic quality of the landscape in terms of physical attractions such as beaches, hills, rivers, recreational facilities, the character and historic values of an established built environment and a rural atmosphere. Although the motives of people choosing to migrate to high amenity areas vary greatly, most will place some importance on this aspect of their peri-urban location. The physical amenity of the peri-urban environment was deemed to be a crucial element in migrants' destination choices in studies undertaken by Dahms (1995), Dahms and Hallman (1991), Sant and Simons (1993a) and Murphy and Zehner (1988).

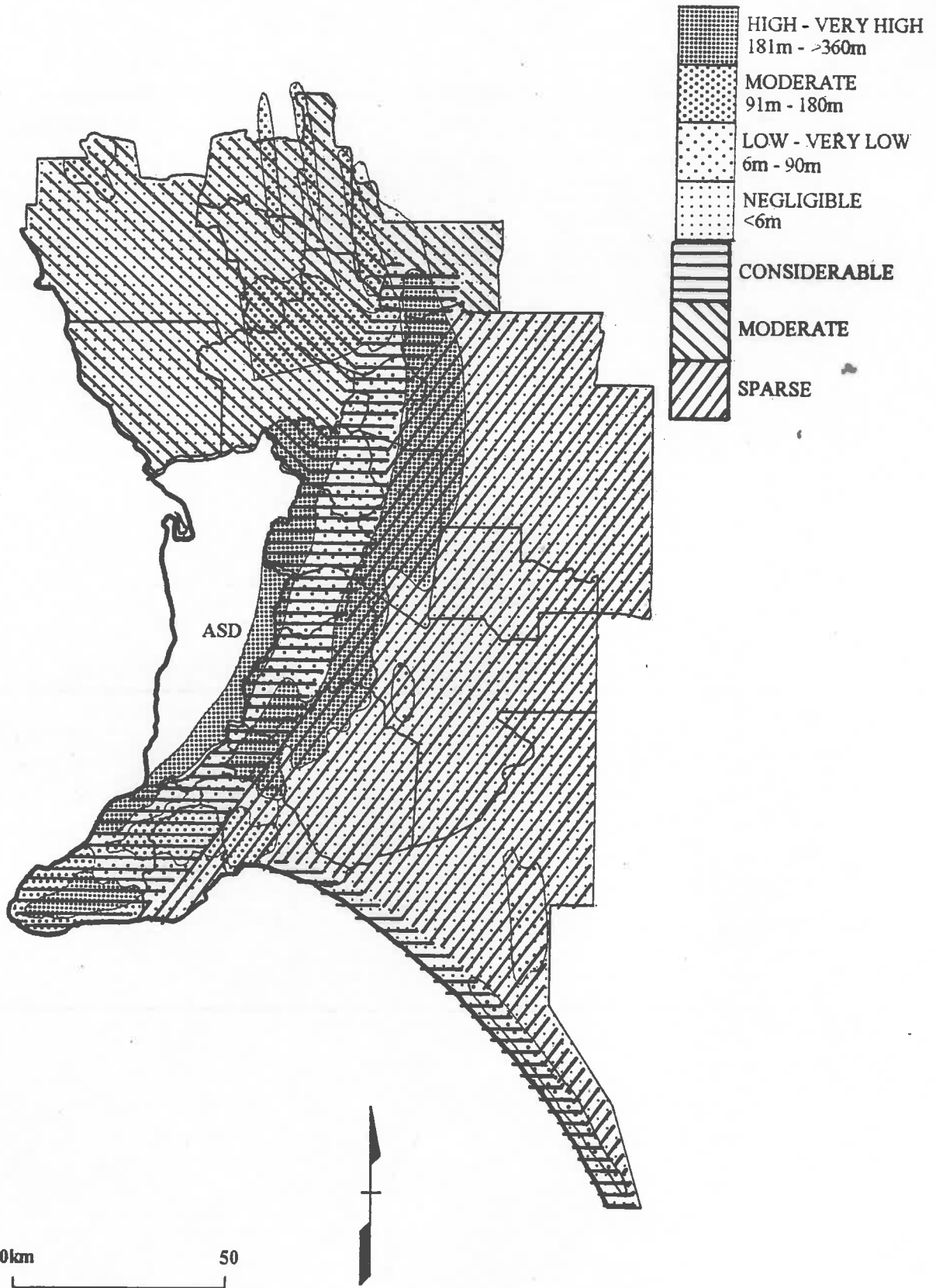


Adelaide's peri-urban region is distinctive in that it is also one of the most environmentally attractive and amenity rich areas of South Australia. However, the level of amenity varies significantly across the region from the highly attractive landscapes of the Mount Lofty Ranges to the flat, relatively dry, featureless Northern Adelaide Plains region. Figure 5.11 illustrates a number of factors often associated with perceived amenity: the physical site (relief, native vegetation cover, rainfall) and conservation/recreation value. It should be noted that in the Australian context, high rainfall is equated with high amenity. In order to meet the needs of this analysis, a crude measure of amenity value based on these attributes is provided in Figure 5.12.

Figure 5.12 illustrates the broad belt of high amenity areas stretching along the eastern boundary of the metropolitan area to the Fleurieu Peninsula in the south. Other high amenity locations are evident in the northern SLAs of Saddleworth/Auburn and Riverton, and along the southern coastline of Meningie. It is suggested that these areas may be more successful in attracting peri-urban migrants because of their high amenity status.

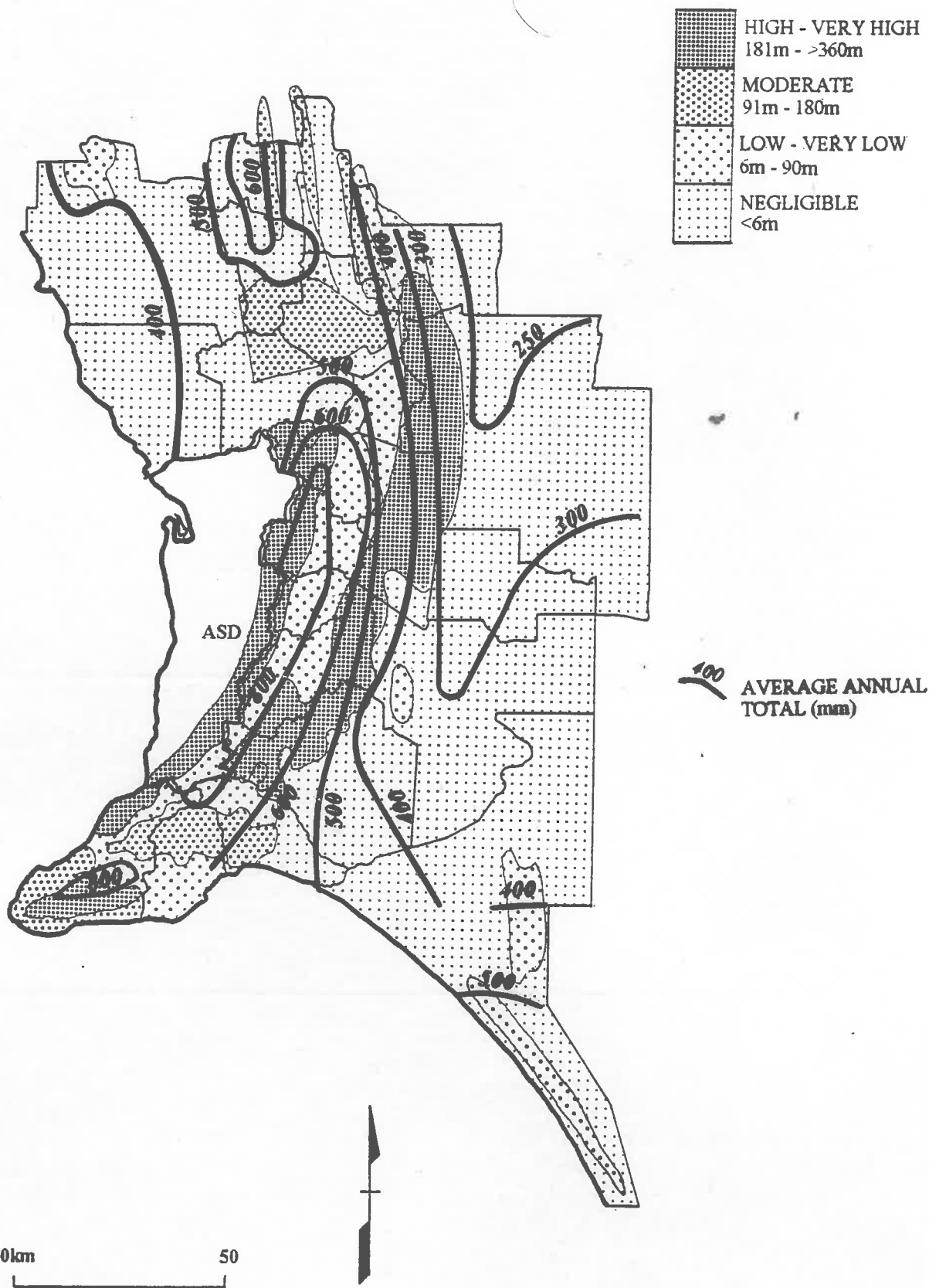
By definition, counterurbanites wish to replace an urban lifestyle with a more rural one in order to obtain a better quality living environment. Hence, the amenity value of a peri-urban location will be a key attribute of the peri-urban destination for counterurbanites. Suburbanites may also value the amenity qualities of a peri-urban location. However, this consideration will be tempered by the significance placed on accessibility to the ASD. Centripetal migrants are also more likely to move to higher amenity areas, particularly those migrating from outlying rural areas with little scenic quality eg. dry farming and outback locations. It is important to stress that although high amenity is not the primary motivating factor for all migrants to the peri-urban region, it will certainly be a consideration for many.

**Figure 5.11 Factors Associated with Amenity Value in Adelaide's Peri-urban Region**



**NATIVE VEGETATION COVER  
RELIEF**

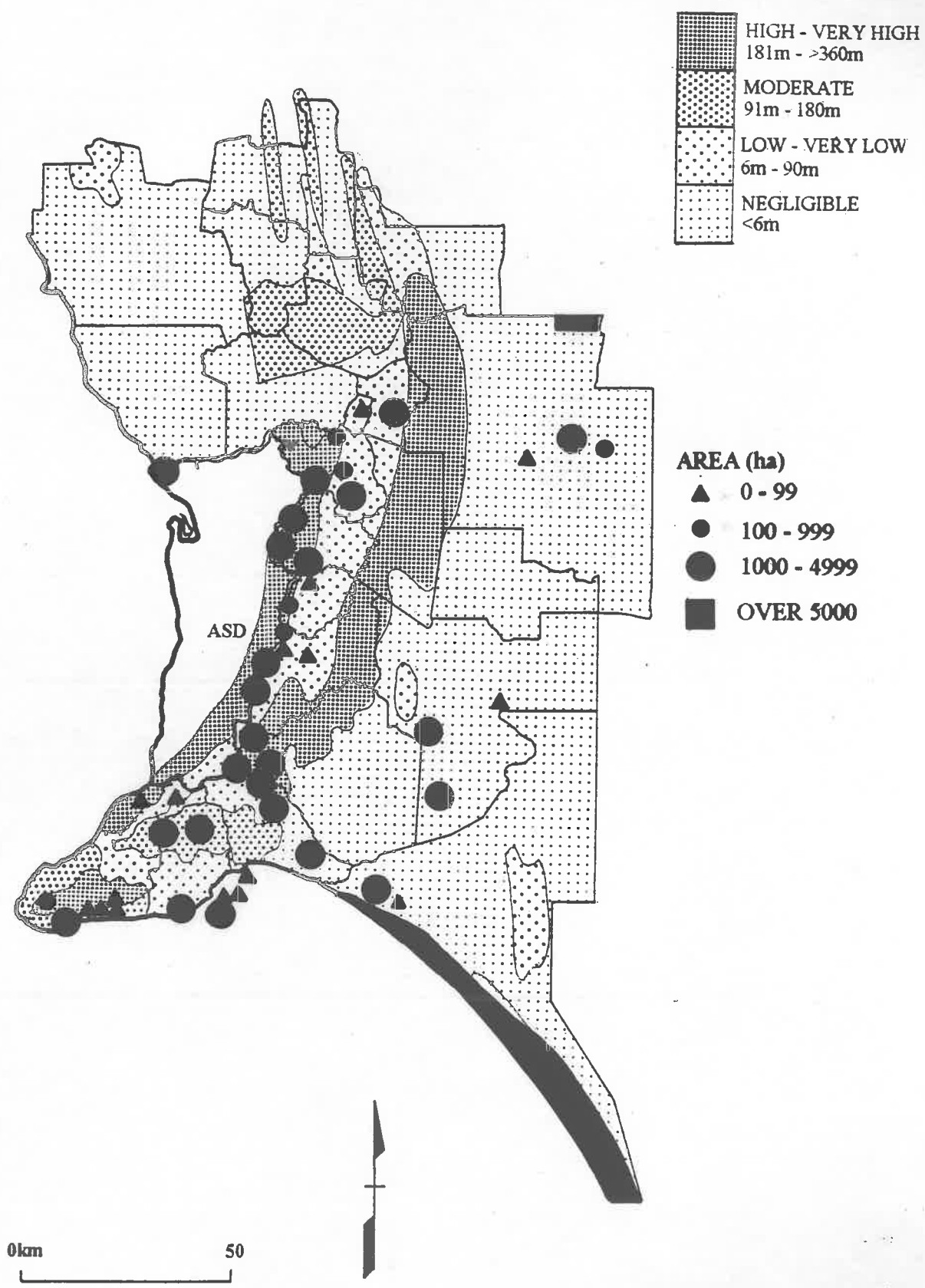
**Figure 5.11 Factors Associated with Amenity Value in Adelaide's Peri-urban Region**



**RELIEF  
RAINFALL**

Source: Adapted from Scott (1982); Griffin and McCaskill (1986)

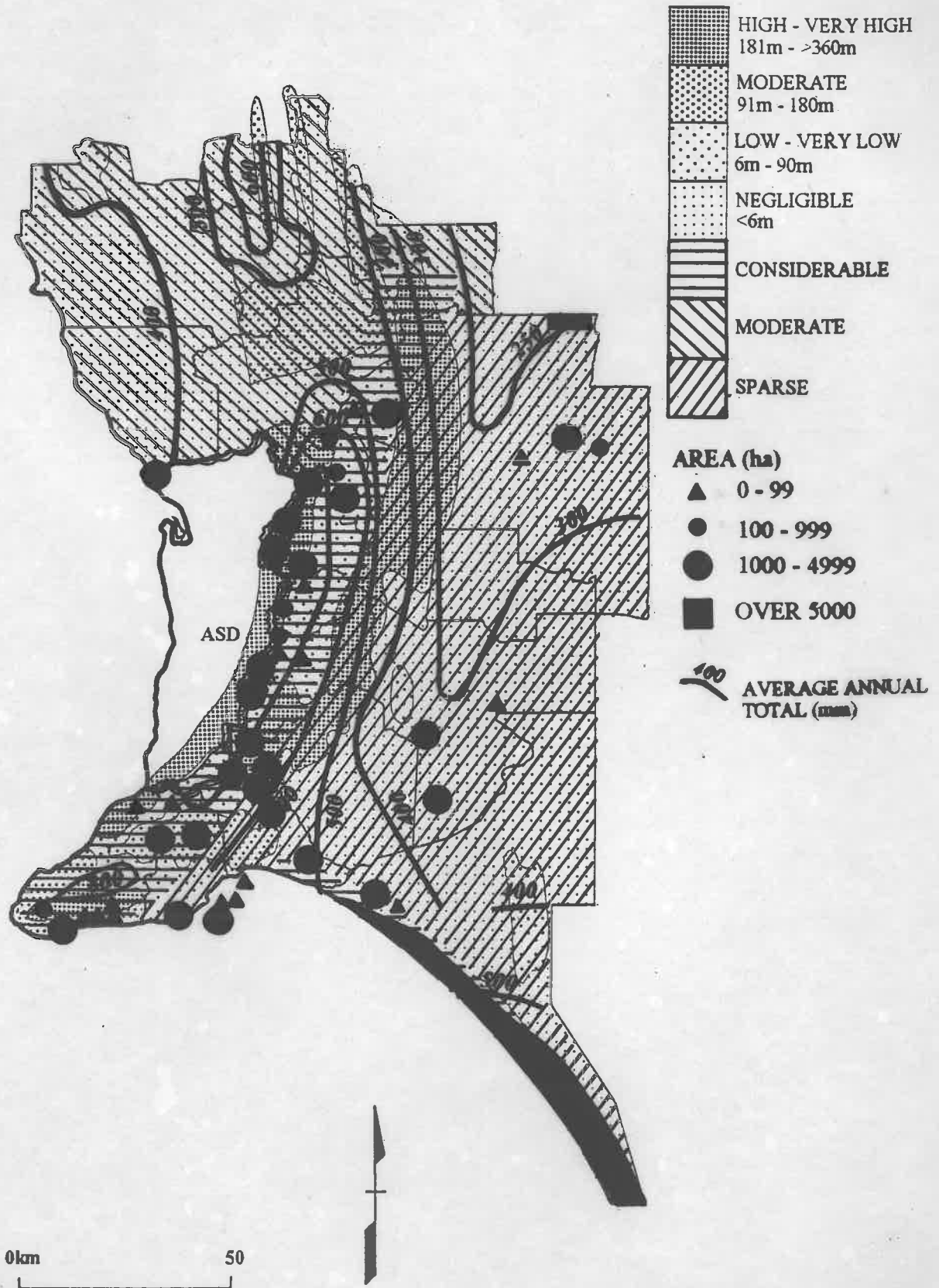
**Figure 5.11 Factors Associated with Amenity Value in Adelaide's Peri-urban Region**



**CONSERVATION AND RECREATION**

**RELIEF**

**Figure 5.11 Factors Associated with Amenity Value in Adelaide's Peri-urban Region**



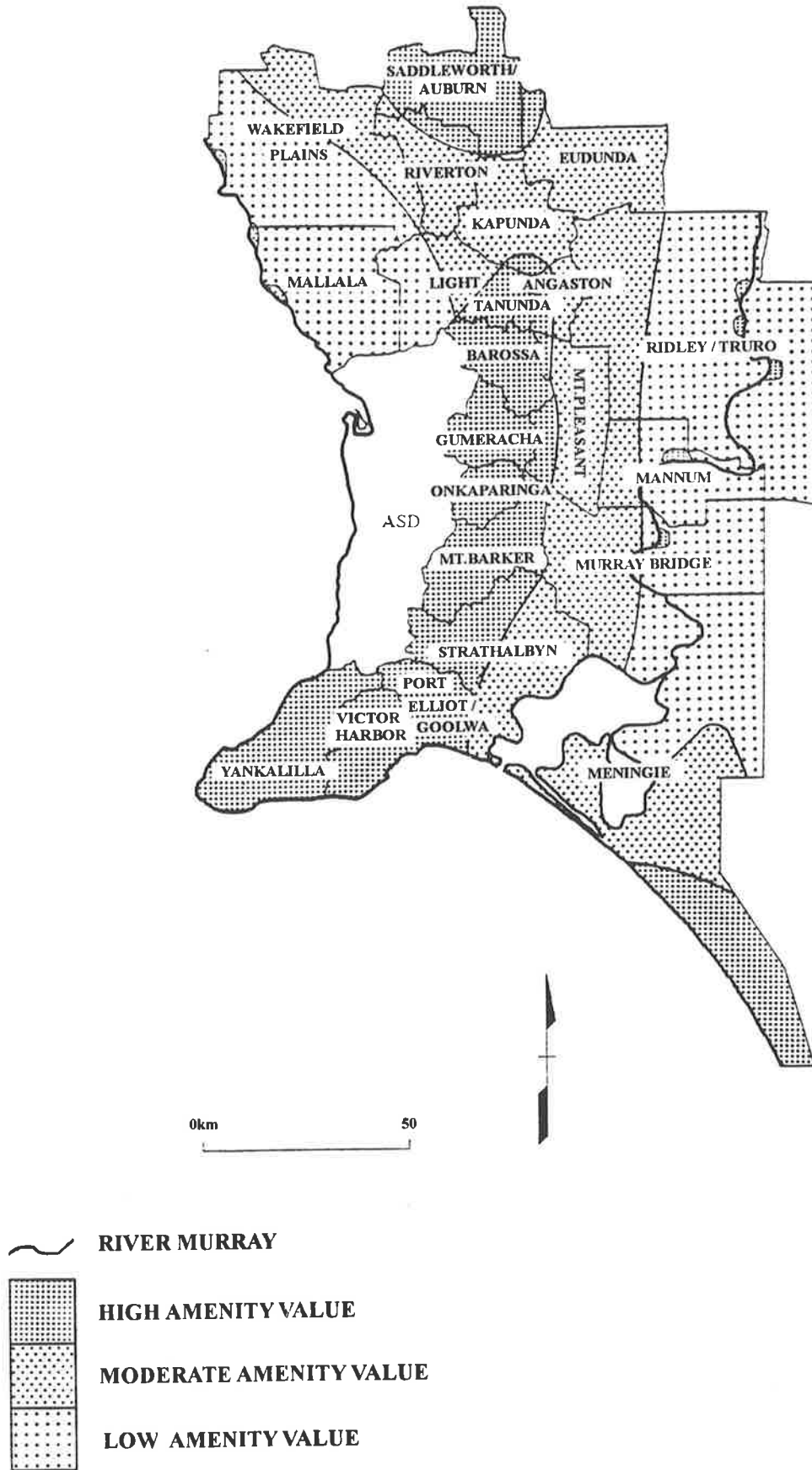
**CONSERVATION AND RECREATION  
NATIVE VEGETATION COVER**

**RELIEF**

**RAINFALL**

Source: Adapted from Scott (1982); Griffin and McCaskill (1986)

Figure 5.12 Amenity Value in Adelaide's Peri-urban Region



In terms of differentiating the peri-urban region based on amenity value, it is suggested that areas of high amenity are particularly conducive to counterurbanisation, as this is a central motivational factor for these migrants. High amenity locations within the more distant northern (Saddleworth/Auburn, Riverton and Kapunda) and southern (Meningie, Yankalilla and Victor Harbor) peri-urban SLAs are more attractive to counterurbanites, and also centripetal migrants. While high amenity value is clearly a feature of those SLAs located at the eastern boundary of the ASD, they are also among the most accessible to the metropolitan region. Hence, these areas are potentially attractive to all types of migrants. While counterurbanites are attracted by the amenity qualities of these locations, suburbanites are also attracted by the combination of accessibility and amenity value. The nature of the residential *site* will largely determine the relative importance of suburbanisation and counterurbanisation in these locations. Analysis of the nature of residential development in the previous section found that suburban-like residential destinations such as Mount Barker, Hahndorf, Nairne and Oakbank were more attractive to suburbanites. Counterurbanites may also be attracted to the amenity value of these locations, but would probably have to move further out to avoid encroachment of the suburbs. In contrast, low amenity areas which are located close to the ASD (Mallala and Light) predominantly attract suburbanites. Furthermore, low amenity areas in the outer peri-urban region (Ridley/Truro, Murray Bridge, Meningie and Wakefield Plains) are more attractive to local movers.

The amenity value of the destination areas can only be subjectively interpreted. On the basis of amenity value alone, differentiation of the four growth processes is largely inconclusive. If viewed together with the nature of the residential site, assessment of the relative importance of the growth processes is advanced somewhat, particularly in the inner peri-urban region. Nevertheless, on the basis of these two indicators, the spatial pattern of process influence is largely theoretical and cannot be quantified.

Building on this analysis, assessment of the accessibility of the peri-urban location is expected to further clarify the spatial pattern of process influence.

### **5.3.5 Accessibility**

The accessibility of a peri-urban location to the metropolitan region will be an important factor in the migration decision of many peri-urbanites. 'Accessibility of a desired location is expressed by its degree of availability, openness and reachability' (Smailes 1996b, p.119). Physical accessibility, in terms of the ease with which people can reach the metropolitan region in order to carry out a given activity (eg. employment, social, shopping) can be measured in terms of time and/or distance. A number of studies have found that peri-urban migration was strongly deterred by distance (Boyle 1995; Moseley 1979) with those locations within commuting distance of the major centres experiencing the greatest increase in population.

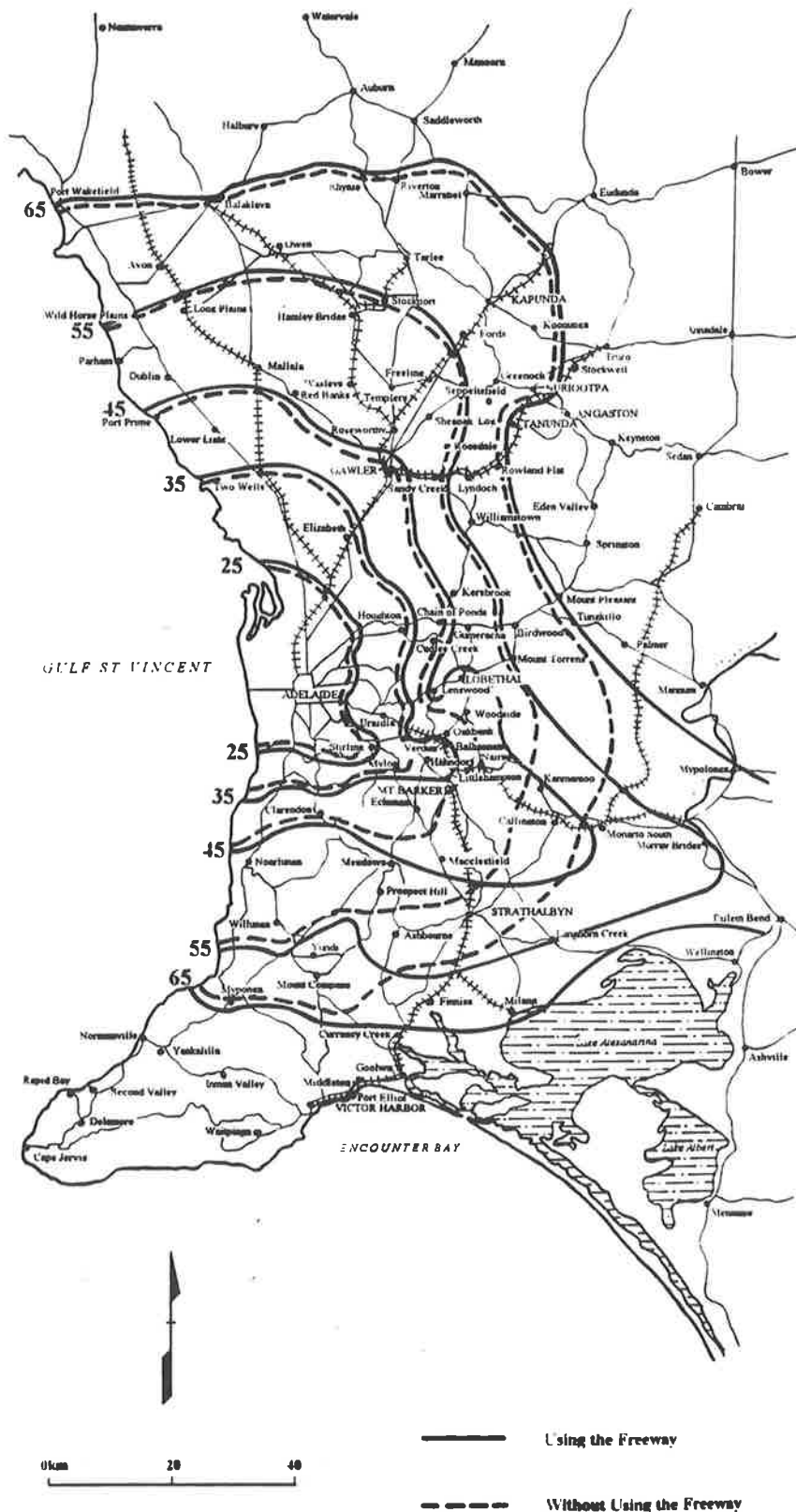
Figure 5.13 provides an indication of accessibility within Adelaide's peri-urban region as measured by travel time. Although metropolitan adjacency is a commonly used measure of distance in the context of peri-urban migration (Beale and Fuguitt 1990, Cross 1990; Hugo and Smailes 1992; Jackson and O'Connor 1993), it is only an approximate measure of metropolitan access. In addition, the measure of accessibility shown in Figure 5.13 relates to access to the Adelaide CBD. However, access to the CBD does not necessarily determine access to employment. For example, significant cross-commuting also occurs between Strathalbyn and Noarlunga in the south and Two Wells and Elizabeth in the north.

Some peri-urban SLAs such as Yankalilla, Pt Elliot/Goolwa and Strathalbyn share a short common boundary with the ASD, but have poor accessibility due to the nature of urban expansion and the communication networks (see Chapter One). In contrast, the location of adjacent SLAs such as Mt Barker, Onkaparinga, Barossa and Mallala on



improved highway systems makes them more accessible to the ASD in terms of travel time.

**Figure 5.13 Accessibility in Adelaide's Peri-urban Region**



Source: Adapted from DHUD 1993

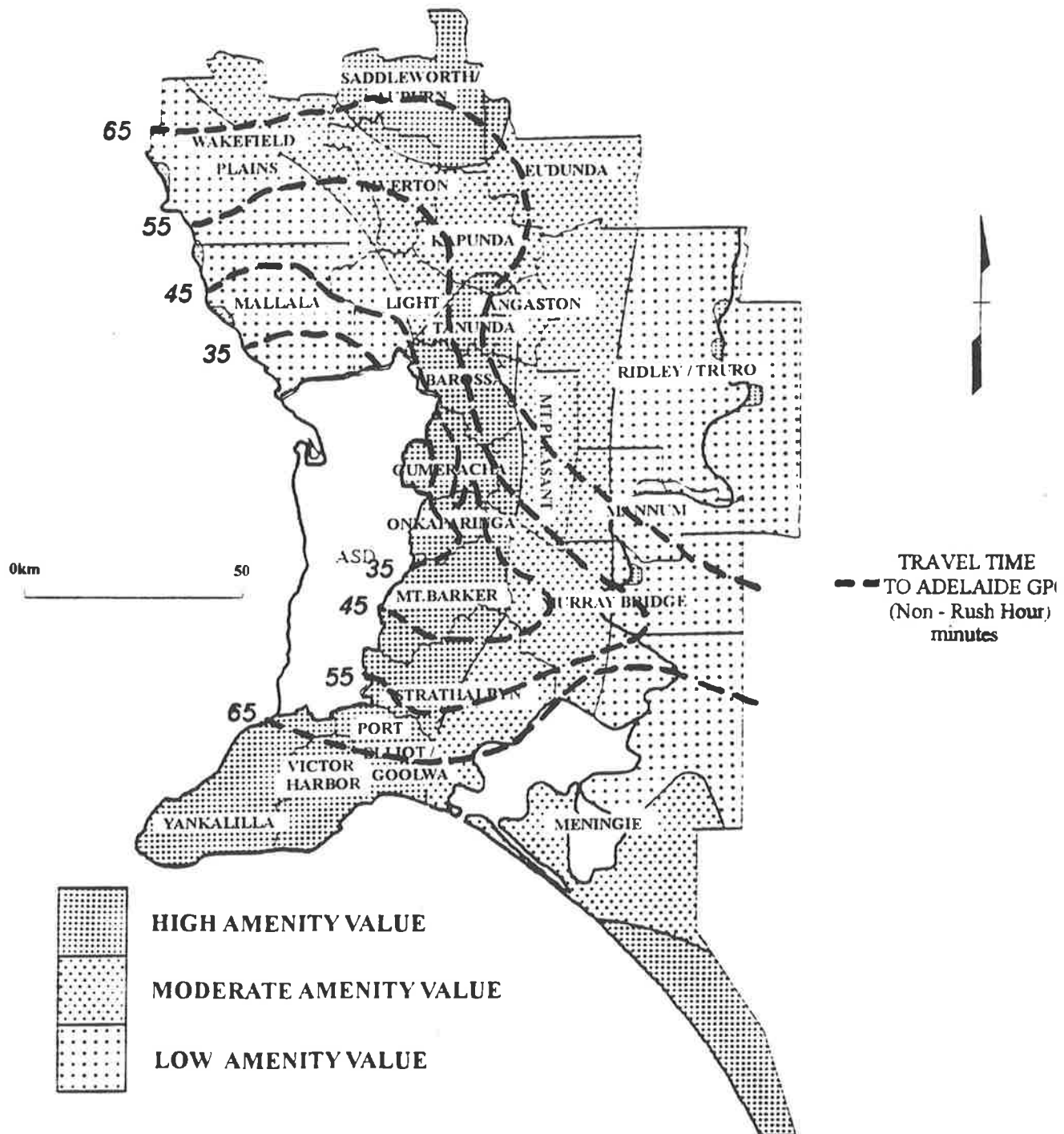
The value of a peri-urban location will increase with accessibility to the metropolitan region in the case of suburbanites, who maintain strong connections with the metropolitan area in terms of commuting and social connections. On the other hand, counterurbanites leave the metropolitan region in search of a peri-urban lifestyle, placing much less importance on rapid and frequent travel. These migrants do not maintain the same degree of linkage with the metropolitan region as suburbanites and are often determinedly seeking to escape the city. Hence, for counterurbanites, accessibility to the metropolitan area may be a convenience or 'optional extra', but not a necessity. Accessibility to the metropolitan region may also be significant for centripetal migrants from outlying rural areas. Movement into the peri-urban region from more remote, rural areas is often to satisfy requirements of greater accessibility to the ASD, whilst the migrants also retain a rural location.

Figure 5.14 shows that the high amenity peri-urban locations within the Mount Lofty Ranges region (Barossa, Gumeracha, Onkaparinga, Mount Barker) are also among the most accessible. In addition, much of the residential development in these locations has been suburban-like. Hence, they are attractive to suburbanites. On the other hand, while the northern SLAs of Mallala and Light have good access to the ASD, these locations lack amenity value and hence suburbanisation will be a dominant process.

The high amenity, southern SLAs of Yankalilla, Port Elliot/Goolwa, Victor Harbor and Strathalbyn are within 45-65 minutes driving distance from the metropolitan region and it is this reduced accessibility which will deter suburbanisation but promote counterurbanisation. In addition, counterurbanites are more likely to move to the well-established but unspoiled towns such as Victor Harbor, Strathalbyn and Port Elliot in the pursuit of a peri-urban lifestyle beyond the metropolitan region. Similarly, these locations will be important destinations for centripetal migrants, attracted by the high amenity value and moderate access to Adelaide. In those locations at the edge (60+ minutes driving time) of the peri-urban region, centripetal migration and population

retention will be important growth processes, particularly in areas with little amenity value to attract counterurbanites eg. Ridley/Truro, Mannum, Murray Bridge, Wakefield Plains.

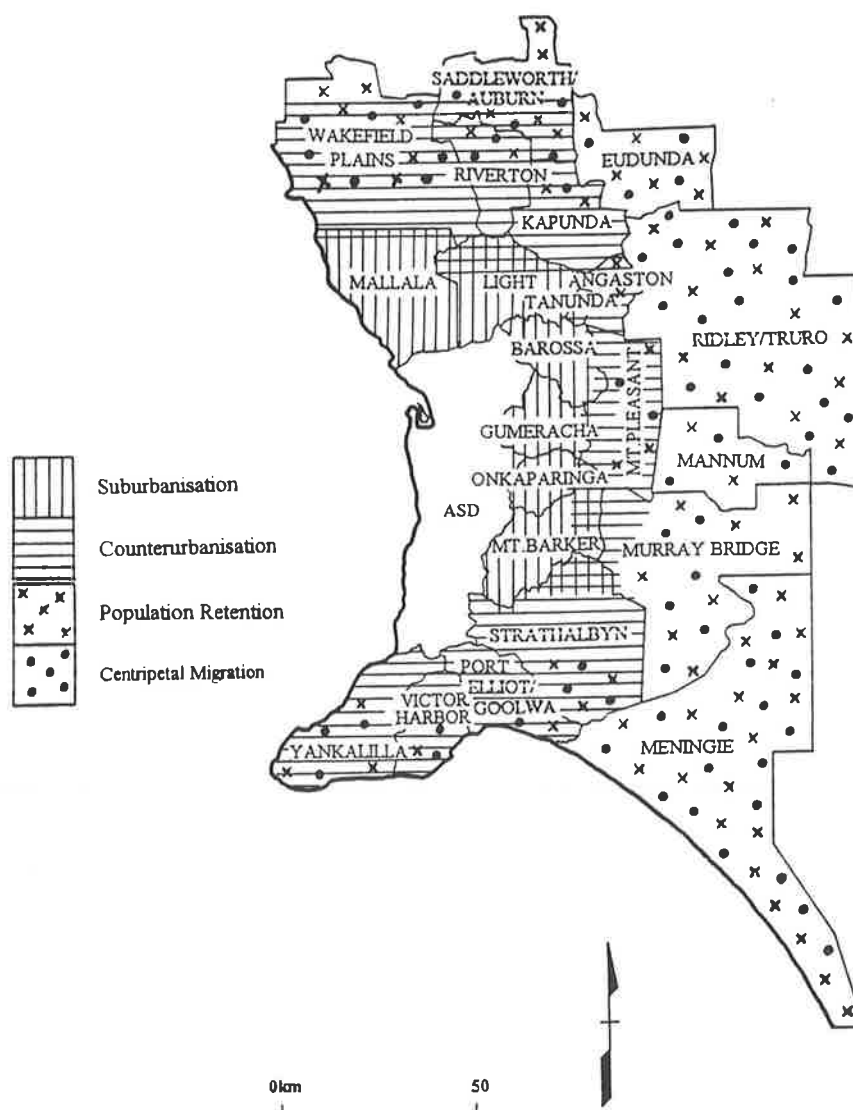
**Figure 5.14 Amenity and Accessibility in Adelaide's Peri-urban Region**



Source: Adapted from Scott (1982); Griffin and McCaskill (1986); DHUD (1993)

Analysis of each of these three indicators relating to the characteristics of the residential destination (nature of residential development, amenity and accessibility), only hints at the differentiation of growth processes. However, when viewed together, the broad pattern of growth processes throughout the peri-urban region can be broadly inferred (Figure 5.15). In particular, the mix of suburbanisation and counterurbanisation can be more sharply differentiated, particularly in the most accessible, high amenity locations in the Mount Lofty Ranges region. Nevertheless, assessment of these three indicators is largely subjective and does not effectively contribute to the quantification of the four processes.

**Figure 5.15 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on Nature of Residential Development, Amenity and Accessibility of the Peri-urban Destination**



#### **5.4 Summary of Spatial Pattern of Growth Processes at the SLA Level**

It will be clear from the above discussion that spatial boundaries to particular growth processes are impossible to pinpoint, at least at the broad SLA level, and that population growth in the peri-urban region is not as clear cut as some commentators have assumed (Berry *et al* 1995; Davies and Yeates 1991; Maher and Stimson 1994; Wardwell and Brown 1980). Far from depending solely on the existing metropolitan population, growth is also being generated from within the region itself and from outlying rural areas, from interstate and from overseas. Growth in Adelaide's peri-urban region is much more than the result of urban overspill, with the expansion of 'mega-metropolitan regions' (Maher and Stimson 1994, p.21) forming an 'integral...part of the expanding metropolitan region' (Berry *et al* 1995, p.17). The analysis here strongly suggests that while suburbanisation is a significant growth process which dominates in several peri-urban SLAs located adjacent to the ASD, counterurbanisation, population retention and centripetal migration are more important elsewhere.

The aim of this chapter is to differentiate the four growth processes according to the conceptual model of peri-urban growth (Chapter Three). At the SLA level, five of the six indicators (migrant origin, the journey to work, nature of residential development, amenity value, accessibility) have been examined in turn and their contribution towards the differentiation of the growth processes assessed. Analysis of the origin of migrants confirmed that in-migration to the peri-urban region is not solely dependent on the metropolitan region. Centripetal migration and population retention were also evident across the region, particularly in the outer peri-urban region. Although accurate definition of suburbanisation and counterurbanisation in locations adjacent to the ASD was not possible, the data provided clear evidence of counterurbanisation in the outer peri-urban SLAs.

Differentiation of suburbanisation and counterurbanisation was further advanced by analysis of the degree of connectivity maintained by migrants with the ASD through commuting for employment. The importance of suburbanisation in the northern SLAs which have good ready access to the ASD, and several of SLAs located on the eastern boundary of the ASD, was established. In addition, the significance of counterurbanisation in the southern SLAs and those not adjacent to the ASD was identified.

The relative importance of the nature of residential development, accessibility and amenity value to the migration decision also varies according to the dominant growth process. The nature of residential development provided a further means of distinguishing between suburbanisation and counterurbanisation, particularly in the most accessible, high amenity locations in the Mount Lofty Ranges region. Suburbanites are more likely to move to accessible, suburban-like destinations such as Mount Barker, Hahndorf and Oakbank. Conversely, the well-established, but unspoiled country towns of Strathalbyn, Victor Harbor, Angaston and Kapunda (and the surrounding small settlements) are more attractive to counterurbanites. Building on these results, the combination of indicators of accessibility and amenity value at the peri-urban destination serve to more sharply differentiate the mix of growth processes. While the northern SLAs of Mallala and Light are highly accessible to the ASD, these areas lack amenity value and in-migration is therefore largely the result of suburbanisation. On the other hand, the high amenity, less accessible southern SLAs (Yankalilla, Victor Harbor, Port Elliot/Goolwa, Strathalbyn) are more attractive to counterurbanites and centripetal migrants. In those locations at the edge of the peri-urban region, particularly those with little amenity value to attract counterurbanites (Eudunda, Ridley/Truro, Meningie, Murray Bridge), centripetal migrants and population retention were the more important growth processes. Nevertheless, these indicators could not be adequately quantified and the pattern of growth processes could only be broadly inferred.

At the SLA scale, each of the five indicators have progressively contributed to a clearer picture of population growth dynamics in the peri-urban region. Based on this analysis the following broad patterns can be inferred (Figure 5.16). In no way is the intention here to suggest distinct boundaries, as the degree of spatial overlap throughout the peri-urban region makes this impossible. Table 5.9 classifies the peri-urban SLAs according to the relative contribution of each of the four growth processes at the macro-scale.

**Figure 5.16 Broad Pattern of Demographic Growth Processes in Adelaide's Peri-urban Region Based on the Five Key Indicators**



**Table 5.9 Relative Contribution of the Four Growth Processes in Adelaide's Peri-urban Region Based on the Five Key Indicators**

SLA	Growth Process			
	Suburbanisation	Counterurbanisation	Centripetal Migration	Population Retention
<b>Inner Ring SLAs</b>				
Mallala	xxx	x	x	x
Light	xxx	xx	x	x
Barossa	xxx	x	x	x
Gumeracha	xxx	x	x	x
Onkaparinga	xxx	x	x	x
Mount Barker	xx	x	x	x
Strathalbyn	x	xxx	xx	xx
Port Elliot/Goolwa		xxx	xx	xx
Yankalilla		xxx	xx	xx
<b>Outer Ring SLAs</b>				
Wakefield Plains		xxx	xxx	xxx
Kapunda		xxx	x	xxx
Riverton		xxx	x	xxx
Saddleworth/Auburn		x	xxx	xxx
Eudunda		x	xx	xx
Angaston		xx	xx	xx
Tanunda		xx	x	xx
Mount Pleasant		xxx	xx	xx
Ridley/Truro		x	xx	xx
Mannum		x	xxx	xx
Murray Bridge		xx	xxx	xxx
Meningie			xxx	xxx
Victor Harbor		xxx	xx	xx

Note: Intensity of Process: x = weak

xx = moderate

xxx = strong

Suburbanisation was most evident in those peri-urban locations adjacent to the ASD, with good access via the major highways to Adelaide, eg. Mallala, Barossa, Light, Mount Barker, Gumeracha, Onkaparinga. The contribution of counterurbanisation was greatest in those destinations with high amenity value, but more distant from the ASD, eg. Yankalilla, Strathalbyn, Mount Pleasant, Port Elliot/Goolwa. This does not imply that counterurbanisation is essentially a peri-urban phenomenon, which is confined solely to this broad zone. Figure 5.16 illustrates the *relative* importance of this process within Adelaide's peri-urban region, although evidence of counterurbanisation has been



found throughout South Australia (Smailes 1996a). Centripetal migration and population retention were evident throughout the peri-urban region, but were more significant in peripheral locations and areas with little or moderate amenity value, eg. Meningie, Murray Bridge, Wakefield Plains, Eudunda, Riverton.

The patterns shown in Figure 5.16 are restricted to a broad regional overview by the aggregate data. This interpretation is necessarily subjective, but is based on careful interpretation of the cumulative evidence from the five indicators used. At the aggregate level, this interpretation represents a spatial pattern which requires further assessment at the local level using survey data. Hence, the focus of the analysis will now turn to the three case study areas. Each will be addressed in turn in order to assess the relative contribution of the four processes at the local scale.

### **5.5 Differentiation of Growth Processes at the Local Level**

The broad patterns of demographic processes inferred at the SLA level illustrates the diversity and complex nature of population dynamics in the peri-urban region. It was hypothesised that the case study areas will show at least as much internal diversity. Nevertheless, the field studies should allow assessment of whether the general pattern inferred from secondary data is also evident at the local level.

Differentiation of the four growth processes will be undertaken utilising survey data in each of the three case study areas. Survey data offer four key advantages over aggregate census data. Firstly, not only is it possible to test whether the survey data support the conclusions of the aggregate analysis, but the survey data also facilitate analysis of patterns *within* the case study areas. Secondly, direct analysis of migrant connectivity with the ASD is possible in terms of both commuting patterns and social behaviour of recent migrants in the three case study areas. Although commuting for employment is the most frequently used measure of migrant connectivity with the metropolitan region (Aitken and Fik 1988; Bowles and Beale 1980; Fuguitt 1991c;

Mitchelson and Fisher 1987), it is also assumed (Kayser 1988; Errington 1994) that migrants to the peri-urban region maintain strong linkages with the metropolitan region in terms of their social activities. Analysis of this aspect of migrant behaviour is largely absent from the literature because it is not available in secondary data. This deficiency can be resolved with the use of survey data.

The third advantage of utilising survey data is in the examination of migrant motivation. Consideration of migrant motives is an essential element in understanding the complexities of population growth in the peri-urban region. Aggregate data sources, such as the census do not explain **why** migration is taking place because they reveal nothing about individual migrant motivation. Some have suggested (Davis *et al* 1994; Walmsley, Epps and Duncan 1995) that the analysis of migrant behaviour and motivation is based more on speculation than fact, and micro-level studies can overcome or at least reduce this deficiency. A crucial factor distinguishing the four processes is the rationale behind migration to the peri-urban region. In particular, the primary motivation of counterurbanites to replace an urban lifestyle with a more rural one will further distinguish this process from suburbanisation at the local level.

The fourth advantage of the survey data is the opportunity it provides to classify the surveyed migrants by household type, reflecting the nature of the process which brought them to the region. On the balance of the three indicators concerned directly with the migrants themselves or with their previous place of residence (migrant origin, connectivity and motivation), the surveyed recent migrant households<sup>6</sup> can be examined one by one, and categorised as either suburbanite, counterurbanite, centripetal migrant or local mover households. Local movers are those who have moved within the same SLA or from another peri-urban SLA. In effect, this group have made the decision to move house whilst remaining in the same SLA or in the peri-

---

<sup>6</sup>Recent migrants are defined as those households who have moved to their current place of residence within the 5 years preceding the survey (see Chapter 3). See Appendix D for spatial location of survey respondents within the three case study areas.

urban region as a whole. In some cases, the change in residence occurred within the same town or region, but for many it involved a change in location within the SLA. For example, in some cases local movers were children of farmers who left the family property and moved to established towns within the same SLA to begin their own family. Hence, they made the decision to retain their peri-urban location whilst changing their residence.

The definition of each household type is based on differentiation of the four processes according to these three indicators (Table 5.10). Following the classification of recent migrant households into the four household types, the spatial distribution of each type can be established in each case study area. Few marginal cases were encountered in the classification process. In four cases, the distinction between suburbanites and counterurbanites was not immediate. In these cases, the sample household was allocated to the most likely household type. Based on the survey evidence, the relative influence of the four growth processes can be clearly identified at the local level. This fundamental classification of migrant households is utilised further in Chapter Six. Differentiation of the four processes and assessment of the macro-scale spatial pattern (Figure 5.16) will now be undertaken in each of the three case study areas in turn.

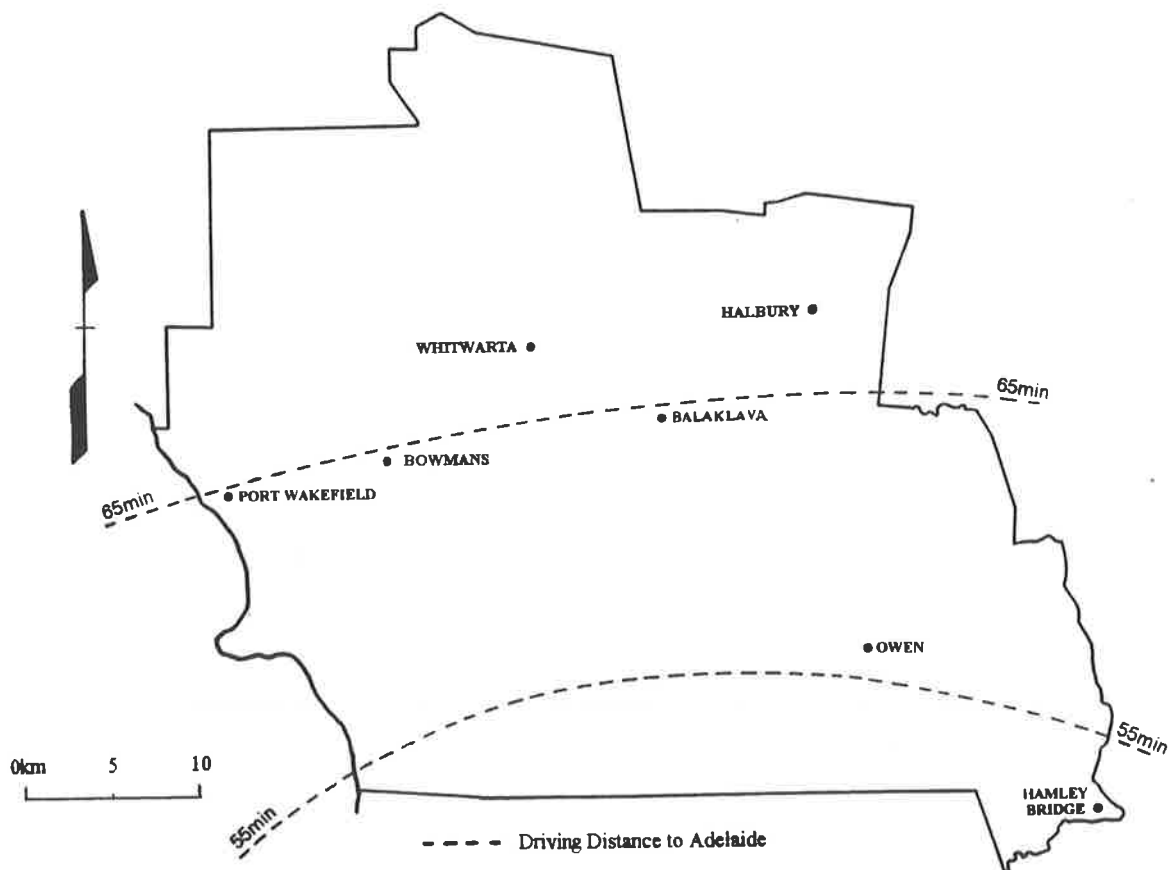
**Table 5.10 Classification of Migrant Households by Growth Process**

Household Type	Migrant Origin	Classification Indicators	
		Migrant Behaviour	Migrant Motivation
Suburbanites	in-migration from the ASD to adjacent peri-urban locations	maintain strong employment/social connections with the ASD	cost of housing, accessible location
Counterurbanites	in-migration from the ASD to both adjacent and more distant peri-urban locations	more tenuous employment/social linkages maintained with the ASD	lifestyle
Centripetal Migrants	outlying rural areas, interstate, overseas	employed either in the ASD and peri-urban region, but have only occasional social contact with the ASD	family, employment/ economic
Local Movers	elsewhere in same SLA of residence or other SLAs within the peri-urban region	activity patterns largely contained in the local area	employment/ economic

### 5.5.1 Wakefield Plains

Wakefield Plains SLA is located on the periphery of the peri-urban region and has experienced continued population increase over the past 15 years. It is a predominantly rural area, dependent largely on broadacre, dryland agriculture. Located in the Adelaide Plains region, Wakefield Plains is a generally flat, dry featureless region which possesses few of the attractive physical characteristics usually associated with rural living. This low amenity SLA has only moderate access to the ASD. The well-established country town of Hamley Bridge is located just within commuting distance to Adelaide (55 minutes driving time). However, the majority of the established towns and small rural settlements<sup>7</sup> are located beyond commuting range (65+ minutes) (Figure 5.17).

**Figure 5.17 Location of Towns and Rural Settlements in Wakefield Plains SLA**



<sup>7</sup>See Appendix E for classification of case study areas by location type.

Residential development has been steady in Wakefield Plains in recent years, with 128 new dwelling approvals over the 1990-94 period. Approximately half of this development has occurred in the established towns of Balaklava, Port Wakefield and Hamley Bridge, while the remainder has been concentrated in small rural settlements such as Owen and the rural hinterland. Throughout this SLA, sub-division of rural holdings into small allotments is evident, particularly in locations such as Whitwarta, Halbury and Bowmans (see Appendix F). Hence, according to the nature of residential development and settlement types in Wakefield Plains, suburbanisation is potentially an important growth process in the SLA, particularly in the town of Hamley Bridge, despite the conclusions from the aggregate analysis.

Based on the spatial mix of growth processes at the SLA level, it was concluded that counterurbanisation would be the dominant process in Wakefield Plains. The influence of this process was hypothesised to decrease somewhat with distance from the ASD, while population retention and centripetal migration became more significant. This expected spatial distribution will now be assessed, based on analysis of the survey data.

In terms of the origin of migrants, the census data show the ASD to be the most important source of in-migration (35.5 per cent). However centripetal migration, particularly from outlying rural areas (28.5 per cent) and people moving from elsewhere within Wakefield Plains SLA (27 per cent) were also important. Table 5.11 shows that the census and survey data reveal a similar profile in terms of the origin of migrants to Wakefield Plains.

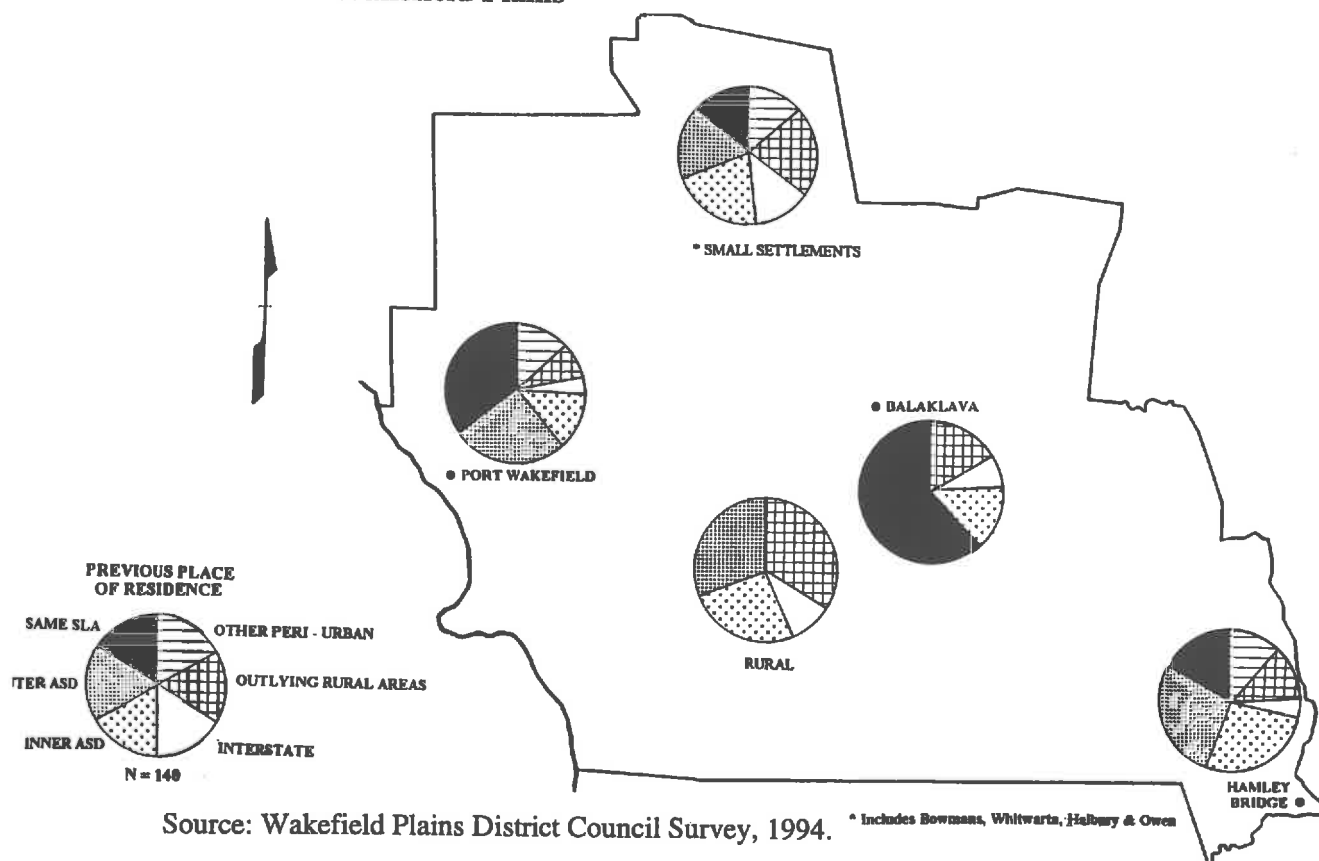
**Table 5.11 Previous Place of Residence of Migrant Households, Wakefield Plains**

Previous Place of Residence	1991 Census	Household Survey, 1994
Same SLA	27.0	27.1
ASD	35.5	40.7
Other Peri-urban	9.1	6.4
Outlying Rural Area	15.4	17.9
Interstate and overseas	13.1	7.9
Total	100.0	100.0

Source: ABS 1991 Census and Wakefield Plains District Council Survey, 1994

Turning to the survey data, Figure 5.18 shows the distribution of recent migrants, according to immediate place of previous residence, and highlights the spatial variation between sources of in-migration evident at the local level. The concentration of people from elsewhere in the same SLA moving into the well-established town of Balaklava accounted for more than half of in-migration and provides clear evidence of population retention. Local movement was also significant in the well-established town of Port Wakefield (34.8 per cent), although in-migration from the ASD accounted for a slightly greater proportion of the in-flow (39.1 per cent). The ASD was also a dominant source of in-migrants to Hamley Bridge, the town with the best access to the ASD, accounting for more than half of the in-flow (55.6 per cent). The rural hinterland of Wakefield Plains also experienced significant in-migration from the ASD (54.6 per cent). Hence, the data suggest that although the ASD was an important source of in-migration throughout the SLA, this decreased with distance from Adelaide.

**Figure 5.18 Distribution of Recent Migrants by Previous Place of Residence, Wakefield Plains**



Source: Wakefield Plains District Council Survey, 1994.

\* Includes Bowmans, Whitwarta, Halbury & Owen

Further evidence of this spatial pattern is shown in Table 5.12. If Wakefield Plains is divided into rural and urban components, the ASD was clearly an important source of in-migrants to both sectors. More than half of in-migrants to the rural sector originated from the ASD, which implies that a significant proportion of the in-flow to Wakefield Plains were counterurbanites in search of a rural property or hobby farm. Centripetal migration was also important, as in-migration from outlying rural areas and interstate accounted for 35 per cent of the in-flow to the rural sector. In contrast, a greater degree of intra-SLA local concentration was evident in the urban component, as 43 per cent of recent migrants moved into the well-established towns from other addresses within the same SLA, or other peri-urban SLAs, compared with only 10 per cent in the rural sector. This provides clear evidence of population retention within the urban sector of this SLA.

**Table 5.12 Distribution of Recent Migrants by Previous Place of Residence in Urban and Rural Sectors, Wakefield Plains (Household Heads only)**

Previous Place of Residence	Urban	Rural	Total
Same SLA	34.0	10.0	27.1
ASD	35.0	55.0	40.7
Other Peri-urban	9.0	-	6.4
Outlying Rural Areas	17.0	20.0	17.9
Interstate	5.0	15.0	7.9
Total	100.0	100.0	100.0
N	100	40	140

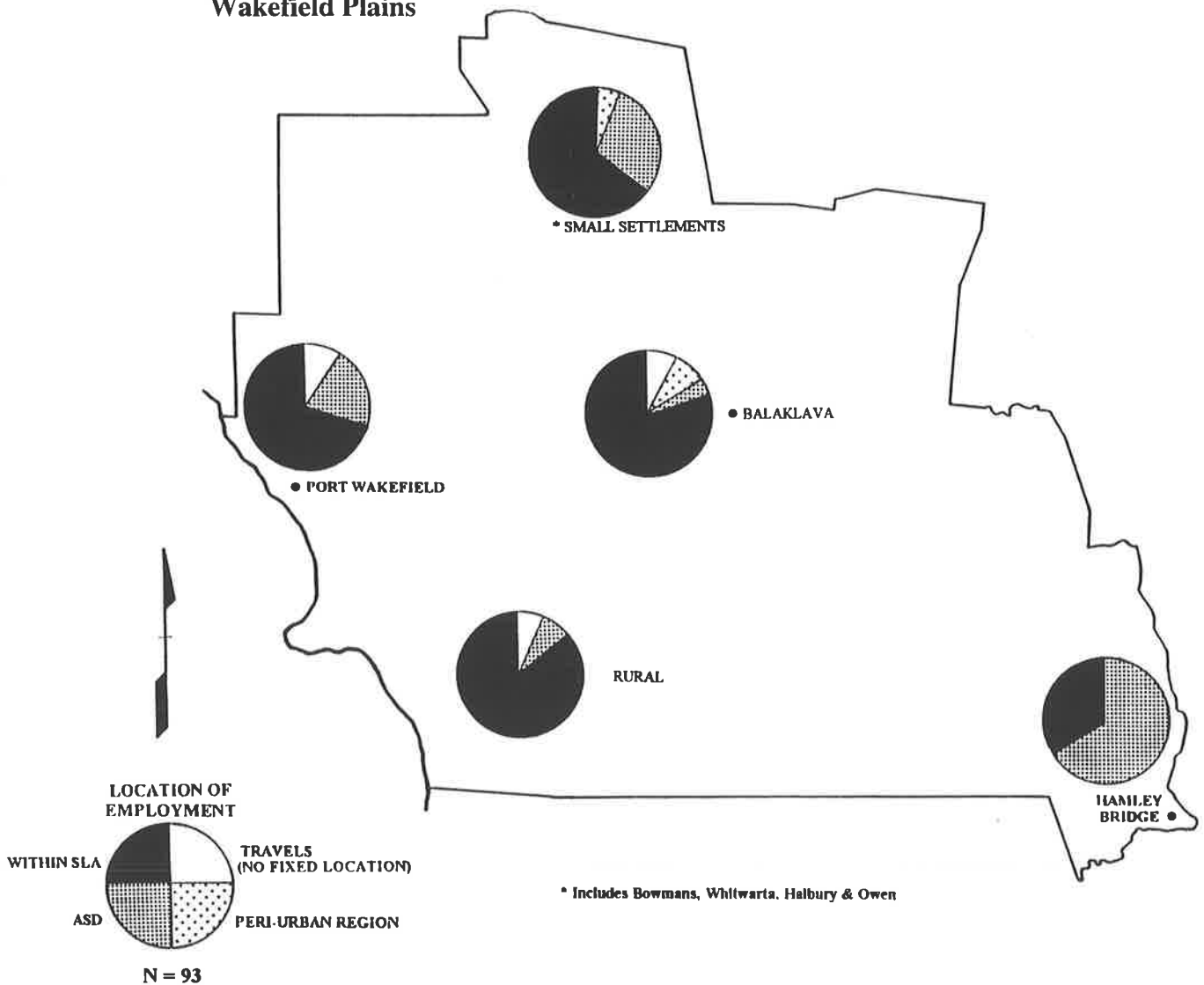
Source: Wakefield Plains District Council Survey, 1994

Note: Urban sector includes Balaklava, Port Wakefield and Hamley Bridge.  
Rural sector includes other small settlements and the rural hinterland.

Turning to the journey to work destination of migrants, the absence of census data for Wakefield Plains precluded analysis of this indicator at the SLA level. Nevertheless, the macro-scale analysis suggested that self-containment and cross-commuting, which are characteristic of counterurbanisation and population retention, would be evident in Wakefield Plains. The survey data support this hypothesis, with 70 per cent of recent migrants employed within the same SLA. A further 25 per cent travelled to the ASD

for employment. However, the relative significance of the ASD as an employment destination decreases with distance from Adelaide. Figure 5.19 shows that some 66.7 percent of Hamley Bridge's migrant workforce commuted to the ASD, compared with only 4 per cent of Balaklava's migrant workforce. Furthermore, the importance of self-containment in Wakefield Plains is clear, as 70 per cent of Port Wakefield's migrant workforce and more than 80 per cent of recent migrants in Balaklava and the rural hinterland, worked locally within the SLA.

**Figure 5.19 Distribution of Recent Migrants by Journey to Work Destination, Wakefield Plains**



Source: Wakefield Plains District Council Survey, 1994.



Based on the journey to work destination of migrants alone, the importance of counterurbanisation and population retention in Wakefield Plains is apparent. The significance of self-containment in Wakefield Plains is highlighted as more than 80 per cent of the local population also worked within the peri-urban region. The peri-urban region was also the dominant workplace among centripetal migrants (70 per cent). Around 30 per cent of migrants from the ASD maintained their urban employment, and the majority were located in Hamley Bridge, the town closest to Adelaide. Nevertheless, almost 70 per cent of recent migrants from the ASD had re-established their employment linkages within the local area, which provides clear evidence for counterurbanisation.

The frequency of travel to metropolitan Adelaide for purposes other than employment provides a measure of the degree of social connectivity maintained by migrants with the metropolitan area. In Wakefield Plains, more than half (59.7 per cent) of recent migrants from the ASD maintained strong linkages, travelling to Adelaide at least fortnightly; but this does not single them out from the recent migrants generally, as 50 per cent of migrants from outlying rural areas and interstate also travelled to Adelaide at least every two weeks (Table 5.13).

**Table 5.13 Place of Previous Residence and Frequency of Travel to Adelaide of Recent Migrants, Wakefield Plains (Household Heads Only)**

Frequency of Travel to ASD	Previous Place of Residence			Total
	Same SLA	ASD	Other Rural/ Interstate	
At Least once/week	10.8	24.6	15.9	18.1
Fortnightly	32.4	35.1	34.1	34.1
Monthly	24.3	24.6	15.9	21.7
Occasionally	23.7	10.5	25.0	20.3
Never	2.8	5.2	9.1	5.8
Total	100.0	100.0	100.0	100.0
N	39	57	44	140

Source: Wakefield Plains District Council Field Survey, 1994

A clear difference exists, however, among those migrants maintaining at least weekly contact with the ASD. A quarter of migrants from the ASD maintained weekly contact with Adelaide, compared with less than a fifth of all other groups. These results show that although strong social linkages are maintained with the metropolitan area by approximately half of migrants from Adelaide, these linkages were more tenuous among migrants originating elsewhere. But even among the migrants from the ASD, a quarter only travelled to Adelaide on a monthly basis and 10.5 per cent only occasionally.

Turning to the motivation of migrants to Wakefield Plains, several factors emerge as influencing the residential location decision (Table 5.14). Among the households who changed their place of residence within Wakefield Plains SLA, the major determinant for the retention of their peri-urban location was employment (42.9 per cent). This was followed by family related reasons (28.6 per cent) and the cheaper cost of land and housing (21.4 per cent). Residents of longer standing are choosing to remain within the region upon leaving the family home.

**Table 5.14 Main Reason for Moving to Current Residence by Previous Place of Residence of Recent Migrants, Wakefield Plains (Households)**

Reason for Moving	Previous Place of Residence			Total
	Same SLA	ASD	Other Rural/ Interstate	
Employment	42.9	13.8	23.8	19.1
Lifestyle Related	7.1	58.6	19.0	38.1
Family Related	28.6	10.3	14.3	17.7
Cheaper Cost of Land/Housing*	21.4	10.3	9.5	13.3
Hobby/Farming	-	6.9	4.8	4.4
Locational factors	-	-	28.6	7.4
Total	100.0	100.0	100.0	100.0
N	23	29	21	73

Source: Wakefield Plains District Council Field Survey, 1994

Note: \*Cheaper cost of land/housing refers to the perceived cheaper cost of the current residence in comparison to the previous place of residence of recent migrants

On the other hand, locational factors such as accessibility to Adelaide were not reasons for migrants from the ASD moving to Wakefield Plains. Some evidence of typically suburbanite motivation was reflected in the 10.3 per cent of migrants from the ASD who gave the cheaper cost of land and housing as a reason for moving. These households were concentrated in the small suburban-like developments of Halbury and Bowmans, although the numbers were very small (3 recent migrant households). In contrast, among those households originating in the ASD, lifestyle factors such as the typically counterurban pursuit of a quiet, rural environment, away from city life, were far more important, accounting for more than half (58.6 per cent) of these households.

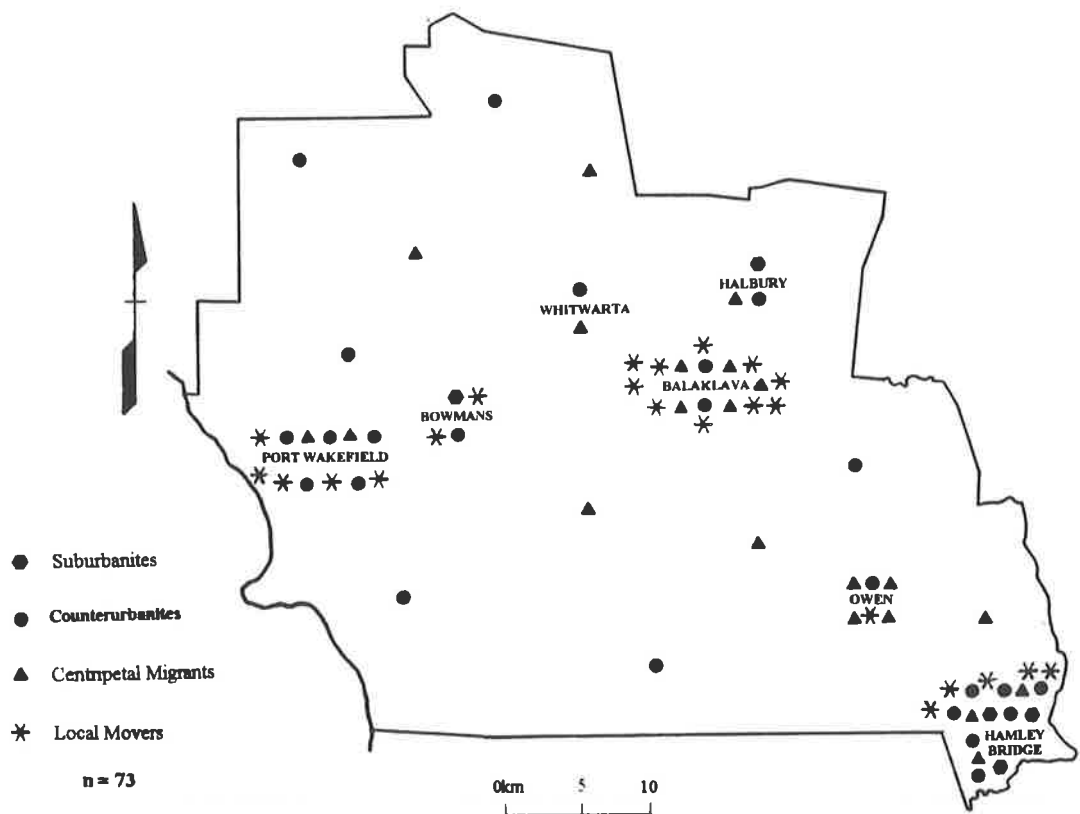
Among respondents moving from other rural locations or from interstate, locational factors were the main reason for moving to Wakefield Plains. An improved degree of accessibility to the ASD was important for centripetal migrants, particularly those from outlying rural areas, as movement into the peri-urban region is often to satisfy requirements for greater accessibility to the ASD, whilst retaining a rural location. A further 23.8 per cent of migrants from other rural areas gave employment-related reasons for their move. This concurs with the findings of Smailes (1996a) who found that, displaced from farm work in the rural periphery, centripetal migrants move to the peri-urban region in search of employment either within the region itself or in the metropolitan labour market.

On the balance of these three indicators (migrant origin, connectivity and motivation), the survey households can now be categorised as either suburbanite, counterurbanite, centripetal migrant or local mover (retained population). Figure 5.20 shows the spatial distribution of these four household types. In Hamley Bridge, the town with the best access to Adelaide, evidence of suburbanisation was apparent from the survey data, although the influence of this process was minimal. Similarly, limited evidence of suburbanisation was apparent in the suburban-like developments of Bowmans and Halbury. Hence, despite the lack of evidence for suburbanisation in Wakefield Plains at

the macro-scale analysis, the survey data showed some minimal evidence of this process at the local level.

The vast majority of recent migrants from the ASD have not maintained strong connections with Adelaide in terms of employment and cite lifestyle reasons for moving to their current residence. These households can be classified as counterurbanites and as Figure 5.20 shows, they were concentrated in the well-established country towns of Port Wakefield and Hamley Bridge, and the rural hinterland.

**Figure 5.20 Spatial Distribution of Recent Migrant Household Types, Wakefield Plains**

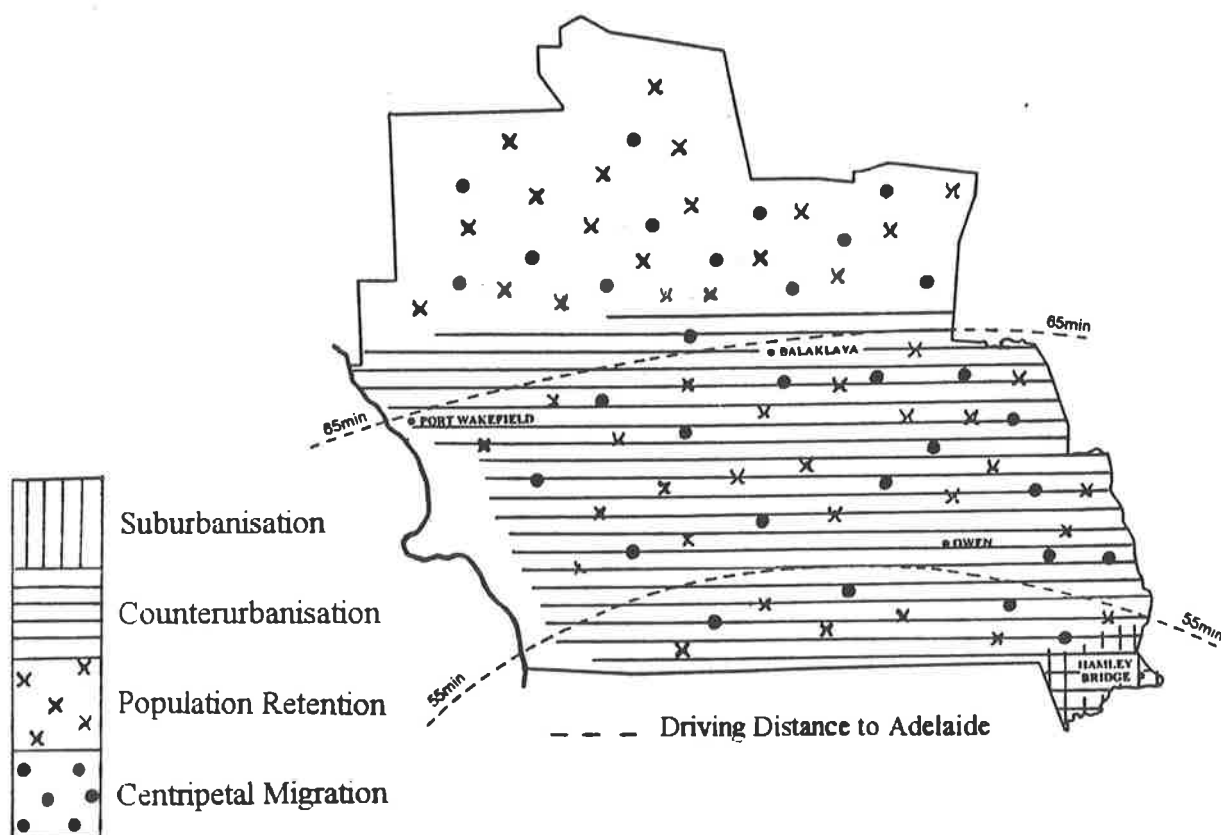


Indeed, the moderate amenity value of Hamley Bridge was particularly attractive to counterurbanites. Local mover and centripetal migrant households were predominantly concentrated in the well-established country town of Balaklava, and to a lesser extent

in Port Wakefield and Hamley Bridge. Centripetal migrants were also concentrated in the small rural settlement of Owen and the rural hinterland.

The spatial pattern of growth processes which emerges from the survey data in Wakefield Plains largely confirms the findings from the aggregate analysis (Figure 5.21). In contrast to the macro-scale pattern, some evidence of suburbanisation was evident at the local level, particularly in locations closest to Adelaide (Hamley Bridge) and isolated suburban-like developments (Halbury and Bowmans). Nevertheless, the influence of this process was minimal. Counterurbanisation was clearly the most significant process, particularly in the well-established towns and rural hinterland, but the influence of this process declined with distance from the ASD. Conversely, population retention and centripetal migration increased in relative significance at the outer edges of the SLA.

**Figure 5.21 Broad Pattern of Demographic Growth Processes at the Local Level, Wakefield Plains**



### 5.5.2 Mallala

In Mallala SLA, rapid population growth in recent years has been imposed on a region largely based on dryland agriculture. Substantial low density, semi-agricultural and residential development characterises this highly accessible, but low amenity SLA. Residential development has been significant in Mallala, with 492 new dwelling approvals recorded between 1990 and 1994. A substantial supply of existing vacant allotments is available throughout the SLA, and hence further rezoning for residential purposes is unlikely to be necessary.

New residential development has primarily been focused in Lewston (Figure 5.22). The sub-division of broadacre land into suburban-sized residential blocks<sup>8</sup> has been extensive in this area (see Appendix G), although further sub-division is limited due to water restrictions. Legislation in force at the time when Lewiston was developed was weak and unable to prevent the sub-division of unsuitable land (Harris 1993, p.16). Further sub-division of land in Lewiston is not possible if it is likely to be inundated by tidal or floodwaters. The township of Two Wells has long served as a small rural centre, although in recent times, suburban-like sub-divisions have been developed on the outskirts of the town.

Other suburban-like developments which are relatively isolated and lack the provision of associated services are evident in Parham, Port Gawler, Windsor and Wild Horse Plains (Figure 5.22). Population growth has largely been concentrated in such residential sub-divisions, and to a lesser extent in the established town of Mallala and the smaller rural settlement of Dublin.

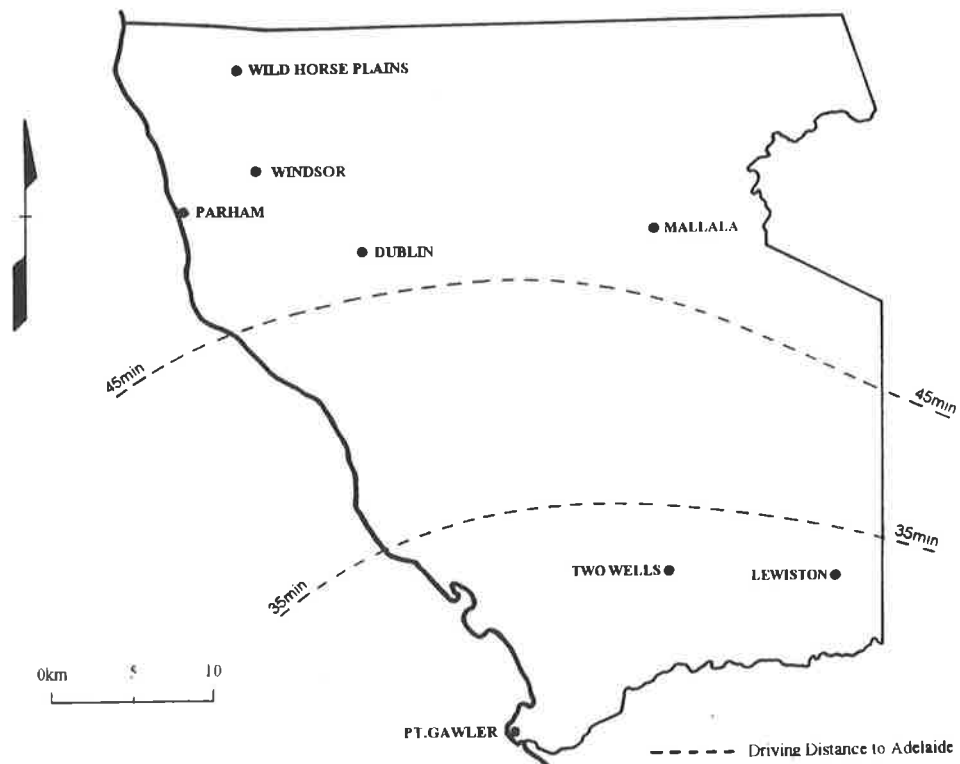
Given this settlement pattern, the overwhelming dominance of suburbanisation is expected in Mallala. Conversely, counterurbanisation, population retention and

---

<sup>8</sup>Although residential blocks in Lewiston are often larger (1 hectare) than typical suburban blocks (700m<sup>2</sup>), the nature of development in this location resembles suburban development.

centripetal migration are likely to be minimal in this SLA, although the influence of these processes may be expected to increase with distance from the ASD. This spatial distribution evident from the macro-scale analysis, will now be assessed at the local level utilising the survey data.

**Figure 5.22 Location of Towns and Rural Settlements in Mallala SLA**



Turning firstly to the origin of migrants, the dominance of in-migration from the ASD (66.7 percent), particularly short-distance movement from the outer ASD (59.9 percent) was evident from the census data in Mallala. Table 5.15 shows that this pattern of in-migration was also apparent from the survey data. According to both data sources, similar proportions of in-migrants moved from within the same SLA and outlying rural areas in Mallala SLA. On the other hand, the census data show that a greater proportion of migrants moved from other peri-urban SLAs, interstate or overseas, compared with the survey data.

**Table 5.15 Previous Place of Residence of Migrant Households, Mallala**

Previous Place of Residence	1991 Census	Household Survey, 1995
Same SLA	13.7	14.4
ASD	66.7	79.7
Other Peri-urban	4.8	0.8
Outlying Rural Area	5.4	4.2
Interstate and overseas	9.5	0.8
Total	100.0	100.0

Source: ABS 1991 Census and Mallala District Council Survey, 1994

Turning to the survey data, Figure 5.23 shows that the ASD accounted for the greatest proportion of in-migrants to all locations. The ASD was overwhelmingly the dominant source of in-migrants to Lewiston (96.3 per cent), with short-distance moves from the outer ASD accounting for 70.4 per cent of the in-flow. Two Wells also experienced substantial in-migration from the ASD (68.8 per cent). Hence, the survey data show that suburbanisation is an important process in the most accessible locations of Lewiston and Two Wells.

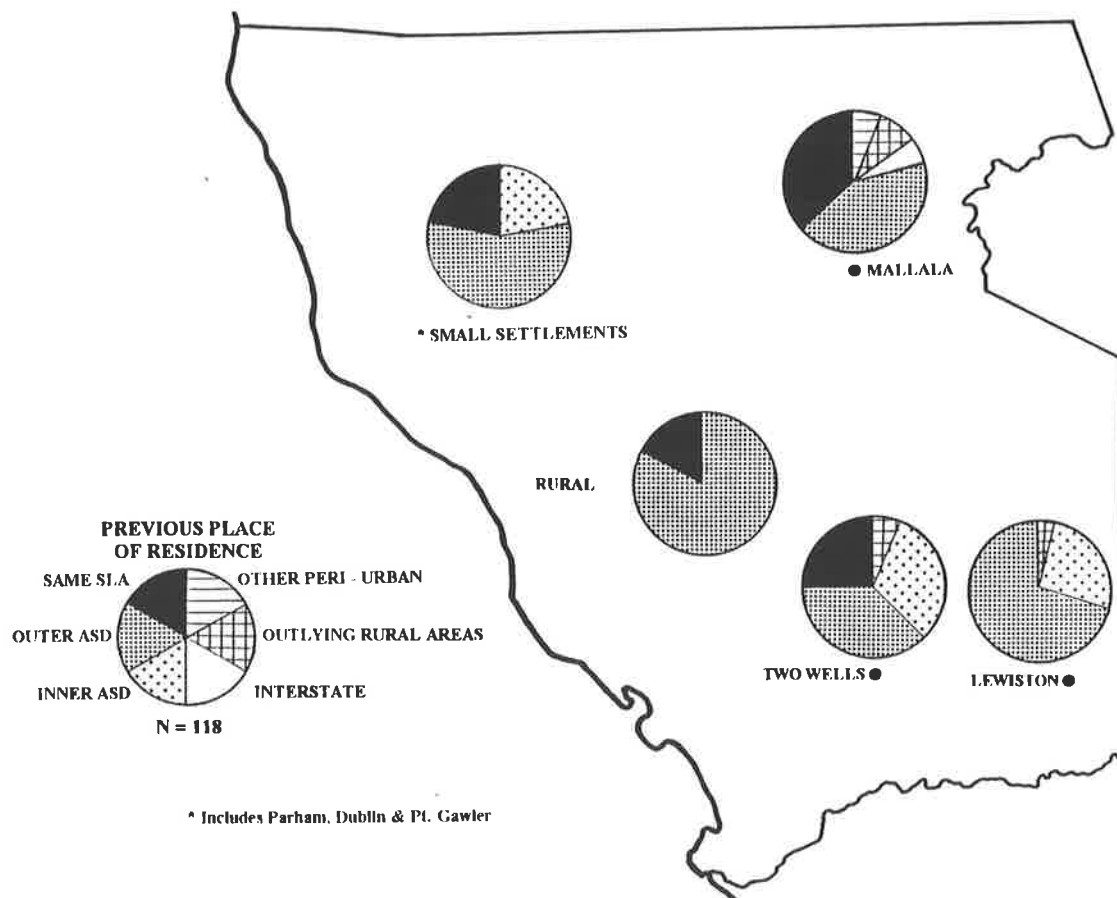
The more distant town of Mallala (42.1 per cent), the rural hinterland (83.3 per cent) and small settlements such as Dublin (73.6 per cent) also recorded significant in-migration from the ASD. Counterurbanites are more likely to move to these types of locations in search of a rural property or hobby farm. Some local population retention was evident in all locations within the SLA (except Lewiston) and this tends to increase in significance with distance from Adelaide, accounting for 36.8 percent of migration to the most northerly township of Mallala. Similarly, the significance of centripetal migration increases with distance from Adelaide accounting for 15.8 percent of in-migration to Mallala township, but with minimal importance in locations closer to Adelaide (Two Wells and Lewiston).

Although displaying some spatial variation throughout the SLA, the dominant source of in-migrants was the ASD. Short-distance moves from the adjacent outer ASD to all



locations confirms the importance of suburbanisation. Clear evidence of a degree of population retention, particularly in Mallala township, was also apparent from the survey data. In contrast, in-migration from interstate and other rural areas (centripetal migration) was minimal among the surveyed households in Mallala.

**Figure 5.23 Distribution of Recent Migrants by Previous Place of Residence, Mallala**



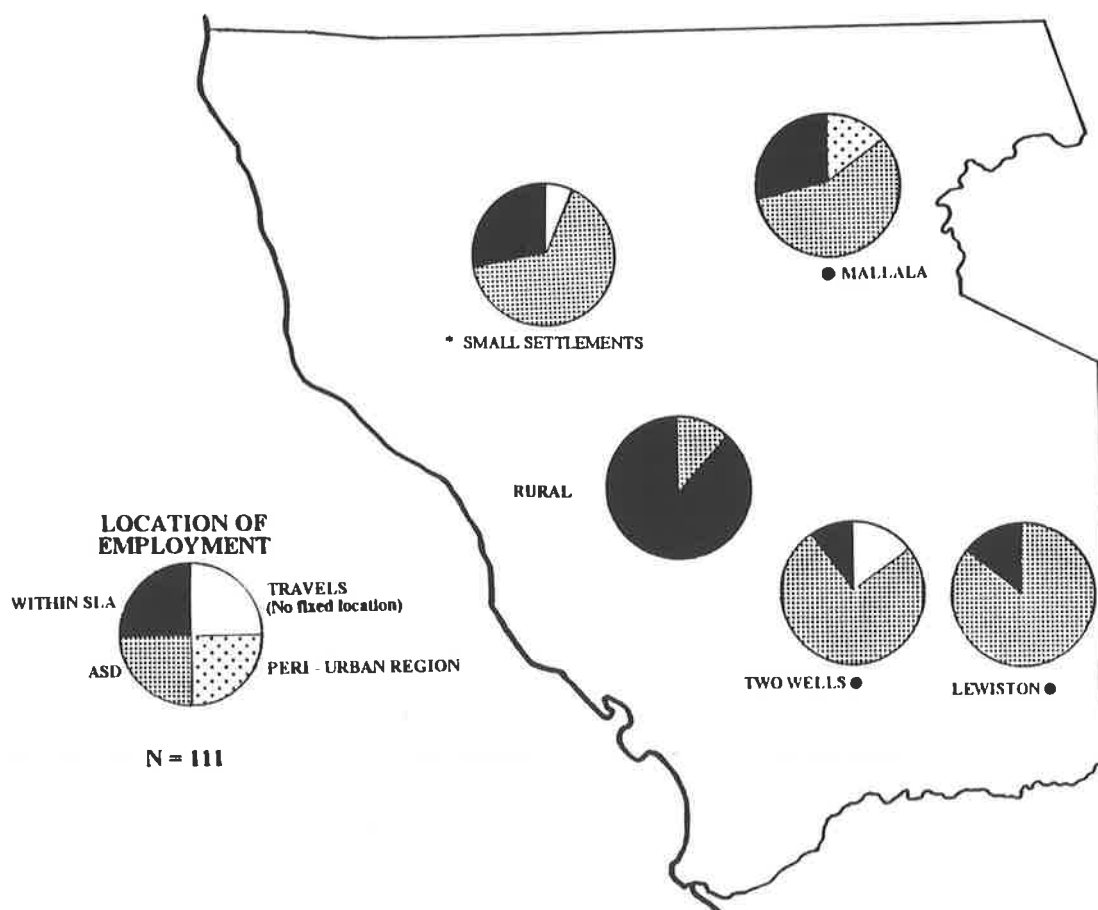
Source: Mallala District Council Survey, 1995

Turning to the journey to work destination of migrants, the ASD was the dominant employment destination for in-migrants to Mallala SLA (72.7 per cent), although some self-containment within the SLA of residence (22.3 per cent) was also evident. This confirms the patterns identified from the census data. Differentiation of the case study area into rural and urban components reveals an identical pattern, with the ASD clearly

dominating the journey to work of migrants in both urban (75 per cent) and rural (73.7 per cent) sectors of Mallala.

Figure 5.24 shows that the relative significance of the ASD as an employment destination decreases with distance from Adelaide in Mallala. The dominance of the ASD as a destination declined from more than three quarters of the workforce in locations adjacent to the ASD (Two Wells and Lewiston), to 57.2 per cent in the township of Mallala. At the same time, the extent of cross-commuting and self-containment increased with distance from Adelaide, from around 10 per cent in Lewiston and Two Wells, to over 40 per cent in Mallala township.

**Figure 5.24 Distribution of Recent Migrants by Journey to Work Destination, Mallala**



Source: Mallala District Council Survey, 1995

The key to differentiating between suburbanisation and counterurbanisation lies in the degree of connectivity maintained by in-migrants from the ASD. In this SLA 85 per cent of total in-migrants from the ASD continued to work in Adelaide and the majority of these households (89.4 per cent) continued to maintain strong social linkages with Adelaide. This pattern underlines the dominance of suburbanisation. However, this varies somewhat throughout the case study area. The vast majority of recent migrants from the ASD in Lewiston (85.7 per cent) and Two Wells (81 per cent) continued to commute to Adelaide for employment and social activities and this provides strong evidence for suburbanisation in these locations. In contrast, the majority of in-migrants from the ASD to Mallala township (64 per cent) have changed their employment to the local area or another peri-urban SLA and only maintained monthly contact with the ASD for social activities. Furthermore, 88.9 per cent of recent migrants to the rural hinterland were employed within Mallala SLA and only travelled to Adelaide occasionally. The majority of these migrants moved from the ASD (83.3 per cent), but the survey evidence suggested that they had changed their employment and social activities towards the local area. These migrants have initiated both a shift in their residence and employment location to the peri-urban region, providing clear evidence of counterurbanisation. The survey data also show a degree of self-containment and cross-commuting, with 45.5 per cent of the local population also working within the peri-urban region. This provides evidence for population retention.

Turning to the motivation for migration, the cheaper cost of land and housing was the dominant reason for approximately a quarter of households moving to Mallala (26.5 per cent). It is often concluded that households are moving to the urban fringe for the purpose of becoming homeowners, moving either from rental status or homes of extended family members when they have saved a sufficient deposit for a home (Burnley and Murphy 1995b, p.134). This is reflected among recent migrants in Mallala, with the majority of those stating land and housing costs as their primary motivation being young families (Ford and Rudd 1996). Table 5.16 reveals that the

cheaper cost of land and housing and locational factors were the main reasons for migrants from the ASD to move to Mallala, and this provides evidence of suburbanisation. In contrast, locational factors, such as proximity to Adelaide, were also important for households who have moved to Mallala from the ASD (20.5 per cent) and also provides evidence of suburbanisation as a growth process. The typically counterurbanite pursuit of a peri-urban lifestyle, away from the city in quiet, country surroundings provided the primary motivation for a smaller proportion (18.2 per cent) of migrants from the ASD.

**Table 5.16 Main Reason for Moving to Current Residence by Previous Place of Residence of Recent Migrants, Mallala (Households)**

Reason for Moving	Previous Place of Residence			Total
	Same SLA	ASD	Other Rural/ Interstate	
Employment	14.3	6.8	12.5	8.2
Lifestyle Related	14.3	18.2	-	14.8
Family Related	28.6	4.5	50.0	13.1
Cheaper Cost of Land/Housing	28.6	27.3	-	23.0
Hobby/Farming	-	18.2	-	13.1
Locational factors	-	20.5	37.5	23.0
Other	14.3	4.5	-	4.9
Total	100.0	100.0	100.0	100.0
N	9	47	5	61

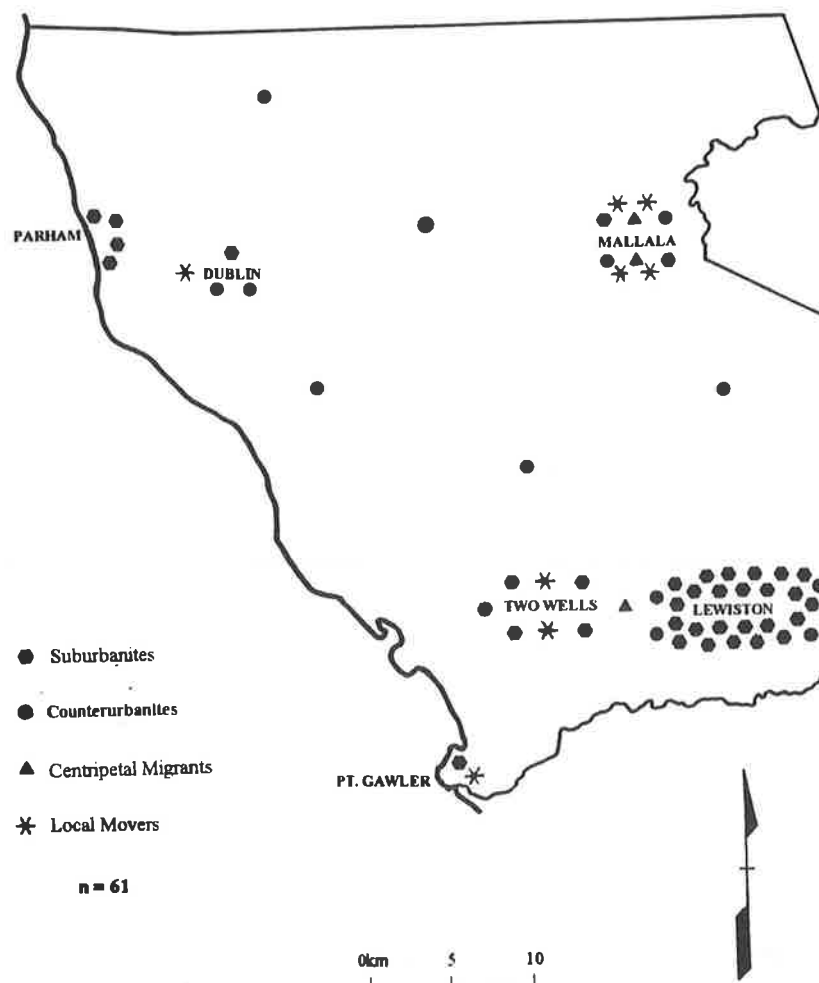
Source: Mallala District Council Field Survey, 1995

On the balance of the foregoing analysis of the characteristics of recent migrant households, the survey respondents can be categorised according to the dominant growth process which brought them to Mallala SLA. Figure 5.25 illustrates the spatial distribution of the four household types and provides clear evidence for the dominance of suburbanisation in accessible locations such as Lewiston, Two Wells and Parham. The vast majority of the surveyed households in these locations previously resided in the ASD, predominantly the outer ASD, and continued to commute to Adelaide for employment and social activities. Furthermore, most of these households cited the

cheaper cost of land and housing or location-related reasons for moving to their current residence. It can be concluded that the 'suburban-like' nature of development in locations such as Lewiston, Parham and part of Two Wells, does attract suburbanites.

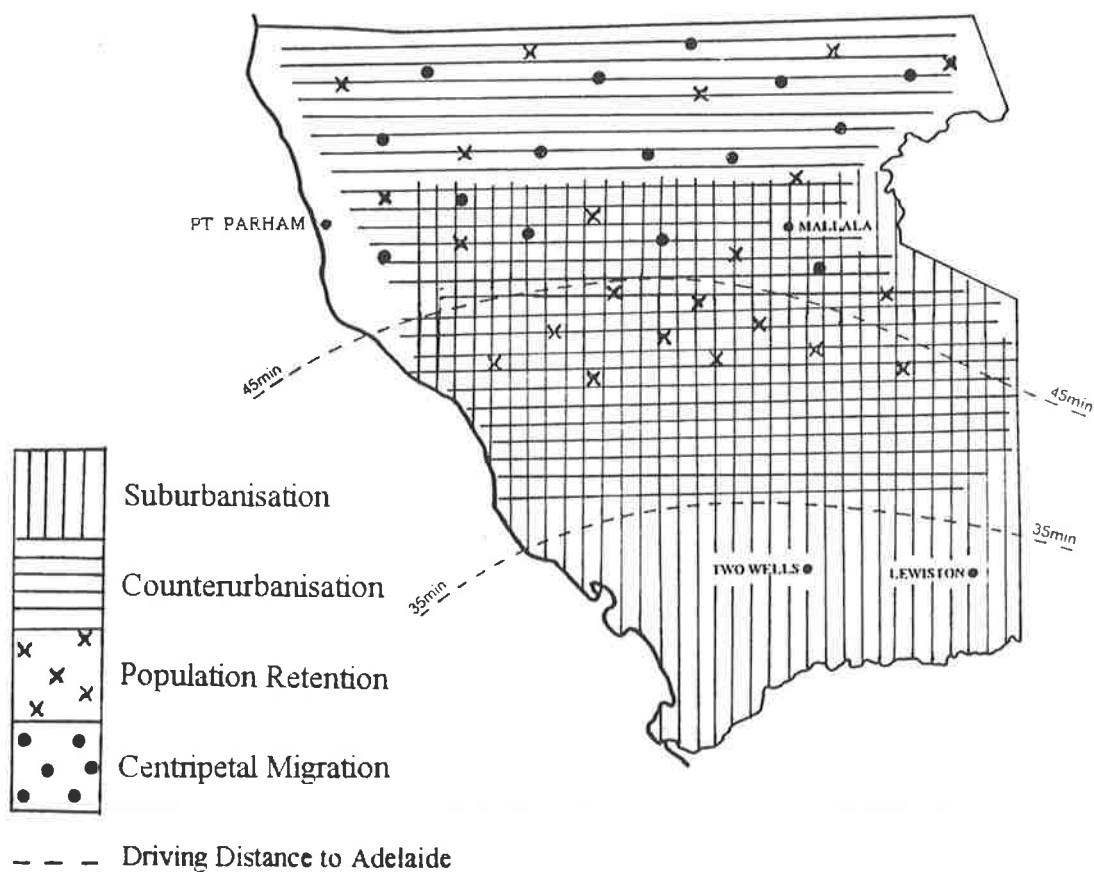
On the other hand, the survey data show that although significant in-flows of recent migrants to the established township of Mallala originated in the ASD, these migrants have not maintained strong connections with the metropolitan region in terms of employment and social activities, and cite lifestyle related reasons for moving to their current residence. The same can be said for recent migrants to the rural hinterland of Mallala and this provides evidence for counterurbanisation in the well-established towns and rural hinterland of this SLA. Similarly, centripetal migrant and local mover households were concentrated in Mallala township and Two Wells.

**Figure 5.25 Spatial Distribution of Recent Migrant Household Types, Mallala**



The spatial distribution of growth processes established at the local level reflects much greater diversity than was evident at the macro-scale in Mallala (Figure 5.26). Suburbanisation was the dominant growth process, particularly in the most accessible, suburban-like locations of Two Wells, Lewiston and Parham. Nevertheless, the survey data reveal that counterurbanisation was a significant process throughout this SLA, and was not simply confined to the most distant locations, as was implied by the aggregate data. In addition, population retention assumes greater importance than was suggested by the macro-scale analysis, particularly in the well-established towns of Mallala and Two Wells.

**Figure 5.26 Broad Pattern of Demographic Growth Processes at the Local Level, Mallala**



### 5.5.3 Strathalbyn

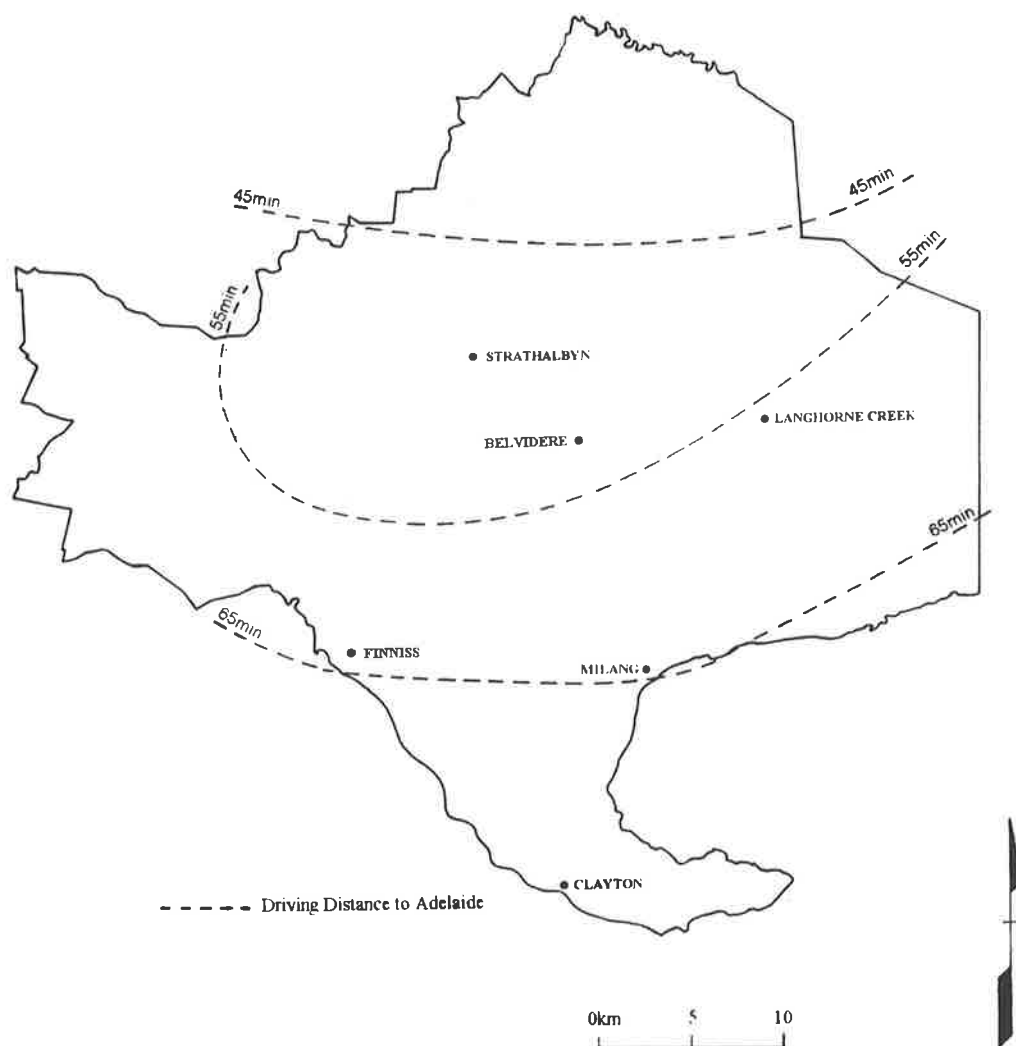
Although Strathalbyn is traditionally a rural service centre for agricultural industries, population growth in this SLA has been significant. The SLA shares a short common boundary with the ASD, but linkages are more attenuated than in Mallala, reflecting its more distant location and longer travel times to Adelaide (45-65+ minutes). In contrast to Mallala and Wakefield Plains, Strathalbyn is a high amenity region, located within the attractive and naturally diverse Fleurieu Peninsula.

Residential growth within Strathalbyn SLA has been considerable in recent years (189 new dwelling approvals between 1990-94). Suburban-like development in this SLA has occurred largely within the main township of Strathalbyn itself (see Appendix H). However, the extent of suburban-like sub-division in Strathalbyn township has changed the identity of this historic rural service centre somewhat. The physical spread, type and rate of change (over 300 dwellings, 20 per cent as units, in 1986-92) has been significant and relatively new housing now accounts for a third of the dwelling stock. A proposed large scale, residential golf course development is currently under investigation, which would further change the 'country town' nature of Strathalbyn township. A small, isolated suburban-like development also exists south-east of the township at Belvidere (Figure 5.27). Situated on Lake Alexandrina, the established town of Milang is dominantly a retirement destination. Small rural settlements with minimal services, largely consisting of hobby farms and non-farms households, are located at Finniss, Clayton and Langhorne Creek.

In Strathalbyn SLA, the mix of growth processes according to the macro-scale analysis, displays considerable spatial overlap. Based on the broad patterns evident at the SLA level, suburbanisation was expected to be an important process in those locations with good access to Adelaide. Nevertheless, the aggregate data strongly suggested that counterurbanisation, population retention and centripetal migration

would exert greater influence throughout the SLA, particularly as distance from the ASD increases. This spatial pattern will now be assessed at the local level.

**Figure 5.27 Location of Towns and Rural Settlements in Strathalbyn SLA**



Compared with Mallala and Wakefield Plains, Strathalbyn shows a much more balanced migration profile. According to the 1991 Census, similar proportions of in-migrants originated in the ASD (34.9 per cent) or moved from elsewhere in Strathalbyn SLA (28.1 per cent). However, compared with the census data, the survey data suggest that a smaller proportion of the surveyed recent migrants (20.8 per cent) moved from elsewhere in Strathalbyn and the ASD (29.2 per cent), while centripetal



migration accounted for a greater proportion of in-migration (29.3 per cent) (Table 5.17).

**Table 5.17 Previous Place of Residence of Migrant Households, Strathalbyn**

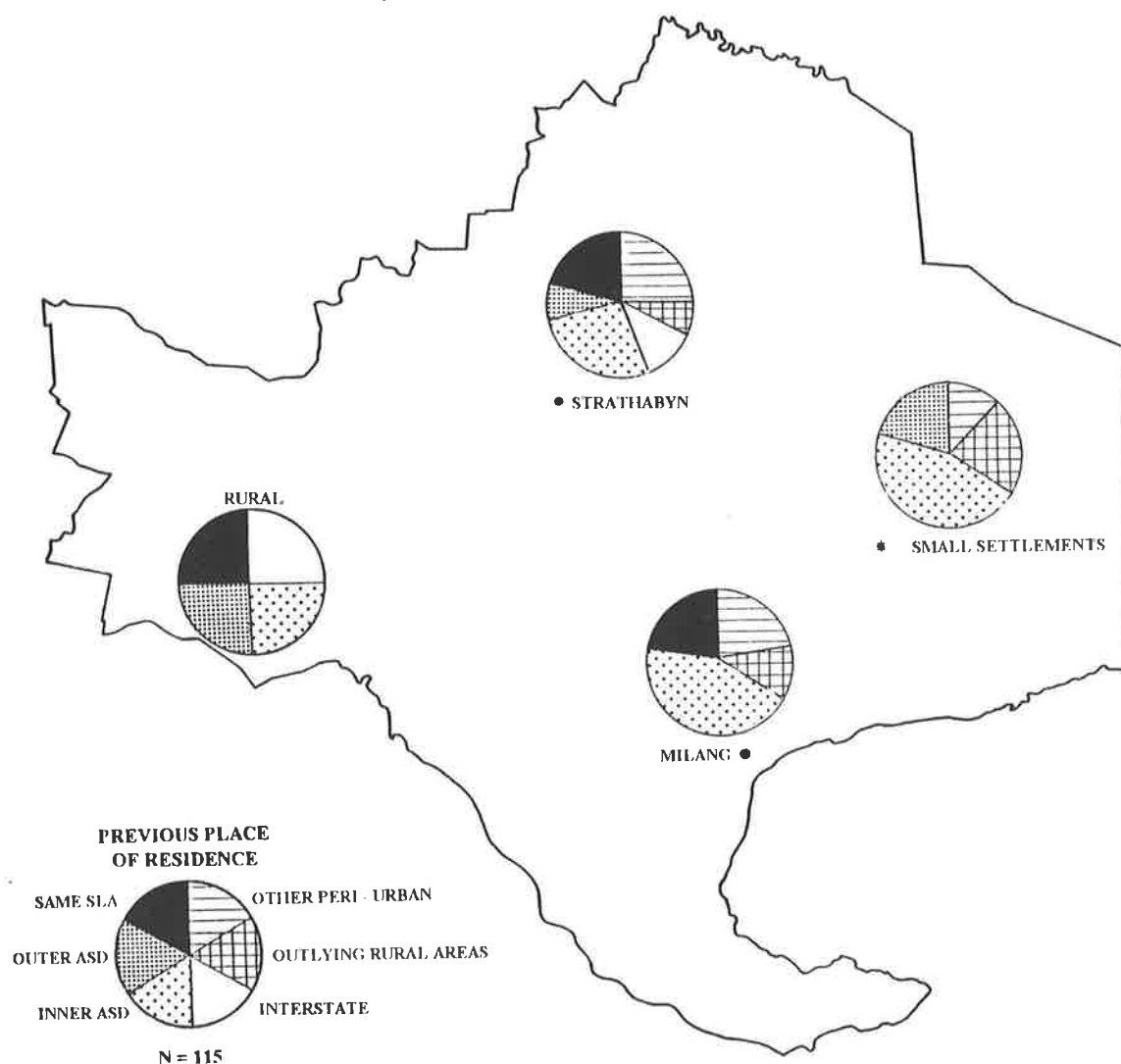
Previous Place of Residence	1991 Census	Household Survey, 1996
Same SLA	28.1	20.8
ASD	34.9	29.2
Other Peri-urban	18.6	20.8
Outlying Rural Area	7.7	12.3
Interstate and overseas	10.5	17.0
Total	100.0	100.0

Source: ABS 1991 Census and Strathalbyn District Council Survey, 1996

Turning to the survey data, Figure 5.28 illustrates this distribution at the local level. The smaller rural settlements and the rural hinterland were the focus for in-migrants from the ASD, outlying rural areas and interstate, and this pattern provides clear evidence of centripetal migration and counterurbanisation in these locations. Recent migrants originating in other peri-urban locations and from within the SLA itself were marginally more significant in the well-established towns of Strathalbyn and Milang and this provides evidence for a degree of population retention in these locations.

If the SLA is divided into rural and urban components (Table 5.18), the ASD was clearly the most important source of in-migration to the rural sector (44 per cent), but contributes a smaller proportion of the inflow to the urban sector (24.7 per cent). This indicates that counterurbanisation is a dominant process in this SLA, given the typically counterurban pursuit of a more 'rural' lifestyle. In contrast, population retention appears to be more significant in the urban sector of Strathalbyn, with almost half of recent migrants (49.4 per cent) either moving locally within the SLA or from within the peri-urban region. Centripetal migration from outlying rural areas and interstate was significant in the rural sector, and to a lesser degree in the urban sector of Strathalbyn, which mirrors the pattern found in Wakefield Plains.

**Figure 5.28 Distribution of Recent Migrants by Previous Place of Residence, Strathalbyn**



Source: Strathalbyn District Council Survey, 1996

\*Includes Belvidere, Langhorne Creek, Finliss & Clayton

**Table 5.18 Distribution of Recent Migrants by Previous Place of Residence in Urban and Rural Sectors, Strathalbyn (Household Heads only)**

Previous Place of Residence	Urban	Rural	Total
Same SLA	24.7	8.0	20.8
ASD	24.7	44.0	29.2
Other Peri-urban	24.7	8.0	20.8
Outlying Rural Areas	8.6	24.0	12.3
Interstate	17.3	16.0	17.0
Total	100.0	100.0	100.0
N	81	25	106

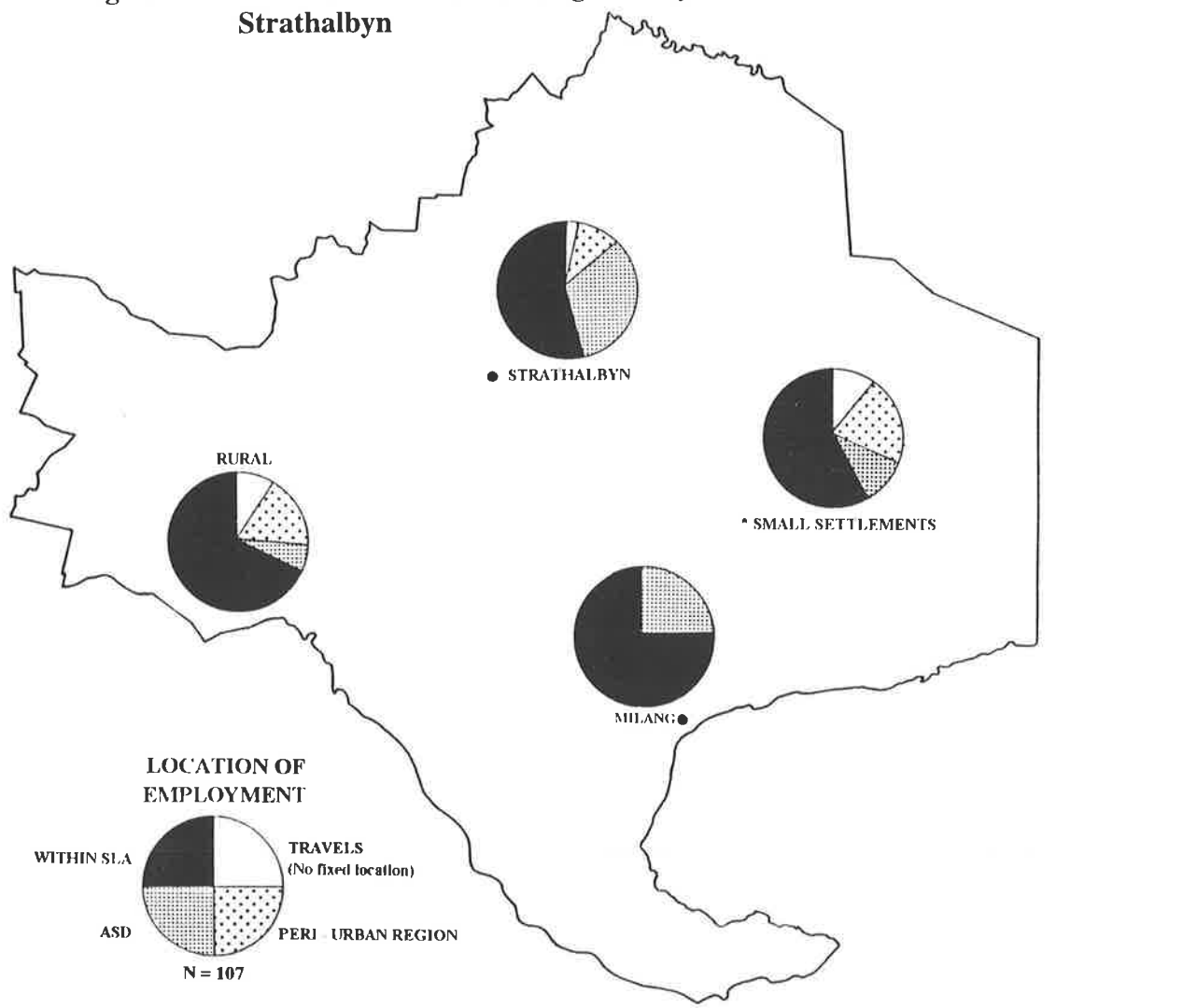
Source: Strathalbyn District Council Survey, 1996

Note: Urban sector includes Strathalbyn township and Milang.

Rural sector includes other small settlements and the rural hinterland.

Turning to the journey to work destination of migrants, the census data showed that counterurbanisation and population retention were important processes in Strathalbyn, based on the proportion of the workforce either working within the SLA of residence or another peri-urban location. The survey data confirm this pattern, with 54.7 per cent of recent migrants to Strathalbyn employed locally and a further 13.2 per cent commuting to other peri-urban locations, predominantly Mount Barker and Victor Harbor. Only a quarter (26.4 per cent) of recent migrants were employed in the ASD. The importance of locally generated employment in Strathalbyn also becomes clear from Figure 5.29.

**Figure 5.29 Distribution of Recent Migrants by Journey to Work Destination, Strathalbyn**

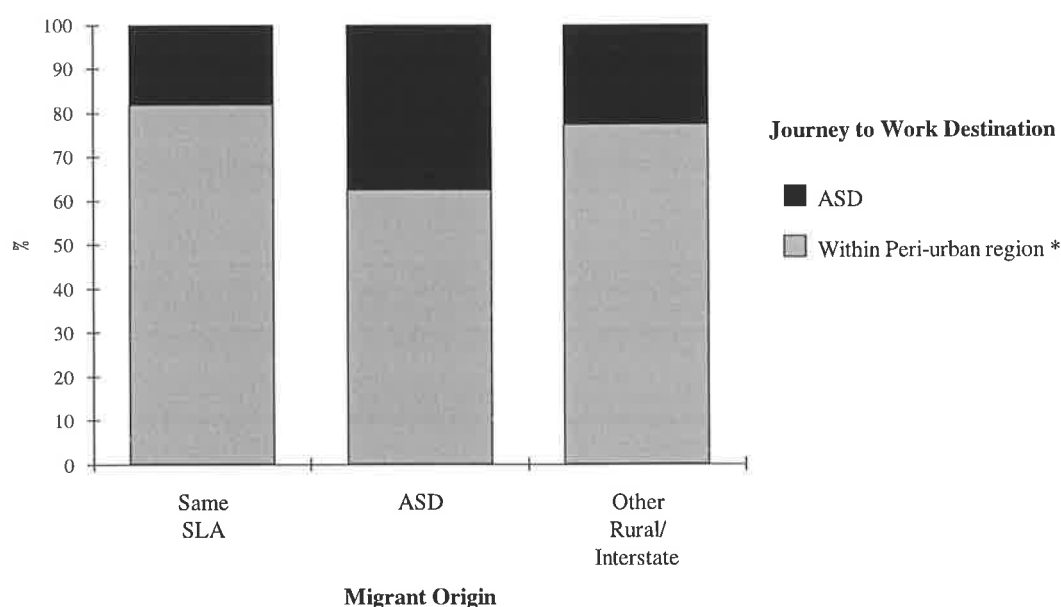


Source: Strathalbyn District Council Survey, 1996

Although significant proportions of migrants in the well-established towns of Strathalbyn (38.3 per cent) and Milang (25 per cent) commuted to Adelaide, a greater proportion of recent migrants were either employed locally or commuted to other peri-urban locations. A similar pattern was evident in the smaller settlements and rural hinterland, with most recent migrants working locally within Strathalbyn.

Based on the journey to work destination of migrants alone, the relative importance of population retention in Strathalbyn is apparent. Differentiation of suburbanisation and counterurbanisation, however, requires analysis of the work destination of migrants together with migrant origin (Figure 5.30).

**Figure 5.30 Journey to Work Destination of Migrants by Origin, Strathalbyn**



Source: Strathalbyn District Council Field Survey, 1996

Note: \*includes same SLA and surrounding peri-urban region

The importance of self-containment is clear, as more than 80 per cent of the local population also worked within the peri-urban region. The peri-urban region was also the dominant workplace among centripetal migrants. In Strathalbyn SLA, more than 60 per cent had re-established their employment linkages within the local area. In

addition, most of these migrant households (70 per cent) only traveled to Adelaide for social activities on a monthly basis. This provides clear evidence of counterurbanisation. On the other hand, 40 per cent of migrants from the ASD maintained their urban employment and continued to travel to Adelaide frequently (visiting at least fortnightly) for social activities. These results indicate that strong social linkages are maintained with the metropolitan area by approximately half of migrants from Adelaide, thus indicating a degree of suburbanisation in Strathalbyn.

Table 5.19 shows that lifestyle-related factors such as the pursuit of a quiet, country environment, away from city life was the major factor for 27.3 per cent of recent migrant households from Adelaide and this provides evidence for counterurbanisation. On the other hand, the survey data show that locational factors, such as accessibility to Adelaide, were also important reasons for 18.2 per cent of households who moved to Strathalbyn from the ASD, and this provides evidence for suburbanisation as a growth process. Furthermore, the typically suburbanite motivation of the cheaper cost of land and housing was the main reason for 27.3 per cent of migrant households moving to Strathalbyn from the ASD.

**Table 5.19 Main Reason for Moving to Current Residence by Previous Place of Residence of Recent Migrants, Strathalbyn (Households)**

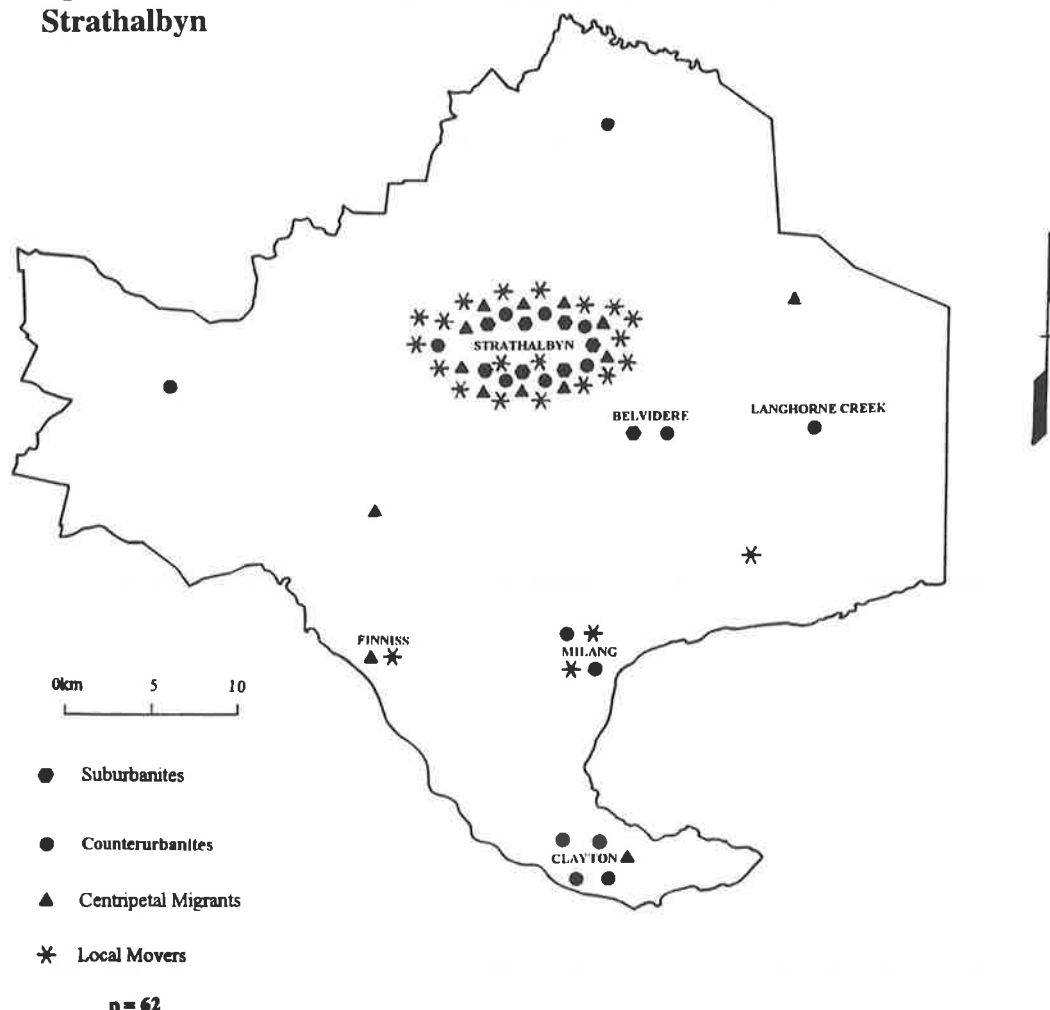
Reason for Moving	Previous Place of Residence			
	Same SLA/Other Peri-urban	ASD	Other Rural/Interstate	Total
Employment	13.0	9.1	23.5	9.7
Lifestyle Related	4.3	27.3	5.9	22.6
Family Related	8.7	4.5	17.6	12.9
Cheaper Cost of Land/Housing	39.1	27.3	11.8	27.4
Hobby/Farming	-	-	-	-
Locational factors	13.0	18.2	23.5	12.9
Other	21.9	13.6	17.6	14.5
Total	100.0	100.0	100.0	100.0
N	23	22	17	62

Source: Strathalbyn District Council Field Survey, 1996

Among the households who changed their place of residence within the same SLA or peri-urban region as a whole, the major determinant for the retention of their peri-urban location was the cheaper cost of land/housing. In contrast, employment and locational factors were the major reasons for centripetal migrants from both outlying rural areas and interstate to move to Strathalbyn. This is consistent with patterns found in the other two case study areas.

Based on this analysis, the surveyed recent migrant households in Strathalbyn SLA can be categorised according to the four growth processes. Figure 5.31 shows that suburbanite households were concentrated within Strathalbyn township. This is to be expected given the absence of isolated suburban-like developments within this SLA (except in Belvidere). Furthermore, the longer travel distance to Adelaide from other towns and settlements within Strathalbyn SLA may deter many suburbanite households.

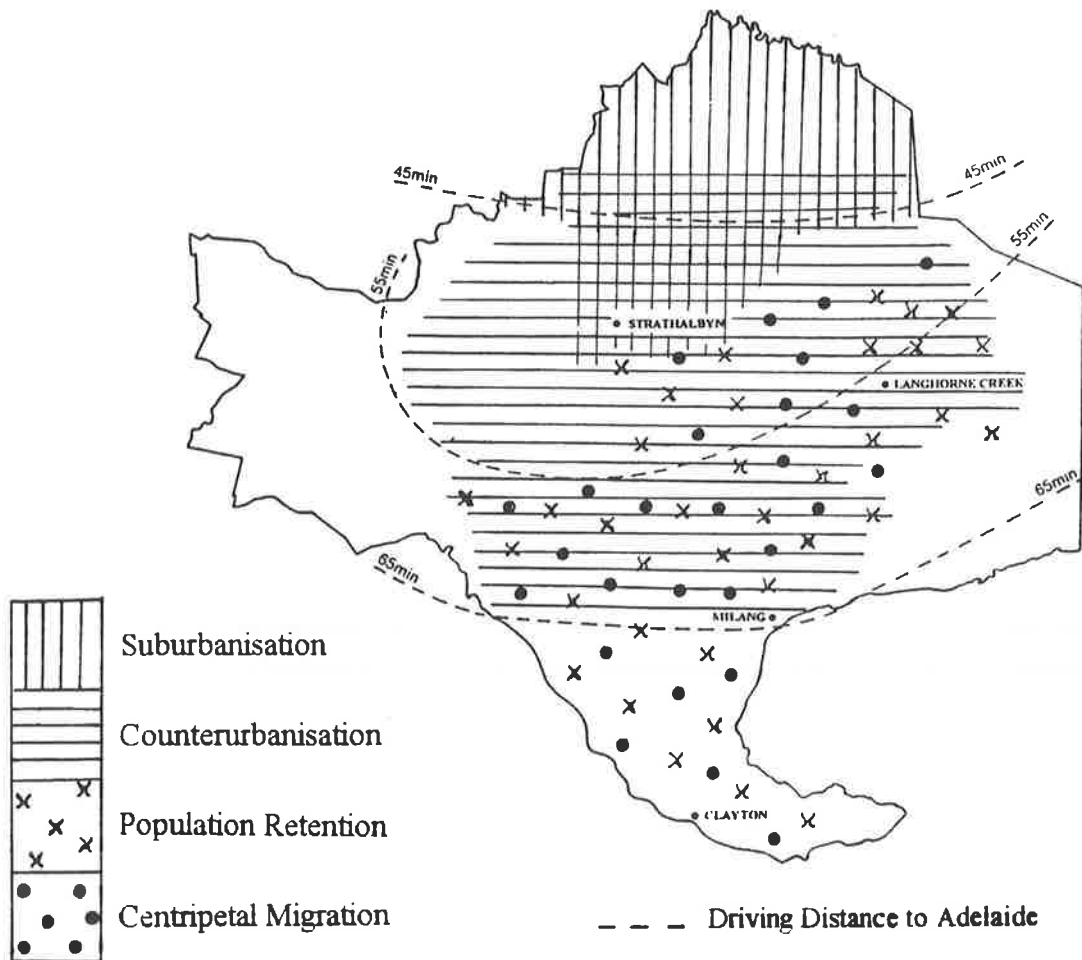
**Figure 5.31 Spatial Distribution of Recent Migrant Household Types, Strathalbyn**



Counterurbanite households were also concentrated in the well-established township of Strathalbyn and Milang and the more distant rural settlement of Clayton. These recent migrant households originated in the ASD but, unlike suburbanite households, they have not maintained strong connections with Adelaide in terms of employment and social activities, and cite lifestyle-related reasons for moving to their current residence.

A similar pattern was evident among recent migrant households in the rural hinterland. This provides clear evidence of counterurbanisation in the well-established towns and rural periphery of Strathalbyn. Strong evidence for population retention and centripetal migration was also apparent from the survey data, particularly in Strathalbyn township. Hence, a complex spatial distribution of processes is evident at the local level (Figure 5.32), which reinforces the diversity suggested by the macro-scale analysis.

**Figure 5.32 Broad Pattern of Demographic Growth Processes at the Local Level, Strathalbyn**



## 5.6 Conclusion

Although distinct boundaries between the four growth processes cannot be drawn with any accuracy, broad patterns of influence can be identified. The differentiation of growth processes based on key indicators reinforces the picture of complexity in the population dynamics of the peri-urban region. The mix of growth processes throughout Adelaide's peri-urban region displays significant spatial overlap at all levels of analysis. Nevertheless, the intensity at which each process operates within the region varies and the relative significance of each process results in distinctive differences between and within SLAs.

The aim of this chapter was to quantify the conceptual model of peri-urban growth by differentiating the four growth processes based on the six key indicators. At the macro-scale of analysis, five of the six indicators have been examined and their contribution towards the differentiation of the four processes assessed. Not all of these indicators were equally quantifiable and some were more useful than others.

Analysis of migrant origin confirmed that in-migration to the peri-urban region is not solely dependent on the ASD, with evidence of centripetal migration and population retention throughout the region. As a measure of the relative intensity of the four processes, the origin of migrants was useful in distinguishing population retention and centripetal migration from the other two processes. In terms of the distinction between suburbanisation and counterurbanisation, this indicator provided strong evidence for the role of counterurbanisation in the outer peri-urban region. Nevertheless, this distinction was not possible in those SLAs located at the boundary of the ASD.

Analysis of the journey to work data contributed further to the distinction between suburbanisation and counterurbanisation in the SLAs surrounding the ASD. Based on the degree of connectivity maintained with the ASD through commuting, it was possible to establish the greater relative importance of suburbanisation in those SLAs



with good access to Adelaide, while the contribution of counterurbanisation was greater in those SLAs which have less ready access to Adelaide. The extent of self-containment of employment and cross-commuting within the peri-urban region could also be measured and provided evidence of the degree of counterurbanisation and population retention.

A further three indicators were addressed at the SLA level. These relate indirectly to the migrants' behavioural pattern through their choice of peri-urban residence and are expressed as qualities of the destination chosen: nature of the residential location, amenity value of the locality and accessibility to the ASD. These three indicators could not be accurately quantified. Assessed individually, they were of only marginal value. However, when viewed together, the pattern of relative importance of the four processes could be broadly inferred.

At the macro-scale, each of the five indicators progressively contributed to a clearer picture of population growth dynamics in the peri-urban region. Using SLAs as spatial units, broad zones of process influence were established. Suburbanisation was most evident in those peri-urban locations adjacent to the ASD, with good access to Adelaide. The contribution of counterurbanisation was found to be strongest in those destinations with high amenity value, but more distant from Adelaide. Centripetal migration and population retention were evident throughout the peri-urban region, but were more significant in peripheral locations and areas with little amenity value to attract counterurbanites.

The use of local level survey data offered a number of advantages over the use of aggregate census data. Not only was it possible to test whether the survey data support the conclusions of the macro-scale analysis, but the survey data also facilitated analysis of patterns *within* the case study areas. Indeed, the majority of peri-urban research has

neglected to make this crucial link between macro-level processes and micro-level studies of peri-urban dynamics.

An important contribution of the survey data was in the examination of migrant motivation. Analysis of this indicator, in combination with migrant origin and connectivity with the ASD facilitated clear differentiation between the four processes, particularly between suburbanisation and counterurbanisation. On the balance of the three indicators concerned directly with the migrants themselves, the survey households could be categorised as either suburbanites, counterurbanites, centripetal migrants or local movers. The spatial distribution of each migrant household type could then be identified, which provided strong evidence of the relative influence of the four processes within each case study area. The spatial pattern of growth processes which emerged in each of the three case study areas largely confirmed the broad macro-scale analysis. Nevertheless, complex patterns of growth were also evident *within* SLAs. The distinctive local level characteristics also influenced the mix of growth processes in each of the case study areas.

In Mallala, the influence of suburbanisation was greatest in the most accessible, suburban-like developments, but the importance of this process decreased with distance from Adelaide. Minimal evidence of centripetal migration and population retention was found at the local level in Mallala, which confirmed the aggregate scale analysis. However, evidence of counterurbanisation in the established towns and rural hinterland of Mallala was clear from the survey data, and this process was not confined solely to the more distant locations, as was implied by the aggregate data.

The influence of counterurbanisation clearly increased with distance from Adelaide. Examination of the spatial pattern of growth processes in Wakefield Plains showed that counterurbanisation was a significant process, particularly in the well-established towns and rural hinterland, but the influence of this process declined in significance in the

most northerly locations. In contrast, the extent of population retention and centripetal migration increased with distance from Adelaide.

The juxtaposition of Mallala and Wakefield Plains clearly illustrates this distance decay effect. Suburbanisation was the dominant process in the suburban-like developments located close to Adelaide within Mallala SLA. The influence of this process decreased as one travelled northward and only minimal evidence of suburbanisation was evident in Wakefield Plains. In contrast, within Mallala SLA the influence of counterurbanisation was greatest in the most northerly township of Mallala and the rural hinterland. As distance to Adelaide increased, the relative influence of counterurbanisation increased in Wakefield Plains SLA. Similarly, the relative influence of population retention and centripetal migration increased as one travels northward through Mallala SLA to the more peripheral parts of Wakefield Plains.

This distance decay effect was also evident in Strathalbyn SLA. Evidence of suburbanisation was limited to Strathalbyn township and reflects the longer travel distance to Adelaide and the absence of isolated suburban-like developments in this SLA. Conversely, counterurbanisation was a dominant process in the well-established towns and rural hinterland. Population retention and centripetal migration were also important processes, particularly in locations with the least ready access to Adelaide.

The differentiation of the four growth processes at the local level utilising survey data greatly extends the depth of analysis possible from the secondary data. The local-scale analysis provides a finer level of spatial disaggregation against which to examine the interaction between migrant characteristics, space, behaviour and motivation. Hence, the spatial mix of growth processes identified at the macro-scale can be directly linked to the local-scale analysis, while taking into account the inevitable diversity resulting from the unique nature of each case study area. Nevertheless, even at the local level, the spatial mesh of observations of individual households is quite coarse, particularly in

the rural hinterlands of the case study areas. This limits the degree to which internal differentiation can be assessed.

Building upon this analysis, Chapter Six aims to examine whether the outcomes of the spatial mix of growth processes vary in terms of the composition of the migration flow. This analysis is based on survey data and utilises the fundamental classification of migrant household types which was established in this chapter.

## CHAPTER 6

### SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE MIGRATION FLOW

#### 6.1 Introduction

*'The urban dropout, that middle aged advertising executive who leaves his corporate job in [the city] to run a children's zoo'* (Williams and Sofranko 1981, p.30)

The stereotypical view of the peri-urban migrant is often of a colourful collection of eccentric 'urban dropouts' similar to the one described above, together with minorities such as the unemployed or the elderly. Increasingly however, research has shown that in many ways peri-urban migrants are part of the mainstream society and indistinguishable from the population at large (Bolton and Chalkley 1989; Williams and Sofranko 1981). As a result, the composition of the migrant flow will be diverse, and as Bolton and Chalkley (1990, p.31) argue 'it cannot be assumed that migrants are a homogeneous group whose distinctive characteristics are those specified by a particular theory'.

Two research issues are examined in this chapter. The first is whether, and if so, to what extent the socio-demographic characteristics of recent migrants to the peri-urban region differ as a group, from those of the resident population. The second is whether, as a function of differing population growth processes, the migrant flows from different origins vary in their characteristics. It has been shown in Chapter Five that four processes (suburbanisation, counterurbanisation, centripetal migration and population retention) contribute to peri-urban population growth, and these vary in intensity across the region. If there are four distinctive processes at work, the challenge is to discover whether there are significant socio-demographic differences between the surveyed households that represent these four processes. It is hypothesised that the four household types will differ, and that the significance of each process will result in distinctive differences in the composition of the migration flow between and within SLAs.

A number of studies have illustrated the heterogeneity of the migration flow to peri-urban regions. These studies have differentiated the migration stream in various ways, for example according to settlement pattern at the destination (Davis *et al* 1994; Burnley and Murphy 1995a, 1995b, Murphy and Burnley 1996), length of residence (Bolton and Chalkley 1989,1990) and migrant origin (Sofranko and Fliegel 1983; Dean *et al* 1984b). However, none have adopted a classification based on process, in which the migrant flow is categorised household by household according to the dominant growth process. This chapter endeavours to address this missing dimension and thereby provide further analytical insights into the dynamics of the migration process.

To achieve this, the analysis focuses on migration at the local level, utilising survey data. The same classification of migrant households into four groups, which was undertaken in Chapter Five is also utilised here. A review of the literature is first presented to identify what has been found about the composition of each group and, from this, a series of hypotheses is established and tested using the survey data. It should be noted that the indicators upon which the classification of migrant groups is based are not subsequently used to test socio-demographic differences between groups. Based on the results of these tests, a typology highlighting the key characteristics which appear to differentiate the migrant flow is presented.

## **6.2 The Migrant Population**

This micro-scale study of the characteristics of the peri-urban migrant flow is based on survey results from the three case study areas. To recapitulate, since the principal focus of interest is the in-migrants, the interviews were stratified in favour of recent migrants (people who had moved to the area within the 5 years preceding the survey). Of the total 300 households in the survey, 196 were recent migrants and 104 were established residents (people who had lived at their current place of residence for more than 5 years). The four growth processes identified in Chapter Five are effectively associated with particular types of migrant. Thus, there is a direct link between the type of process and

the type of migrant. For the purposes of this chapter, the four types of migrants will be referred to as household types.

Table 6.1 sets out the number of migrants in each household type. It can be seen that migrants were quite evenly distributed between household types, with suburbanites, counterurbanites and local movers accounting for around a quarter and centripetal migrants accounting for one fifth of the total sample.

**Table 6.1 Recent Migrant Households Classified by Type**

Household type	Migrant	Households
	N	%
Suburbanites	48	24.5
Counterurbanites	53	27.0
Centripetal Migrants	40	20.4
Local Movers	55	28.1
Total	196	100.0

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

The analysis in this chapter focuses on the differentiation between recent migrants to the peri-urban region and the resident population, and between migrant households according to the nature of the growth process which brought them to the region. Data from the three case studies were aggregated, as the number of households in each category in individual case study areas was too small to enable meaningful data manipulation and statistical testing.

### 6.3 Composition of the Migrant Flow: The Literature

Revisiting the literature examined in Chapter Two, it is possible to identify a number of broad findings with respect to the composition of the migrant flow to the peri-urban region. Most of this analysis has been based on aggregate data sources such as population censuses (Burnley 1988; Murphy and Burnley 1993; Wright 1990), but some is drawn from micro-level studies using survey data (Bolton and Chalkley 1990; Burnley and Murphy 1995b; Davis, Nelson and Dueker 1994; Dean *et al* 1984b).

According to Fuguitt and Heaton (1995), migration generally adds younger people to metropolitan areas and older people to non-metropolitan areas. However, this is not the case in the Adelaide peri-urban region. Instead, the greatest migration gains generally comprise young adults in the primary years of child-raising (25-39 years) and the young dependent age groups (5-14 years) (Hugo 1994; McKenzie 1996; Wright 1990). Net in-migration of early and pre-retirement age groups (50-64 years) is also significant, although as Smailes (1996a) suggests, in absolute terms, younger age cohorts contribute more significantly to the migration flow. The loss of people in their late teens and early twenties is typical of non-metropolitan areas. As Bell (1992, p.297) suggests, young adults (15-24 years) are attracted to urban areas for higher education, vocational training, employment and the 'bright lights'. Nonetheless, it is also generally accepted that migrants will be younger than the resident population (Bolton and Chalkley 1990; Williams and Sofranko 1981).

Analysis of the literature also suggests that the age structure of the peri-urban population is a reflection of the significance of the nuclear family (two parents and dependent children) in the migration flow. Young married couples are also significant, although the four member household dominates the inflow. Many researchers have noted the corresponding absence of single person and collective/non-family households (Atkins and Champion 1995; Bolton and Chalkley 1990; Ford 1997; Jackson and O'Connor 1993).

It has long been recognised that non-metropolitan areas are less ethnically diverse than metropolitan centres and the literature suggests that peri-urban migrants are overwhelmingly Australian-born (Hugo 1994; Walmsley *et al* 1995). Despite this, Bell and Cooper (1995) demonstrated that, increasingly, overseas-born Europeans who have resided in Australia for a substantial time are also moving to peri-urban locations, particularly to coastal regions. Bell (1997) argues that the strength of this outflow tends to reinforce ethnic diversity in the peri-urban region.



Turning to the socio-economic characteristics of the peri-urban population, some suggest that there is a net inflow of economically active migrants, in many cases with both household heads in the workforce (Bolton and Chalkley 1989; Davis, Nelson and Dueker 1994; Grafton and Bolton 1987). Others point to a quite different inflow of migrants characterised by high unemployment levels, particularly among the young and retired population (Burnley 1988; Hugo 1996; Hugo and Bell forthcoming). Bell (1997) identifies a gain of people outside the labour force, which includes some non-working spouses and a significant proportion of older, retirement migrants no longer active in the workforce.

In relation to the occupational structure of those in the workforce, Burnley and Murphy (1995b) found considerable heterogeneity. While some emphasise the significance of professional and managerial groups among in-migrants (Hudson 1989; Lewis *et al* 1991; Wright 1990), others suggest that white collar and skilled blue collar occupations dominate the migration flow (Burnley and Murphy 1995b; Davis, Nelson and Dueker 1994; Nelson 1991).

Income is largely a reflection of workforce status and occupation. While Hugo and Bell (forthcoming) identify the significance of low income groups associated with the 'welfare-led' hypothesis, others emphasise the dominance of middle-high income earners (Beesley and Walker 1990; Burnley and Murphy 1995b). Some suggest that second incomes are common (Jackson and O'Connor 1993), with the median income of recent migrants being generally higher than that of the resident population (Burnley and Murphy 1995b; Bowles 1978).

According to the literature, the majority of peri-urban migrants are homeowners (Bolton and Chalkley 1990; Burnley and Murphy 1995b; Murphy and Burnley 1996), although some variation in the residential location of the migration flow exists. According to Bolton and Chalkley (1989, 1990), housing developments in the peri-urban region, often

of a similar nature to those left behind in the metropolitan area, attract first homebuyers. On the other hand, Davis *et al* (1994) suggest that the higher priced, rural living market is more attractive to middle aged couples and those migrants strongly motivated by lifestyle related factors.

Based on this brief review of recent literature, some hypotheses can now be established to distinguish between migrants and the established population. According to the existing literature, the migration flow into the peri-urban region is expected to result in inflows of:

- young adults (25-39 years), often with dependent children (5-14 years), and those in the pre-retirement age groups (50-64 years)
- Australian-born, but with increasing proportions of overseas-born, particularly long-established groups
- employed workers, but with a significant contingent of unemployed and people out of the workforce
- white collar and skilled blue collar occupations
- middle-high income earners
- homeowners

#### **6.4 Hypothesised Differences in the Migration Flow**

Based on the literature and preceding analysis, the following differences between the four migrant household types are hypothesised.

**Suburbanites:** It is hypothesised that suburbanites will consist predominantly of young couples, often with school aged children. Suburbanites are more likely to be born in the metropolitan region and move to suburban-type developments in the peri-urban region located close to the metropolitan boundary. These households are likely to be low-middle, single income households. It may be expected that after starting a family, the female partner will often remain at home to care for the children, leaving the male partner

as the main wage earner. The majority of suburbanites will be employed in a mix of white and skilled blue collar occupations, commuting short-distances to employment in the outer metropolitan region.

**Counterurbanites:** The nuclear family will also make up a large proportion of the counterurbanite migration flow, together with married couples, although the age structure will be older than that of suburbanites and include a much greater proportion of pre and early retirement groups. It is hypothesised that counterurbanites will largely be born in the ASD, but may also include some well-established overseas-born groups. The pursuit of a more rural lifestyle away from the city provides the primary motivation for counterurbanite households. It is expected that this group will move to well-established country towns with a rural character, or to a more rural-like residence such as a hobby farm or large sized block. Counterurbanites will consist partly of middle-income full-time employees, but also the self-employed and part-time workers largely employed in white collar occupations. Furthermore, a significant component of unemployed and those outside the workforce is expected among counterurbanites.

**Centripetal Migrants:** It is hypothesised that centripetal migrant households will include a larger proportion of older persons than is the case among either suburbanites or counterurbanites. It is expected that married couples with children will be apparent, although older singles and couples without co-resident children will comprise a greater proportion of centripetal migrant households; a pattern consistent with retirement migration. By definition, centripetal migrants previously resided in outlying rural areas, interstate or overseas and it is hypothesised that these will also be the major birthplaces of this group of migrants. It is hypothesised that these households will predominantly move to well-established country towns, or to a part-time farm residence. Managerial and service occupations associated with farming will be important, although many households will have no employed persons, either due to retirement or unemployed

persons moving from the rural periphery to be closer to Adelaide's labour market. Accordingly, centripetal migrants will tend to have middle-low incomes.

**Local Movers:** Wide variation is expected in the age structure of local movers, although generally they will be older than the other three migrant groups. Differences in age structure can be accounted for by the diversity in family type, including some second generation peri-urban families with young children and married couples or singles retiring from farming properties to the towns in order to be closer to family and services. This movement may also incorporate a change in housing type from a large farm or rural property to a smaller residential block. Some local movers will also occupy rental accommodation, due to the movement of young, second generation peri-urbanites moving out of the family home. It is hypothesised that local movers will largely be born within the SLA of residence, the nearby ASD or other rural areas, although some long established overseas-born groups will be evident. Low-middle incomes and self-employment in a range of occupations will be evident reflecting the agricultural focus of many peri-urban locations. In addition, a significant retirement component among locals will result in many households having no employed persons, with many reliant on the age pension as their main source of income.

These hypothesised differences in the composition of migrant households are summarised in Table 6.2. These expectations will now be tested using the survey data.

**Table 6.2 Summary of Hypothesised Characteristics of Migrant Households**

	<b>Suburbanites</b>	<b>Counterurbanites</b>	<b>Centripetal Migrants</b>	<b>Local Movers</b>
Age	young adults and dependent children	mix of young and older age groups	older age groups	wide mix of age groups, generally older
Family Type	young nuclear families	nuclear families and married couples	mix of nuclear families, couples and lone person households	mix of nuclear families, couples and lone person households
Birthplace	majority born in ASD	majority born in ASD and some overseas-born	majority born in other rural, interstate and overseas	majority born in same SLA of residence, the ASD and other rural; some overseas-born
Labour Force Status	employees	employees and self-employed	employees and unemployed	employees, some self-employed and unemployed
Occupation	mix of white and skilled blue collar	white collar; welfare clients	manager/ administ and mix of blue and white collar	mix of blue and white collar; welfare clients
Income	low-middle income	middle income	low-middle income	low-middle income
Location	suburban-like development	well-established towns and rural settlements	well-established towns and rural settlements	well-established towns
Nature of Housing	separate house	separate house or hobby farm	separate house, some farms	separate house

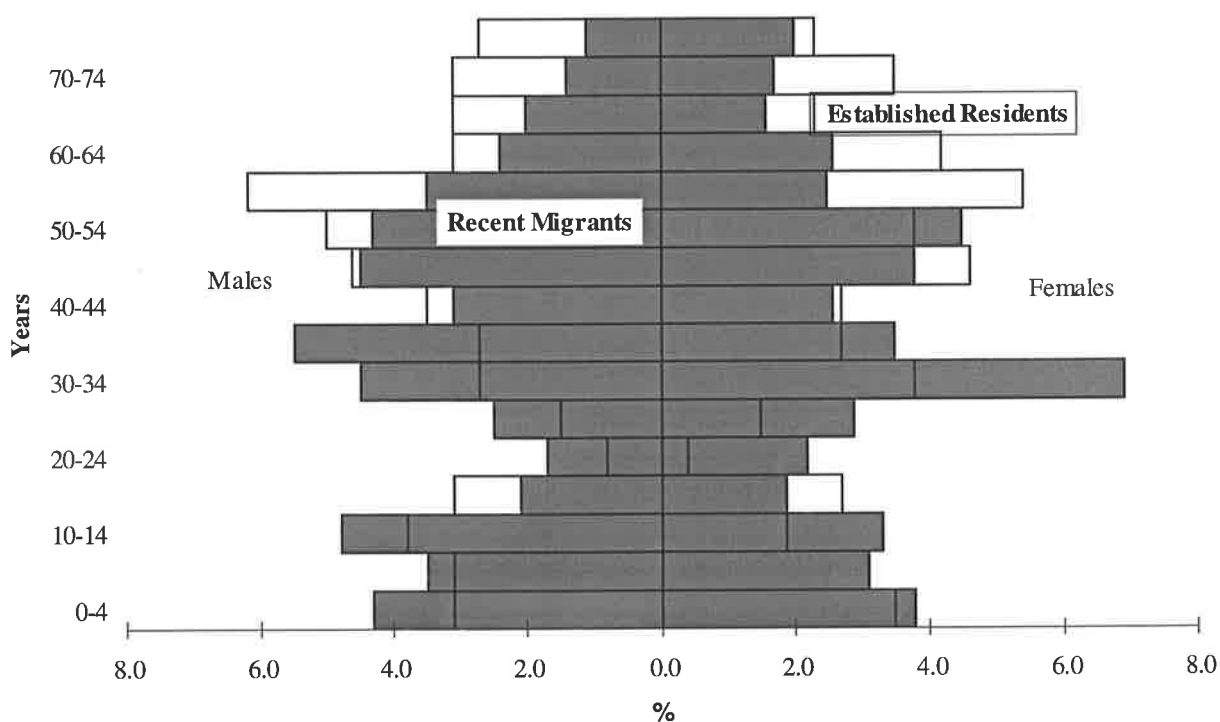
### **6.5 The Socio-Demographic Characteristics of the Migrant Households According to the Survey Data**

The survey data are utilised to test the above hypotheses and the chi-square test ( $\chi^2$ ) is used to identify significant differences between migrants and non-migrants, and between migrant households according to type (at 0.05 significance level). The chi-square test is a non-parametric test which compares population sub-groups and is based on nominal frequency data, taking sample size differences into account. Where necessary, classifications have been amalgamated to ensure that the minimal cell sizes of  $\chi^2$  are not violated. It is important to note that when applied to multiple samples, the  $\chi^2$  value may be influenced by one particular sample that is markedly different from the norm, while the other sub-samples may in fact be quite close in terms of characteristics. Thus a significant difference may appear, but it does not follow that each sub-sample is statistically different from the mean. To prevent tiresome repetition of statistics, non-significant  $\chi^2$  relationships will not be quoted, although these relationships have been tested.

### 6.5.1 Age-Sex Structure

With respect to the age structure of recent migrants to (and within) the peri-urban region, the survey data indicate that a significant difference exists ( $\chi^2 = 31.3 > p > 9.49$ ,  $df = 4$ ). Figure 6.1 shows that the recent migrant population were younger than established residents with a median age of 36.3 years, compared with 47.2 years for the established population. Young adults (25-39 years) in the early years of childraising and their dependent children (0-14 years) accounted for the majority of the in-flow. Migrants in the early retirement age groups (50-54 years) were also prominent, although absolute numbers were smaller than for the younger ages. In comparison, the older age structure of the established population is clear, especially at ages 55 and over.

**Figure 6.1 Age-Sex Structure of Recent Migrant and Established Resident Populations (all members of households)**

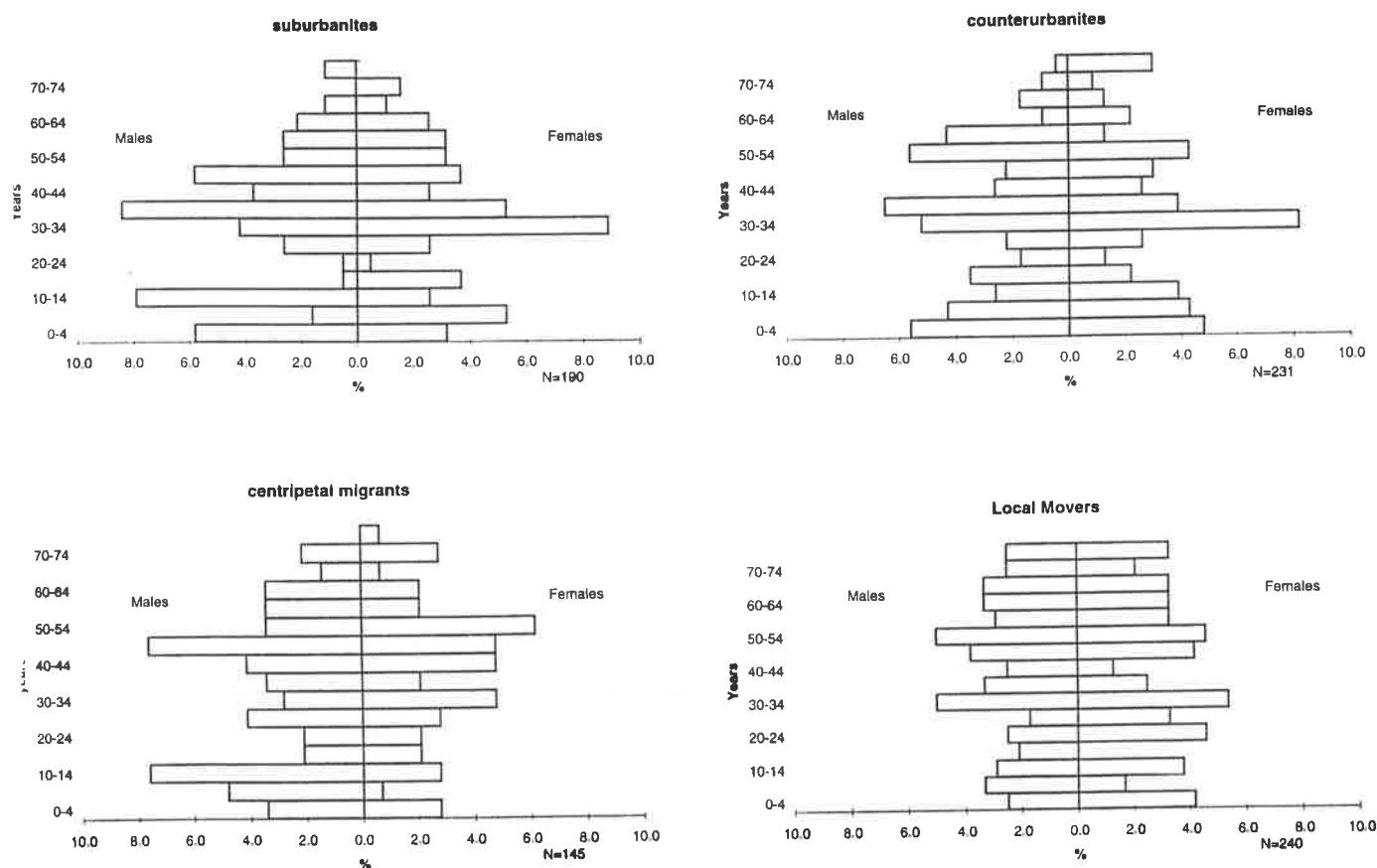


Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Among the recent migrant population, a significant difference exists ( $\chi^2 = 58.94 > p > 21.03$ ,  $df = 12$ ) in the age structure of the four household types. Comparison of

median ages shows a six year variation between the four groups. As expected, suburbanites were younger with a median age of 34.8 years, followed by counterurbanites (35.3 years), centripetal migrants (37.9 years) and local movers (40.8 years). The young age structure of the suburbanite and counterurbanite populations was evident from Figure 6.2 with concentrations in the 0-14 years and 30-39 years age groups. Among counterurbanites, evidence of an early retirement component was reflected in the concentration of migrants aged 50-59 years. On the other hand, centripetal migrants were concentrated at ages 40-54 years, although there were also younger age groups (25-34 and 0-14 years). An older age structure was also apparent among the local movers, with the aged population (60+ years) accounting for a greater proportion than among the other household types.

**Figure 6.2 Age-Sex Structure of Migrant Flow According to Household Type (all members of households)**



In relation to the sex balance, neither males nor females predominated either among recent migrants (with a sex ratio of 104) or among the established population (sex

ratio=108). Similarly, the lack of sex differentiation was evident among suburbanites (102.1) and counterurbanites (100.9), although there were more females (96.7) among locals and more males among centripetal migrants (126.6). Hence, the survey results support the hypothesised younger age structure of in-migrants. The data also reveal significant variations within the migration flow according to growth process, and confirm the hypothesised differences in age structure according to migrant type.

### 6.5.2 Family Type

Table 6.3 shows that the most common family type among all household groups in the sample is the traditional 'nuclear family', consisting of couples with children. The dominance of married couples and nuclear families among both recent migrants and established residents is reflected in the  $\chi^2$  relationship which shows no statistically significant variation between the two groups.

**Table 6.3 Recent Migrant and Established Households by Family Type**

	Recent Migrants N	Established Residents N
Couple only	60 (30.6)	39 (37.5)
Couple and Children	103 (53.1)	45 (43.3)
Other*	33 (16.3)	20 (19.2)
Total	196 (100.0)	104 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

\* Other includes lone person, single parent and non-family households.

Similarly, no significant difference exists in family type between the four recent migrant household categories. Table 6.4 shows that the nuclear family accounted for more than half of suburbanite (58.2 per cent), counterurbanite (58.5 per cent) and centripetal migrant households (52.5 per cent) and 45.5 per cent of local movers. At the same time, couple only households were also important, accounting for between a quarter and a third of all recent migrant household types. Clearly, the nuclear family was the dominant



family type among the migration flow, as hypothesised, and this largely reflects the younger age structure of households. Indeed, the hypothesised variation in the migrant flow according to family type was not apparent from the survey data.

**Table 6.4 Migrant Households by Family Type**

	Suburbanites	Counterurbanites	Centripetal Migrants	Local Movers
	N	N	N	N
Couple only	16 (33.3)	17 (32.1)	10 (25.0)	17 (30.9)
Couple and Children	28 (58.3)	29 (58.5)	21 (52.5)	25 (43.6)
Other*	4 (8.4)	7 (9.4)	9 (22.5)	13 (25.4)
Total	48 (100.0)	53 (100.0)	40 (100.0)	55 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

\* Other includes lone person, single parent and non-family households.

### 6.5.3 Birthplace

There are significant differences in the birthplace of recent migrants and established households ( $\chi^2 = 23.8 > p > 7.82$  at 0.05, df = 4). According to Table 6.5, approximately one third of the established population were born either in the ASD, overseas or other rural locations.

**Table 6.5 Recent Migrants and Established Residents by Birthplace  
(Male and Female Household Heads only)**

	Recent Migrants	Established Residents
	N	N
Same SLA	26 (7.1)	28 (14.1)
ASD	139 (38.1)	48 (24.2)
Overseas	69 (18.9)	55 (27.8)
Interstate	48 (13.2)	14 (7.1)
Other Rural	83 (22.7)	53 (26.8)
Total	365 (100.0)	198 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

It is surprising that only 14.1 per cent of established residents were born locally within the SLA of residence. On the other hand, around a third of recent migrants (38.1 per cent) were born in the ASD, with a further 22.7 per cent in other rural areas and overseas locations (18.9 per cent). Almost double the proportion of recent migrants (13.2 per cent) were born interstate compared with the established population (7.1 per cent).

Diversity in the birthplace distribution of recent migrants according to household type is reflected in the statistically significant  $\chi^2$  relationship ( $\chi^2 = 17.47 > p > 16.92$ ,  $df = 9$ ). The ASD was the most common birthplace for all household types, except centripetal migrants most of whom were born in other rural locations (Table 6.6)<sup>1</sup>. This confirms the hypothesised dominance of the ASD as the birthplace of most migrants.

**Table 6.6 Migrant Households by Birthplace (Male and Female Household Heads only)**

	Suburbanites	Counterurbanites	Centripetal Migrants	Local Movers
	N	N	N	N
ASD	43 (46.7)	41 (45.1)	20 (28.2)	35 (41.2)
Overseas	23 (25.1)	20 (22.0)	11 (15.5)	15 (17.6)
Interstate	13 (14.1)	10 (10.9)	14 (19.7)	11 (12.9)
Other Rural	13 (14.1)	20 (22.0)	26 (36.6)	24 (28.3)
Total	92 (100.0)	91 (100.0)	71 (100.0)	85 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

The survey data also confirm the expected importance of other rural and interstate birthplaces among centripetal migrants. Contrary to the observations made in much of the literature, migrants born overseas contributed significantly to each household type, accounting for a quarter of suburbanites (25.1 per cent), a fifth of counterurbanites (22

<sup>1</sup> Same SLA of residence has been excluded from Table 6.6 because, of the 26 recent migrants who cited this as their place of birth, 22 were local movers. Accordingly, the number of migrants among the remaining three household types with this birthplace was very small. As a result of this distribution, inclusion of this birthplace greatly distorts the results shown in the Table.

per cent) and significant proportions of centripetal migrants (15.5 per cent) and local movers (17.6 per cent). The majority of the overseas-born among suburbanites (80 per cent) and counterurbanites (90 per cent) were from the United Kingdom. In contrast, southern and western European birthplace groups such as the Italy-born and Germany-born accounted for around a third of the overseas-born centripetal migrants (36.4 per cent) and local movers (28.8 per cent). The majority of all overseas-born migrants were long-standing residents of Australia. This confirms the findings of Bell and Cooper (1995). Nevertheless, the significance of overseas birthplaces among migrants is somewhat greater than expected.

#### 6.5.4 Labour Force Status

Table 6.7 shows that almost a third of recent migrant households were in receipt of dual incomes, with both partners employed full-time. In contrast, only 20.2 per cent of established households had both heads working full-time, with a large proportion of established households (44.2 per cent) containing no employed persons.

**Table 6.7 Labour Force Structure by Household Type (Male and Female Household Heads only)**

	Recent Migrants N	Established Residents N
Both Employed F/T	60 (30.6)	21 (20.2)
Male Only F/T	45 (23.0)	23 (22.1)
No Employed Persons	55 (28.1)	46 (44.2)
Other*	36 (18.3)	14 (13.5)
Total	196 (100.0)	104 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

\* Other includes male employed F/T and female employed P/T; female only employed P/T; female only employed F/T

Retirement was the main reason for established households being out of the workforce and this reflects the older age structure of this group. At the same time, almost a third of migrant households did not have any employed persons. However, diversity in the ages of migrants not employed suggests the attraction of the peri-urban region not only for

retirees, but also for younger unemployed groups aged 24-49 years. The difference in labour force status between recent and established households is reflected in the statistically significant  $\chi^2$  relationship ( $\chi^2 = 8.99 > p > 7.82$ ,  $df = 3$ ).

Among migrants, around a third of each household type were dual income earners, together with similar proportions of single income and 'no employed person' households. However, differences emerge if attention is confined to employed household heads ( $\chi^2 = 17.81 > p > 12.59$ ,  $df = 6$ ). The distribution of this group is shown in Table 6.8 which includes only migrant household heads who were in the labour force, and excludes those who were retired or engaged in home duties, invalid or other pensioners and students.

The vast majority of suburbanite household heads (80.3 per cent) were employees. On the other hand, counterurbanites had the highest proportion unemployed (21.7 per cent), although nearly 60 per cent were employees and 18.8 per cent were self-employed or employers. The proportion of self-employed and employers was even greater among centripetal migrants (37.5 per cent), although almost a fifth were unemployed. Among the local movers, the majority were employees (70.8 per cent), while 20.8 per cent were self-employed or employers. High unemployment levels among counterurbanites suggest that 'urban refugees' unable to find work in the metropolitan area gravitate towards the peri-urban region. This confirms the findings of Burnley (1988), Hugo and Bell (forthcoming) and Smailes (1997). It was expected that counterurbanites would sever employment linkages with the metropolitan area upon migration and attempt to re-establish their employment locally. Based on the survey results, it appears that many were not successful, although the proportion of unemployed also reflects the presence of semi-retired counterurbanites. Similarly, the hypothesised movement of centripetal migrants displaced from farm work in the rural periphery to the peri-urban region in search of employment, based on the findings of Smailes (1997), was also confirmed by the survey data.

**Table 6.8 Migrant Households by Labour Force Status (Male and Female Household Heads only)**

	Suburbanites	Counterurbanites	Centripetal Migrants	Local Movers
	N	N	N	N
Employee	57 (80.3)	41 (59.4)	23 (57.5)	51 (70.8)
Self Employed or Employer	7 (9.9)	13 (18.8)	15 (37.5)	15 (20.8)
Unemployed	7 (9.9)	15 (21.7)	7 (17.5)	6 (8.3)
Total	71 (100.0)	69 (100.0)	45 (100.0)	72 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

### 6.5.5 Occupation

In relation to the occupational structure of the peri-urban workforce, there appears to be a balanced distribution between categories among both recent migrants and established residents. On the other hand, among recent migrants, the difference in occupation by household type is statistically significant ( $\chi^2 = 26.79 > p > 21.03$ ,  $df = 12$ ) (Table 6.9). The majority of suburbanites (66.1 per cent) were employed in skilled blue collar occupations such as trade/machine-related (29.2 per cent) and clerks/personal services (36.9 per cent). Among counterurbanites, nearly a third of the workforce were employed as managers/administrators, and 19.6 per cent as para/professionals.

**Table 6.9 Migrant Households by Occupation (Employed Male and Female Household Heads only)**

	Suburbanites	Counterurbanites	Centripetal Migrants	Local Movers
	N	N	N	N
Manager/Administrators*	3 (4.6)	15 (29.4)	14 (36.8)	16 (25.4)
Para/ Professionals	13 (20.0)	10 (19.6)	5 (13.2)	12 (19.0)
Trade/Machine Related	19 (29.2)	10 (19.6)	8 (21.1)	9 (14.3)
Clerks/Personal Services	24 (36.9)	8 (15.7)	7 (18.4)	18 (28.6)
Labourers/ Related Occupations	6 (9.2)	8 (15.7)	4 (10.5)	8 (12.7)
Total	65 (100.0)	51 (100.0)	38 (100.0)	63 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

\*includes farmers and related agricultural occupations

Similarly, a third of centripetal migrants were employed as managers/administrators (36.8 per cent). This may reflect the importance of farming and related agricultural activities included in this category. The local workforce was also concentrated in the manager/administrators (25.4 per cent) and clerks/personal services (28.6 per cent) categories, although clearly there is considerable diversity in occupations within each household type. This heterogeneity in the occupational structure of employed migrants supports the findings of Burnley and Murphy (1995b), and confirms the hypothesised variations according to migrant type.

#### **6.5.6 Income**

According to the literature, recent migrants tend to earn higher annual incomes than the established peri-urban population (Burnley and Murphy 1995b; Sofranko and Fliegel 1983; Wright 1990). However, the survey data reveal no statistically significant difference in annual household incomes between migrants and the resident population. The median household income of both groups fell into the middle income range (\$20,000-29,999), being remarkably similar for recent migrant households (\$23,357) and established residents (\$23,894).

Some variation does exist, however, in the median household income according to household type. Suburbanites earned the highest median annual household income (\$28,145), followed by local movers (\$22,330). Counterurbanites (\$19,556) and centripetal migrants (\$18,487) both had lower median annual household incomes. These results differ somewhat from the initial hypotheses. The data suggest that counterurbanites and centripetal migrants have lower annual incomes than expected. However, this is not necessarily an accurate indication of socio-economic status, since income does not measure accumulated wealth. It may be that both counterurbanites and centripetal migrants have substantial assets and hence do not require a high annual income to sustain their peri-urban lifestyle.

Differences in labour force status and occupational structure combined are reflected in variations in the source of income (Table 6.10). The greater proportion of established households receiving the age pension (27.9 per cent) reflects the dominance of retired households among this group. On the other hand, the majority of recent migrant households received wages/salary (56.6 per cent), suggesting that migrants continue in paid employment, often with second incomes in order to finance their peri-urban lifestyle.

The source of income also varied significantly by household type among migrant households. Although 75 per cent of suburbanites received wages or a salary, little more than half of counterurbanites (58.5 per cent) and locals (56.4 per cent), and only a third of centripetal migrants cited this as their main source of income. As expected, self-employment was a major source of income for centripetal migrants (22.5 per cent) and local movers (10.9 per cent) and this reflects the importance of farming-related occupations among these households.

**Table 6.10 Main Source of Income by Recent Migrant and Established Resident Households**

	Recent Migrants N	Established Residents N
Wages/Salary	111 (56.6)	40 (38.5)
Unemployment Benefits	21 (10.7)	10 (9.6)
Age pension	26 (13.3)	29 (27.9)
Self-employment	22 (11.2)	18 (17.3)
Other*	16 (8.2)	7 (6.7)
Total	196 (100.0)	104 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

\* Other includes superannuation and other government pensions.

On the other hand, 15.1 per cent of counterurbanites received unemployment benefits as the main source of income, which reflects the higher level of unemployment among this group. The age pension was a significant source of income among local movers (18.2 per cent) and centripetal migrants (22.5 per cent) reflecting the older age structure of these

two sub-groups. In addition, the survey evidence gives credence to Hugo and Bell's (forthcoming) 'welfare-led hypothesis', as around a third of counterurban (33.9 per cent), centripetal migrant (37.5 per cent) and local mover (30.9 per cent) households received some form of transfer payment from the government.

### **6.5.7 Residential Location**

The location of respondents in each of the case study areas was classified according to three generalised types (see Appendix E). The first category were well-established country towns; medium sized country towns which have long served as rural service centres to the surrounding countryside. The second type consists of suburban-like development which are often isolated and were developed primarily for the purpose of providing cheap housing. Substantial sub-division of land into suburban sized residential blocks has occurred, often without the provision of associated support services and infrastructure. In some cases, large urban-like sub-divisions are attached to old towns and as expansion occurs, some of these towns are virtually engulfed. Examples include Nairne and Mount Barker. The third category comprises small, rural settlements which have minimal services and largely consist of non-farm rural properties, hobby farms and larger rural properties. This category also included dispersed residences in the rural periphery of the case study areas.

Around half of recent migrants and established households were living in a well-established country town. Among the migrant flow, however, some variation was found according to the residential location of the four household types ( $\chi^2 = 59.48 > p > 12.59$ ,  $df = 6$ ). According to Davis, Nelson and Dueker (1994, p.54), well-established country towns are most attractive to those already living in the peri-urban region, and to households from more rural areas. Evidence from the survey supports this view (Table 6.11) with the majority of centripetal migrant (60 per cent) and local mover households (81.8 per cent) residing in a well-established country town.



**Table 6.11 Migrant Households by Residential Location**

	Suburbanites	Counterurbanites	Centripetal Migrants	Local Movers
	N	N	N	N
Well-established country town	15 (31.3)	27 (50.9)	24 (60.0)	45 (81.8)
Suburban-like development	30 (62.5)	15 (20.8)	4 (10.0)	5 (9.1)
Rural settlements/ periphery	3 (6.3)	11 (28.3)	12 (30.0)	5 (9.1)
Total	48 (100.0)	53 (100.0)	40 (100.0)	55 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

Well-established country towns also attracted around half of counterurban households, with a further 28.3 per cent preferring to reside in smaller rural settlements and their peripheries. Although around a third of suburbanites chose a well-established country town in which to reside, the vast majority (62.5 per cent) were attracted to suburban-like developments, some of which were attached to a well-established country town.

The spatial complexity of growth processes identified in Chapter Five is clearly reflected here, with evidence of the four household types in all locations. Furthermore, the hypothesis that counterurbanites and centripetal migrants were more likely to move to well-established country towns or rural settlements, and suburbanites to suburban-like developments, was also confirmed by the survey data.

### 6.5.8 Nature of Housing

The majority of survey households either owned or were purchasing their home (89.7 per cent). This was true both of migrant (87.2 per cent) and established households (94.2 per cent) and there was no statistically significant difference between the two groups. The dominance of home ownership among migrant households was also evident among the four household types. All suburbanite households were home owners or purchasers, compared with around four-fifths of other household types and this is consistent with the definition of this group as being motivated by cheaper housing costs and the wish to own

their own home. Significantly, 21.8 per cent of local movers and 17.5 per cent of centripetal migrants were renting.

In terms of the nature of housing, the majority of both recent migrant and established resident households, lived in a separate house. Significant variations did exist, however, between the four migrant household types ( $\chi^2 = 14.46 > p > 7.82$ ,  $df = 3$ ). Table 6.12 reveals that the majority of suburbanite (97.9 per cent) and local mover (90.9 per cent) households occupied a separate house. Similarly, most counterurban (83 per cent) and centripetal migrant (77.5 per cent) households also occupied such housing, but they were more likely to live on a farm, either full-time or part-time. The attraction of a rural-like residence was expected among counterurbanites and this reflects their primary motivation for moving to the peri-urban region. It was also expected that centripetal migrants would be more likely than the other migrant groups to live on a farm, particularly among those moving from the rural periphery.

**Table 6.12 Migrant Households by Nature of Housing**

	Suburbanites	Counterurbanites	Centripetal Migrants	Local Movers
	N	N	N	N
Separate house*	47 (97.9)	44 (83.0)	31 (77.5)	50 (90.9)
Farm (F/T or P/T)	1 (2.1)	9 (17.0)	9 (22.5)	5 (9.1)
Total	48 (100.0)	53 (100.0)	40 (100.0)	55 (100.0)

Source: Wakefield Plains District Council Survey, 1994; Mallala District Council Survey, 1995; Strathalbyn District Council Survey 1996.

Note: Percentages shown in brackets

\*Separate house is where a house stands separately in its own grounds separated from other dwellings.

Based on the survey results, significant differences appear to exist in the socio-demographic characteristics of in-migrants to the peri-urban region and the resident population. In addition, distinctive differences in the composition of the migration flow were evident according to the four growth processes. These findings are now summarised in relation to the hypothesised household profiles proposed earlier. Section 6.6 summarises the findings with respect to differences between the recent migrant and

established resident populations. Section 6.7 extends the summary to address differences among migrant households.

### **6.6 Recent Migrants and Established Residents**

From the survey results, some generalisations about the socio-demographic characteristics which appear to differentiate recent migrant and established resident households can now be made. Consistent with the literature, the survey data suggest that recent migrants are generally younger than the resident population, although evidence of some pre and early retirement ages (45-54 years) is apparent in the migration in-flow. As hypothesised, the nuclear family is the dominant family type among both groups, although married couples were also important. Lone person households are also apparent in both population groups. The main difference between the two populations in terms of family type relates to variations in age structure. Young couples (25-39 years), often with young children of school age (5-14 years) are dominant among recent migrant households, while the established population tend to be older couples, often of pre-retirement or retirement age (50+ years) or with older children (10-19 years). On the other hand, lone person households tend to be older in both groups, reflecting ageing in place among the established population and migration of older persons, often widowed females, to the peri-urban region to be closer to family members.

The survey evidence suggests that recent migrants and established residents differ significantly according to birthplace. It was expected that the majority of recent migrants would be born in the metropolitan area (ASD), and would also be more likely to be born interstate compared with established residents. The survey data confirm that a greater proportion of recent migrants were born in the ASD and interstate compared with established residents. In contrast, the SLA of residence, overseas and other rural birthplaces were more important among established residents.

The socio-economic characteristics of migrant and established households differ according to labour force structure and source of income. There are more established households with no employed persons than is the case among recent migrants, largely reflecting the older age structure and prominence of retired people among established residents. It could also reflect the fact that some local people displaced from farm work have been unable to find alternative employment within the local area. Recent arrivals are more likely to be dual income and although the unemployed are certainly evident among recent migrants, they tend to be younger than the unemployed established residents. No significant variation exists in the occupations of the two groups, with both engaged in white collar and skilled blue collar employment. Median annual incomes are also very similar, contrary to expectations from the literature.

Hence, there are distinguishable differences between the migrant flow and the resident population, although in Adelaide's peri-urban region the contrasts are not as extreme as often claimed in the literature. Table 6.13 provides a summary of the significant differences between the two groups.

**Table 6.13 Statistically Significant Differences Between Recent Migrant and Established Households Based Upon Survey Findings**

	<b>Recent Migrants</b>	<b>Established Residents</b>
Age	young adults (25-39 yrs) and children (0-14 yrs); some older cohorts (49-54 yrs)	older age structure (45-59 yrs) and aged population (60+ yrs)
Birthplace	majority ASD, also overseas and other rural; more born interstate	ASD, overseas or other rural; some same SLA
Labour Force Composition of Household	largely dual and single income households; some younger households out of workforce	large % households with no employed persons; some dual income and single income households
Source of Income	wages/ salary	wages/ salary and age pension; some self-employment

### **6.7 The Recent Migrant Population by Household Type**

In many ways, the migrant population taken as a whole resembles the established peri-urban resident population. However, the migrant flow is diverse and if distinguished by the four growth processes contributing to peri-urban growth, this heterogeneity becomes clear.

Suburbanite households tend to be the youngest group of migrants, comprising predominantly young couples (25-39 years), often with young dependent children (0-14 years), as expected. It was hypothesised that this group was more likely to be born in the ASD and move to suburban-like residential developments close to the metropolitan boundary. The survey data confirm that the majority are indeed born in the ASD, although a quarter were born overseas, primarily in the United Kingdom. The data also confirm that suburbanites are more likely to move to suburban-like housing developments, often in locations accessible to the ASD such as Lewiston (Mallala SLA). Suburbanite households in the survey were all homeowners/purchasers which reflects the pursuit of homeownership as a key rationale for migration.

The socio-economic profile of suburbanites was hypothesised as consisting primarily of low-middle, single income households engaged in a mix of white and skilled blue collar occupations. The survey suggests that this is not the case. The majority were dual income and suburbanites had the highest median annual household incomes of the four household types. The vast majority of the workforce are employees, engaged in skilled blue collar occupations located in the metropolitan area.

Counterurbanite households differ quite markedly from suburbanites, although by definition both these groups have moved from the metropolitan region. Although almost identical proportions of both household types are nuclear families or married couples, the age structure of counterurbanites is somewhat older. Evidence of a significant pre/retirement sub-group appears among counterurbanites, particularly among couples

aged 50-59 years. Almost half of counterurbanites were born in the ASD, followed by a significant proportion from overseas, as expected. However, those born in other rural locations account for a significant proportion of households. This was not originally anticipated.

By definition, counterurbanites move from an urban location to a more rural one in the pursuit of a quiet, country lifestyle. It was expected that well-established country towns would be more attractive than the new outlying, sub-divisional developments to counterurbanites for whom the local area often becomes the focus for employment, shopping and social activities. It was also proposed that counterurban households would be more likely to move to a rural-like residence such as a hobby farm or larger sized block. The data confirm this hypothesis in that approximately half of this household group moved to well-established country towns, whilst a third preferred smaller, rural settlements and their peripheries. Similarly, the majority of counterurbanites moved to a separate house, although there is some evidence of counterurbanites acquiring larger sized blocks and part-time farms. Like suburbanite households, counterurbanites tend to be home owners/purchasers.

It was expected that counterurbanites would be middle income households employed in white collar occupations. The survey data suggest a different pattern, with relatively high unemployment and a significant representation of single income households. It was expected that counterurbanites would be more likely to replace their urban employment with some form of self-sufficient or home-based employment and the survey data supports this expectation, indicating a degree of self-employment among this group. Almost half of counterurbanite households are engaged in white collar occupations, either as managers/administrators or para/professionals. However, a high degree of unemployment is also evident among this group and reflects the bi-model nature of this migrant stream. It may be that upon moving to the peri-urban region, counterurbanites sever employment linkages with the metropolitan region in the hope of finding work in

the local area. However, according to the survey evidence, many are not successful in re-establishing their employment. Furthermore, evidence of a 'welfare client' population receiving some form of transfer payment from the government is apparent among counterurbanites. In addition, median annual household incomes tend to be lower among counterurban households than among suburbanites or locals. This was thought to be a reflection of the older age structure of counterurbanites. However, the proportions of suburbanites and counterurbanites receiving the age pension are almost identical. The lower annual income of counterurbanites is not necessarily an accurate indication of socio-economic status, as current income is not a measure of wealth. It may be that many counterurbanites have substantial accumulated assets and hence do not require a high annual income to sustain their peri-urban lifestyle.

Turning to centripetal migrant households, it was hypothesised that this group would be somewhat older than suburbanites and counterurbanites, but not as old as local migrants. The survey data support this expectation and show a concentration of centripetal migrants aged 40-54 years, although some younger age groups are evident. The traditional nuclear family is again the dominant family type, although lone person households are also important, particularly older persons moving from outlying rural areas upon the death of a spouse to be closer to extended family members. It was expected that centripetal migrants would be more likely to move to well-established country towns within the peri-urban region, residing in a separate house or part-time farm. The survey evidence confirms that centripetal migrants are homeowners and also are the most likely household type to acquire a farm.

By definition, centripetal migrants have previously resided in outlying rural areas, interstate or overseas and it was hypothesised that these would also be the major birthplaces of centripetal migrants. The majority of centripetal migrants were born in 'other rural' areas, although interstate and overseas birthplaces were also important. Centripetal migrants were the least likely of the four household types to be born in the

ASD. The tendency towards lower socio-economic status of centripetal migrants is largely a reflection of the older age structure of this group, the large proportion of households without employed persons and relatively high levels of unemployment. Although the retired population accounts for a significant proportion of those not in the workforce, unemployment among younger age groups is also apparent and this reflects the attraction of the peri-urban region for centripetal migrants displaced from farm work in the rural periphery. It was also expected that centripetal migrants would be employed in skilled blue collar occupations, together with some engaged as managers/administrators reflecting the agricultural nature of the workforce migrating from the rural periphery and this is clear from the survey evidence. On the other hand, the median annual income of households is lower than expected. Again, this is not an accurate reflection of accumulated wealth, which may be substantial, particularly among older centripetal migrants who have sold large rural holdings in order to move to the peri-urban region.

The local migrant population, those who moved within the SLA of residence, have the oldest age structure of the four household types and this is largely a reflection of ageing in place in the peri-urban region. Nuclear families are again the predominant family type, although couples and lone person households are also important, especially among the older age cohorts (40-54 years and 60+ years). It was expected that local movers would be more likely to live in a well-established country town and this was confirmed by the survey evidence. As expected, excluding those born within the SLA of residence, the dominant birthplace of local movers is the ASD or other rural locations, but there were also some long established overseas-born groups.

Local mover households are more likely to be dual income, engaged in a mix of skilled blue collar and white collar occupations. They tend to have lower incomes than suburbanites or counterurbanites, and a greater proportion of households receive the age pension than other household types. This is largely a reflection of the older age structure



of this group and highlights the significant retirement component expected among the local migrant population. It also suggests a significant 'welfare client' component in this group, as expected.

Clearly, the migrant flow is not homogeneous and distinctive differences in the socio-demographic characteristics are evident. Based upon the survey findings, Table 6.14 presents a typology of the socio-demographic characteristics which appear to differentiate the migrant flow.

**Table 6.14 Significant Differences Between Recent Migrant Household Types Based Upon Survey Findings**

	<b>Suburbanites</b>	<b>Counterurbanites</b>	<b>Centripetal Migrants</b>	<b>Local Movers</b>
Age	young age structure (30-39 and 0-14 yrs)	young ages (30-39 and 0-14 yrs; some older cohorts (50-59 yrs)	older age structure (40-54 yrs)	oldest age structure (40-54 yrs and 60+ yrs)
Birthplace	majority born in ASD; some overseas-born	majority born in ASD; some born overseas and other rural	majority born in other rural; some born in ASD and interstate	majority born in ASD and other rural; some overseas-born; some SLA
Labour Force Status	employees	employees; highest % unemployed	employees; highest self-employed and large % unemployed	employees and some self-employed
Occupation	skilled blue collar	white collar; welfare clients	largest % manager/admin; mix of blue and white collar	blue and white collar; welfare clients
Median Income	highest annual income	low annual income	lowest annual income	middle annual income
Source of Income	wages/salary	wages/salary; unemployment benefits	wages/salary, self-employment, age pension	wages/salary and age pension
Location	suburban-like developments	well established towns and rural settlements	well-established towns and rural settlements	well-established towns
Housing Tenure	homeowners/purchasers	homeowners/purchasers	homeowners/purchasers; some rental	homeowners/purchasers; some rental
Nature of Housing	separate house	separate house and some hobby farms	separate house and some farms	separate house

## 6.8 Conclusion

From the survey evidence, a number of generalisations have been offered in terms of the socio-demographic characteristics of recent migrants and established peri-urban households. Despite some variations, the migrant population resemble their established resident peri-urban counterparts in many ways. The key differences appear to relate to the age structure, birthplace and labour force composition of the two populations. However, the analysis suggests that the literature has largely exaggerated the role of certain 'colourful' groups of migrants which are not of any major significance.

Nevertheless, the migrant flow is not homogeneous, and distinctive socio-demographic differences are evident according to the dominant growth process at work. The four migrant types comprise broadly distinct socio-demographic groups. Therefore as anticipated, the variation in growth processes is reflected in the composition of the migration flow.

The outcomes of the spatial mix of growth processes in terms of the characteristics of migrants vary throughout the peri-urban region, both at the broad regional scale and the local level. As a result, the impact of particular migrant groups on the structure and value systems of peri-urban communities is expected to vary widely across the region. Chapter Seven will focus on some specific impacts of peri-urban growth, addressing the relationship between the nature of changes in the peri-urban region and the spatial mix of population growth processes at the local level.

## CHAPTER 7

### THE IMPACT OF POPULATION GROWTH IN THE PERI-URBAN REGION

#### 7.1 Introduction

The heterogenous landscape of the peri-urban region has long been acknowledged. As Griffin (1965, p.133) recognised more than three decades ago, 'the peri-urban region is essentially a zone of discord between two contrasting types of land-use...characterised by local variety [rather] than regional unity'. Similarly, Friedmann and Miller (1965, p.317) suggested that 'there is nothing rigid or predetermined about its physical form-rather it may be viewed as a mosaic of different forms and micro-environments which co-exist'.

The aim of this chapter is to assess the impact of recent population growth on the social structure of peri-urban communities. The preceding analysis has identified the peri-urban region as a ring-like zone around the metropolitan area in which processes working to produce growth originate from within and beyond the region itself. Chapter Five showed the spatial differentiation of population growth processes and the complexities of growth dynamics in the peri-urban region. Chapter Six demonstrated that the outcomes of the spatial mix of growth processes also varied in terms of the composition of the migrant population. Hence, it may be expected that the impact of population growth on the structure of peri-urban communities will also vary widely across the region.

This chapter begins with an overview of the broad-scale impacts of population growth in the peri-urban region as a whole. However, in order to assess the likely impacts of population growth on the host community, examination of perceptions at the local level is required. To achieve this, the analysis focuses on three key aspects associated with population growth: social integration, satisfaction and identification with the local area, and shopping linkages. From a review of the literature dealing with these issues, a series of hypothesised differences between recent migrants and established residents is established. The survey data are utilised to test the hypothesised impacts of population

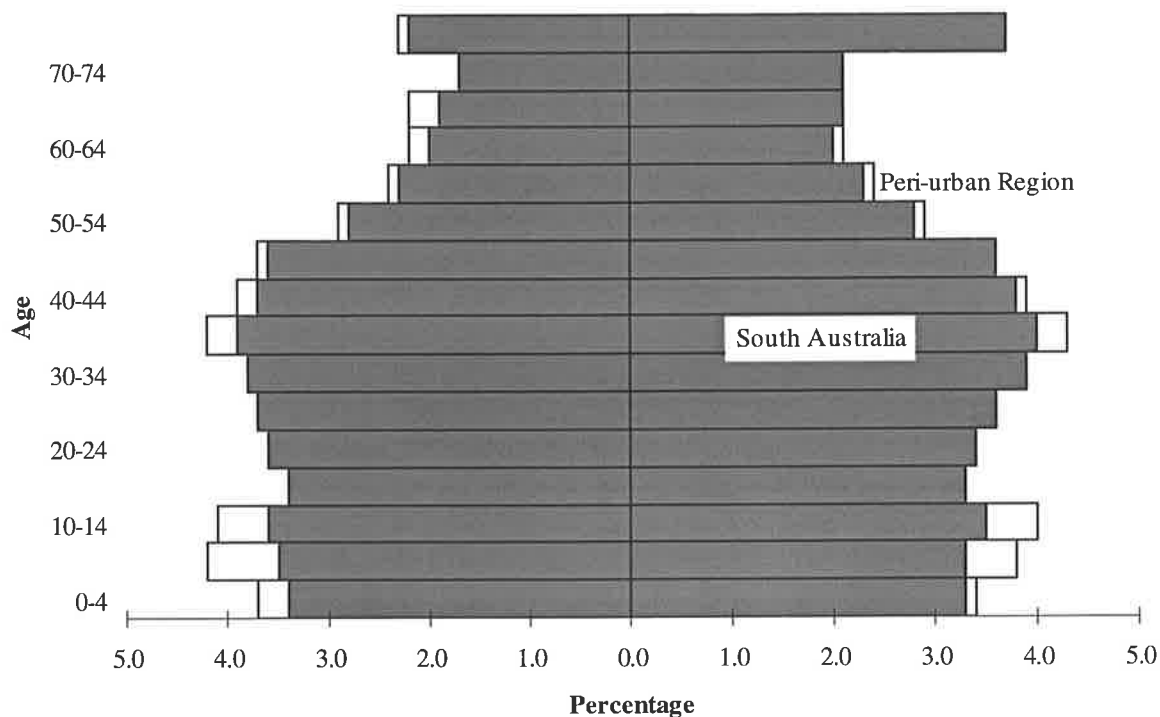
growth in each of the three case study areas separately, in an attempt to determine the relationship between the nature of change in each area and the spatial mix of population growth processes.

## **7.2 Impacts of Growth in the Peri-urban Region as a Whole**

Perhaps the most visible impact of change in the peri-urban region involves change in the demographic structure of the region; that is, in the size, composition and distribution of population. As shown in Chapter Four, since the 1970s, the population growth rates of the metropolitan and non-metropolitan parts of South Australia have tended to converge, and non-metropolitan areas experiencing growth have become spatially concentrated in the peri-urban region. The dominant factor contributing to population growth in the peri-urban region has been in-migration, accounting for 70 per cent of population change between 1986 and 1991. While the level of migration gains has varied, the age composition of net migration has remained relatively stable. Figure 7.1 shows that the age structure of the peri-urban population is younger than that of the State as a whole, with greater concentrations at ages 0-14 and 35-49 years.

Except in rare cases, the impact of substantial net in-migration is likely to alter the age structure of the host community. Substantial net inflow of the elderly contributes to an ageing population, placing demands on the host community both in the short and long term. On the other hand, young families comprise a significant proportion of migrants throughout the peri-urban region. Where this in-migration component dominates, the result will be a rejuvenation of the age structure, whilst maintaining fertility and the young dependent age groups (0-14 years). As a result, new demands will be placed on existing services and infrastructure required to sustain this population, such as childcare and schools.

**Figure 7.1 Age Sex Structure of the Peri-urban and South Australian Populations, 1996**



Source: ABS 1996 Census

The impact of population growth on the host community inevitably includes visible changes in the landscape, such as subdivision, new housing and diversification of farming activities (Bowie 1993). According to Russwurm (1977, p.39), a variety of potential land use conflicts results from the conversion of land to urban uses in the peri-urban region. These include impacts associated with land speculation, rising land values, public land banking and increasing land fragmentation. More recently, McKenzie (1997, p.84) has summarised a number of key impacts arising from peri-urban development which include: the loss of productive agricultural land, landuse conflicts between farmers and peri-urban residents, infrastructure and service provision and environmental concerns.

The popularity of the peri-urban region for hobby farmers has increased in recent years, and this is often regarded as a nuisance by established farmers (Heimlich 1989; Smailes 1997). Although many peri-urban settlements have diminished in importance as

traditional agricultural service centres, Hudson (1989, p.62) suggests that new functions, such as retirement and tourism, are emerging which are facilitating processes of adaptation in a changing rural environment. Furthermore, Fant (1987) found that properties are often converted to more intensive uses, such as flower growing, horse agistment and dog breeding. The impact of population growth on the natural environment in the peri-urban region has also received considerable attention (Fielding 1990; Russwurm 1977). Russwurm (1977, p.53) cites four key areas of impact on the natural environment identifiable in the peri-urban region: ecological degradation, pollution impacts, landscape amenities and potential for future uses. In the case of Adelaide's peri-urban region, Lewis (1976, p.13) argues that increased urbanisation of agricultural land in the Mount Lofty Ranges was 'threatening the region's rural character and natural beauty'.

The broad-scale effects of population growth extend in many directions such as the physical form and landuse, economic functions and environmental pressures. Less visible impacts are directly related to increasing population diversity and as Weber and Howell (1982, p.118) assert, 'they are also the more sociologically important changes that occur, because they have a substantial effect on social structure'. Joseph and Smit (1981, p.211) suggest that population growth in the peri-urban region creates a mix of community problems which differ from those which have previously confronted most of the region. However, little attempt has been made to examine changes in the social structure of peri-urban communities. Lewis and Maund (1976, p.17) argue that, 'this lack of attention is rather surprising since the changes involve the whole society'. Accordingly, the impact of population growth requires an examination of subjective concerns and social interaction at the local level.

In order to assess the likely social impacts of population growth on the host community, examination of specific local conditions and population characteristics within specific peri-urban locations is essential. As a means of assessing changes in the social structure of peri-urban communities, social integration, migrant satisfaction and identification with

their new locality are examined. As an indicator of the economic impact of population growth, the shopping activities of migrants are also examined. A series of hypotheses is established in the following section based on a review of the relevant literature dealing with these aspects of the impact of peri-urban growth: These hypotheses are then tested using the survey data in each of the three case study areas.

### **7.3 Impacts of Population Growth on the Local Host Community: The Literature**

#### **7.3.1 Social Integration**

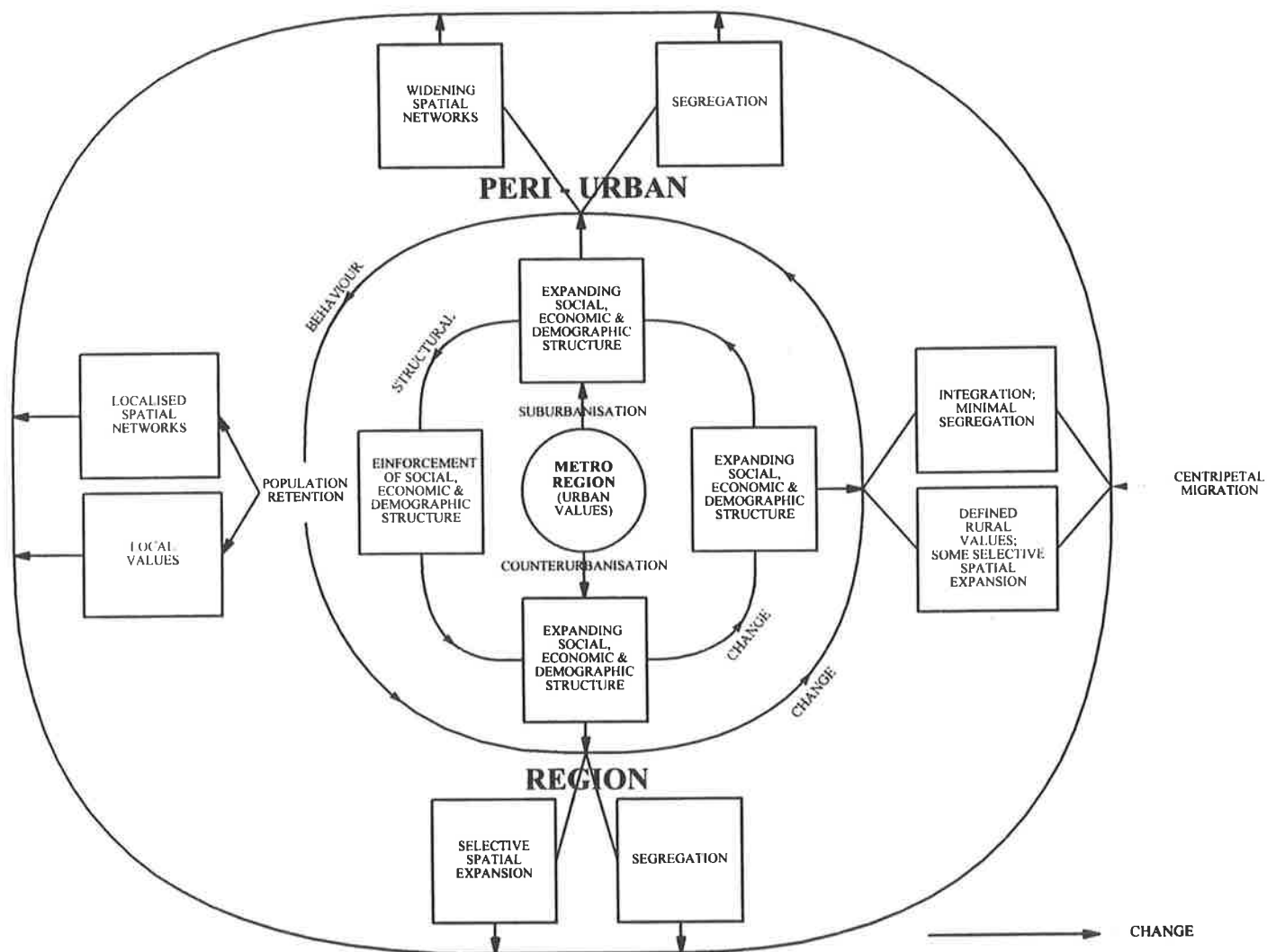
The focal point of concern in much of the literature dealing with the consequences of peri-urban growth has been in the area of social relations, particularly as migrants and established residents attempt to accommodate to one another and deal with a variety of issues (Forsythe 1980; Johansen and Fuguitt 1984; Price and Clay 1980; Thomas 1990). Various studies have found that in-migration appears to be disruptive to the stability of the host community (Hudson 1989; Jackson and O'Connor 1993; Newby 1979; Schwarzweller 1979). The values, behaviour and attitudes of migrants are often urban ones, sometimes found to be incompatible with the pre-existing 'rural' social system. As urban influences penetrate the largely rural settlements, social structures in these communities change from being 'locally oriented' to more extensive networks of social interactions (Lewis and Maund 1976, p.21). It is argued that the needs, values and expectations of migrants differ from those of the established community, potentially creating conflict between the two groups (Price and Clay 1980).

Despite attempts to ingratiate themselves with the resident population, it is expected that migrants may find it difficult to penetrate the often close-knit local community. Although migrants may have joined the host community in terms of residential location, they have not altogether become part of it (Forsythe 1980). Indeed, 'newness' often means a lack of social acceptance by the resident population, which may lead to conflict. However, the newcomer does not enter the peri-urban community as a single individual, who has to 'win social recognition among the locals in order to make life tolerable' (Newby 1979,

p.165). Instead, the numbers of newcomers arriving with similar values, behaviour and lifestyles enables migrants to establish social contacts among themselves, if necessary (Smailes 1997). Smailes and O'Dowd (1981, p.9) found that recent migrants were more likely to identify with the localised *neighbourhood*, than the broad *community*.

The intermixture of different socio-demographic groups increases the diversity of the peri-urban host community. Based on the model of Lewis and Maund (1976), Figure 7.2 shows the components of change associated with each of the four growth processes at work in the peri-urban region.

**Figure 7.2 Model of the Impact of Population Growth in the Peri-urban Region**



Source: Adapted from Lewis and Maund (1976)



Following Lewis and Maund's model, 'the energy for this system is provided by value changes which result in structural and behavioural change each of which is capable of feeding back into the value system and modifying it further' (Lewis and Maund 1976, p.21). Each of the four processes (suburbanisation, counterurbanisation, centripetal migration and population retention) may operate at the same time within a community, although the demographic and social character of a community is controlled by the dominant process (Lewis and Maund 1976, p.20). Based on the modified model of Lewis and Maund (Figure 7.2), the following impacts of population growth according to the influence of the four processes are hypothesised.

Suburbanisation largely involves the short-distance migration of young families from the metropolitan region. These migrants are motivated by the cheaper cost of land and housing in accessible peri-urban locations, maintaining pre-existing levels of social contact with the metropolitan region. The behaviour, values and standards of suburbanites will often be urban, hence resulting in a more segregated community. Demographically suburbanites will increase the birthrate, producing a younger age structure. In turn, greater pressure on services specifically for young families, such as childcare and schools is expected. Suburbanites will also exert the greatest demand for improved infrastructure and services, due to the nature of the often isolated suburban-like developments in which they reside.

On the other hand, counterurbanites are largely motivated by the pursuit of a more rural lifestyle. Migration incurs considerable social tradeoffs for this migrant group, involving a refocussing of entertainment, social and shopping activities toward the local community, as they attempt to become part of the rural way of life of which they often have little personal knowledge. The greatest desire of counterurbanites is to maintain the 'rural idyll' as this was their primary motivation, and they may try and integrate themselves into the local community in their desire to 'belong'. Moreover, counterurbanites are likely to be strong advocates of "NIMBY"- Not In My Back Yard'

(Lewis, McDermott and Sherwood 1991), opposing further growth and development associated with the same process which brought them into the area. Counterurban migrants may bring with them new ideas and businesses, based upon urban values and standards. This will result in considerable change to the established social and economic structure. However, as Newby (1979) found, established residents faced with an invasion of 'their' community by outsiders, tend to retreat in upon themselves and form a community within a community. It is expected that the in-migration of counterurbanites may result in a 'two-tiered society' (Walker and Beesley 1984, p.45), whereby population growth appears to be disruptive to the stability of the host community.

Although the dominant source of peri-urban growth is the metropolitan region, it has been shown in Chapter Five that migrants originating from within the peri-urban region (population retention) and the outlying rural periphery, interstate and overseas (centripetal migration) are also important. It is suggested that the nature of social change resulting from the in-migration of these groups (centripetal migrants and local movers) will differ somewhat from those originating in the ASD (Figure 7.2).

Centripetal migrants are largely of rural birthplace, often employed in agriculturally-related occupations upon migration to the peri-urban region. It is expected that they will already have rural values. As Halfacree (1994, p.182) suggests, 'rural origin migrants employ a more refined and defined idea of the social characteristics of the rural'. Centripetal migration as defined here, also includes in-migrants from overseas and interstate (both metropolitan and non-metropolitan locations). It follows that some segregation and selective spatial expansion of activities in the host community may accompany in-migration from metropolitan overseas and interstate sources although, as a proportion of the total centripetal inflow, this component is small in Adelaide's peri-urban region. Accordingly, it is hypothesised that centripetal migrants will largely be accepted by the established local community and integrate more rapidly than either

suburbanites or counterurbanites. Generally, centripetal migration will have minimal impacts on the host peri-urban community.

Similarly, local movers are either in-migrants of longer standing, or are established residents who have moved within the local area. Their activity patterns are largely focused within the local environment and they often have family connections and a prescribed place in the local community, hence contributing to greater social cohesion.

Based on their theoretical model of urbanisation, Lewis and Maund (1976, p.22) argue that since the urbanisation process is generally conceived to emanate from the metropolitan region, some form of distance decay would be expected in the impact of population growth. Consequently, the impact of growth on the local host community will be greatest in peri-urban locations with the best access to the metropolitan region, and decrease as access to the metropolitan region declines. Similarly, Smailes (1997) found that communities have different social attitudes and degrees of receptiveness toward recent migrants according to distance from the metropolitan region. Hence, the impact of population growth is dependent not only on the rate and type of in-migration, but also on distance from the metropolitan region. Clearly, local level analysis is required in order to assess the social impact of in-migrants in relation to the local mix of growth processes and distance to Adelaide.

### **7.3.2 In-migrant Satisfaction and Identification with their New Locality**

Peri-urban migrants have largely moved to their current residence, to enhance their quality of life in some way and thus a generally high level of satisfaction may be expected (Beesley 1988; Ploch 1978). It has been argued (Aday and Miles 1982; Beesley 1991) that satisfaction with the quality of life among peri-urban migrants is dependent to a large degree on the ability of that host community to meet the individual's needs. However, Smailes (1997) found that even among those who express the greatest problems and fears for the future, many are still satisfied with their local community.

Attitudes and expectations toward the peri-urban region are expected to differ between local residents and the recent migrant population due to their differing backgrounds. It is hypothesised that the established population has both shaped and been shaped by the existing community structure. However, the incoming migrants too will have a significant influence on the future directions the community takes.

For many migrants, the peri-urban region represents the best of both urban and rural environments; access to the city combined with the rural ambience of the peri-urban region. Many are attracted, by the prospect of living in a 'real community'. Hence, it may be argued that migrants are 'going to do their best to maintain the rural atmosphere...which attracted them initially' (Ploch 1978, p.301; Joseph and Smit 1981; Newby 1979; Thomas 1990). However, a conflict of values placed on the peri-urban environment may result. For the peri-urban migrant, satisfaction with the quality of life is positively associated with maintaining a residential location which is proximate to the city, but in an area of relative rurality and within a clearly defined small community (Beesley 1988, p.152). Smailes and O'Dowd (1981) found that many recent migrants make the move to the peri-urban region as a result of the desire for privacy and seclusion. The purchase of a peri-urban residence is mainly for aesthetic reasons and not economic viability. Similarly, Newby (1979, p.167-9) found that migrants regard the peri-urban region in primarily aesthetic and recreational terms and often have little regard for the unanticipated consequences of their arrival on the lives of the local inhabitants.

It seems likely that some migrants, particularly those from the metropolitan area (ASD), do not make the peri-urban region the focus of their social activities. Accordingly, they do not always feel it is necessary to adapt to the accepted mores of the local community, and have little sense of local identity (Carlson and Coppack 1991; Newby 1979; Pahl 1965). It is expected, however, that the degree of local identification with the host community will increase with distance from the metropolitan region. In the outer peri-urban region, recent migrants are still largely a minority and the pressure to adapt to the

local community and social structures is therefore greater than in locations closer to the metropolitan region (Smailes 1997).

### **7.3.3 Shopping Linkages**

The economic impact of in-migration on the local job market, the provision of community services and infrastructure and property values has been assessed in a number of studies (Frey and Speare 1988; Lewis 1976; Price and Clay 1980; Russwurm and Bryant 1984). One indicator of the economic impact of rapid population growth is the shopping activities of migrants. Hudson (1989, p.57) found that the main threat to business growth in the local area was seen to be the 'disloyalty' shown by newcomers 'whose behaviour was considered to encourage others to shop outside their local centre'. Similar findings were reported by Pahl (1965), Newby (1979) and Smailes (1992) such that migrants, especially those maintaining strong linkages with the metropolitan area, prefer to do their shopping in larger centres, by-passing local businesses.

It is hypothesised that while the local area will be the focus of shopping patterns for the established population, migrants will generally shop in the metropolitan region. Mobile newcomers will be less likely to shop in the local area, and this is especially true of suburbanites who may combine their shopping with the daily journey to work, taking advantage of cheaper prices in metropolitan Adelaide. However, the composition of the migration flow to any single community will have an impact on the strength of these linkages.

### **7.3.4 Summary of Hypothesised Differences Between Recent Migrants and Established Residents**

A number of hypotheses have been established based on previous studies which focus on the impact of population growth in the peri-urban region. To summarise, it is expected that there will be some conflict between recent migrants and established residents in terms of social integration. Similarly, it is expected that established residents will have a stronger sense of local identity than migrants, who often continue to focus their social

and economic activities on the metropolitan region. It is assumed that conflicts derive from differences in values, behaviour and attitudes toward the peri-urban region. Hence, differences and/or similarities between recent migrants and established residents can indicate the nature and direction of change in the host community. Following Lewis and Maund (1976), it is expected that some degree of distance decay in the impact of population growth will also be evident. It is hypothesised that the impact of population growth will be greatest in those locations with greater access to the metropolitan region and decrease as access to the metropolitan centre declines

A summary of the hypothesised differences between the established resident and recent migrant population as a whole is set out in Table 7.1.

**Table 7.1 Hypothesised Differences Between Recent Migrants and Established Residents**

	<b>Recent Migrants</b>	<b>Established Residents</b>
<b>Social Integration</b>	Largely urban values, behaviour and attitudes 'Newness' often means a lack of acceptance by local community	Rural values, behaviour and attitudes Part of the local community
<b>Satisfaction and Identification with Local Community</b>	Regard the peri-urban region in aesthetic and recreational terms Do not make the local community the focus of their social activities Little sense of local identity	Have both shaped and been shaped by existing community structure Locally oriented social activities Strong sense of local identity
<b>Shopping Linkages</b>	Shop outside local area, particularly the metropolitan region	Shopping habits focused in the local area

The broad distinction between migrant and established households necessarily treats the four types of migrants associated with peri-urban growth processes as a single group. However, the extent of differentiation varies by location and it is expected that

generalisations based on the crude distinction between recent migrants and established residents will mask differences according to the composition of the migration flow. Following Weber and Howell (1982, p.143), 'even "average" newcomers will differ from community to community, depending upon the type of growth involved, the type of community involved and a variety of other factors'. Hence, based on the modified model of Lewis and Maund (Figure 7.2), Table 7.2 summarises the hypothesised differences within the migrant flow according to the four growth processes. The focus of the analysis will now turn to the impact of population growth on the peri-urban host community, taking into account the spatial diversity in growth processes and migrant profiles.

**Table 7.2 Hypothesised Differences Within the Migrant Flow According to the Four Growth Processes**

	<b>Suburbanites</b>	<b>Counterurbanites</b>	<b>Centripetal Migrants</b>	<b>Local Movers</b>
<b>Social Integration</b>	-Lack of acceptance by local community -Maintain pre-existing social contacts with the ASD	-Not completely accepted by local community -Mix of continued social contact with the ASD and localised activity patterns	-Largely accepted by local community -Localised activity patterns	-Accepted by local community -Localised activity patterns
<b>Satisfaction and Identification with Local Community</b>	-Significant lifestyle adjustment: trade off access to work and social contacts -Little sense of local identity	-Significant lifestyle adjustment: pursuit of a rural lifestyle -Little sense of local identity	-Minimal lifestyle adjustment: largely rural values and lifestyle -Strong sense of local identity	-No lifestyle adjustment -Strong sense of local identity
<b>Shopping Linkages</b>	-Continue to shop in the ASD	-Shopping largely focused in local area	-Shopping focused in the local area	-Shopping focused in the local area
<b>Impact of Population Growth</b>	-More segregated local community	-More segregated local community	-Minimal impact on existing local community	-Reinforce existing social structure

The survey data are utilised to test the hypothesised impacts of population growth in the three case study areas. In order to gain a full appreciation of the changes resulting from population growth at the local level, the analysis will focus on the subjective opinions of

recent migrants and established residents. According to Beesley (1991, p.53), 'how people think and feel about their life....in a specific place or community are of central concern' to a comprehensive understanding of the impacts on the social structures in the host community. As a means of assessing the impact of peri-urban growth, social integration, local identification and migrant satisfaction and shopping linkages are examined. Social integration is measured in terms of personal experiences and social participation of migrants and established residents in the local community. Local satisfaction and identification is addressed in light of quality of life considerations and subjective concerns of migrants and established residents regarding their local area. Finally, shopping linkages are assessed based on self-reported activities of recent migrant and established resident households. A range of questions were asked of the survey respondents in order to collect this information and these are listed in Table 7.3.

Each of the three case study areas is addressed separately, with the central focus being on statistically significant differences between the migrant flow and established population. The chi-square test ( $\chi^2$  at 0.05 significance level) is used to identify significant differences between migrants and non-migrants. Where significant differences do exist, the migrant flow will be differentiated according to the four household types (see Chapter Six), in order to assess the degree to which the dominant growth processes influence the nature of changes in any location. To avoid continuous repetition of statistics, non-significant relationships will not be quoted, although these relationships have been tested.



**Table 7.3 Questions Asked of the Survey Respondents in Relation to Social Integration, Local Identification/Satisfaction and Shopping Linkages.**

<b>Social Integration</b>	
Acceptance/Integration into Local Community	-To what extent do you feel accepted by this local community? (Q.36) -How well do you think recent arrivals to the area are fitting into the established community? (Q.43)
Participation in the Local Community	-Do you regularly attend any local organisations/clubs? (Q.33) -Would you like to participate more in the local community? (Q.34)
<b>Local Satisfaction and Identification</b>	
Satisfaction with Local Area	-How satisfied are you with living in this local community? (Q.21)
Lifestyle Adjustment	-Have you come across any specific problems/difficulties which you did not foresee when you decided to move here? (Q.17) -What were the main changes, if any, to various aspects of your everyday life? (Q.18)
Rural Character of Local Area	-What importance did (various factors) have in your decision to move here? eg. price land/housing, proximity to Adelaide (Q.12) -Compared to all other aspects of your move, how important was the rural character of this area in your decision to move here? (Q.13) -Has the area become more or less rural in the time that you have been here? (Q.23)
Future Population Trends	-What future population trends do you anticipate for this area? (Q.42)
Changes in Local Area	-Do you see any advantages/disadvantages to the area from continued population growth? (Q.46 and Q.47) -Do you see any significant changes in your local area from five years ago? (Q.44)
<b>Shopping Linkages</b>	-Which town/area would you use most often to obtain a variety of goods/services? (Q.29 and Q.30)

Note: See Appendix C for a full description of questions

## **7.4 The Impact of Population Growth at the Local Level**

### **7.4.1 The Impact of Population Growth in Mallala**

Population growth in Mallala has been consistently rapid since the early 1970s and in the 1980s this SLA recorded the highest annual growth rate (5.5 per cent per annum) in the peri-urban region. Population change has largely been the result of in-migration, particularly of young families with dependent children. The close proximity of Mallala to

the northern ASD facilitates the maintenance of strong employment and social linkages with the metropolitan region. Accordingly, significant residential development, accompanied by a substantial commuter population, has been imposed on a region largely based on dryland agriculture. Hence, it is expected that the impact of population growth will be substantial in this SLA, given its proximity to Adelaide and consistently high rate of in-migration.

In relation to social integration, the majority of both recent migrants and established residents felt that they were well accepted by the local community. On the other hand, a statistically significant difference ( $\chi^2=6.03 > p > 5.99$ ,  $df = 2$ ) exists between recent migrants and established residents regarding the perceived integration of recent arrivals into the local community (Table 7.4).

**Table 7.4 Perceived Integration of Recent Arrivals into Local Community by Recent Migrants and Established Residents, Mallala**

	Recent Migrants N	Established Residents N
Moderately	21 (75.0)	13 (44.8)
Other (well/poorly)	7 (25.0)	16 (55.2)
Total	28 (100.0)	29(100.0)

Source: Mallala District Council Survey 1995

Note: Percentages shown in brackets; Non-response cases have been omitted

It appears that although recent migrants perceive themselves to be *integrating* moderately well into the local community, this opinion is not shared by established residents, whose views are more polarised. It may be that due to the large influx of migrants with similar urban values, behaviour and lifestyles, social contacts are established among themselves. Hence, the perceived *acceptance* of migrants may relate to integration into the local 'migrant neighbourhood' and not necessarily the host peri-urban community. Respondents often commented that they were well accepted in their local neighbourhood, where large numbers of young families moving from Adelaide with similar urban values and activities were living, and hence they did not see the relevance

of integrating into the wider established community. Indeed, the hypothesis that 'newness' often means a lack of social acceptance by the resident population is confirmed by the survey data in Mallala.

In terms of participation in the local community, there was no statistically significant difference between recent migrants and established residents as to the number of social organisations attended, with similar proportions of both groups not participating at all (50 per cent of recent migrants and 40 per cent of established residents). Among those who did regularly attend some type of organisation, the local area was the major location for both population groups and only a small proportion wanted to increase their level of participation. Hence, although community involvement is important to both established residents and recent migrants, similar proportions of both groups find membership of formal organisations irrelevant and are not interested in joining them, contrary to the observations made in much of the literature.

Satisfaction with the local area is largely dependent on the extent to which the host community matches the individual's expectations. Although the majority of both migrants and established residents in Mallala were very satisfied or satisfied with their current residence, 41.7 per cent of recent migrants indicated some lifestyle adjustment had been involved with their new peri-urban lifestyle. Table 7.5 shows that among the migrant population, a greater proportion of suburbanites experienced some lifestyle adjustment, which was caused by the greater travelling distance to the ASD for employment, shopping and friends and family. This implies that suburbanites continue to maintain their urban linkages upon migration to the peri-urban region and do not make their local environment the focus of their daily lives. This is also reflected in the significant difference that exists among the four migrant groups, who differ in their perception that the cost or time of getting to work is a problem of living in their peri-urban residence ( $\chi^2=8.87 > p > 3.84$ ,  $df = 1$ ). While 50 per cent of suburbanites saw the greater commuting time or cost as a problem, only 13 per cent of other migrants were of the same opinion.

Clearly many suburbanites have traded off accessibility to work and social contacts in moving to the peri-urban region, as expected. Nevertheless, it appears, that most are willing to accept the longer travelling distance in order to have the advantages of peri-urban living.

**Table 7.5 Lifestyle Adjustment Involved with Peri-urban Move by Migrant Type, Mallala**

Adjustment involved	Suburbanites N	Other Migrant Groups* N
Yes	21 (51.2)	4 (21.0)
No	20 (48.8)	15 (79.0)
Total	41(100.0)	19 (100.0)

Source: Mallala District Council Survey 1995

Note: percentages shown in brackets

\* includes counterurbanites, centripetal migrants and local movers

The importance of the rural character of the peri-urban environment differs significantly between migrants and established residents ( $\chi^2=10.51 > p > 5.99$ ,  $df = 2$ ). The vast majority of established residents (93.8 per cent) stated that the rural qualities of their location were very important in their decision to retain their current residence. This was the case for a considerably smaller proportion (62.6 per cent) of recent migrants. Other motives, including the cost of land/housing and access to the metropolitan region, are more important to many migrants to this region. Hence, the survey data confirm the hypothesis that recent migrants often regard the peri-urban region in primarily aesthetic and recreational terms, with local satisfaction associated with maintaining a residence which is proximate to the city.

Subjective opinions on anticipated future population trends provide a measure of the degree of confidence that the area will maintain its population and facilities. With respect to the future population trends in Mallala, it is significant that the majority of recent migrants anticipated increased population growth, compared with established residents who largely anticipated continued growth at current levels ( $\chi^2 = 6.36 > p > 5.99$ ,  $df = 2$ ).

The majority of both groups, however, could see no advantages to continued population growth, reflecting an overwhelming desire to maintain the current 'peri-urban idyll'. The loss of rurality and increased urban problems such as crime and pollution accompanying such population growth were anticipated by the majority of migrants.

As an indication of local identification, the survey respondents were asked whether they could identify any changes in their local area in the last five years. A greater proportion of established residents (79.5 per cent) stated that changes had occurred, compared with around half (56.8 per cent) of recent migrants ( $\chi^2 = 4.86 > p > 3.84$ ,  $df = 1$ ). This greater awareness of change may reflect the more intimate local knowledge expected among established residents. However, the nature of changes anticipated by both groups were similar and included the increase in residential development, population and improved facilities. Significantly, the majority of suburbanites (70.4 per cent) suggested that their local area had changed in the last five years, compared with 35.3 per cent of all other migrant groups.

In terms of shopping linkages, Table 7.6 reveals that the majority of both recent migrants and established residents in the Mallala study area, shop in the ASD on a regular basis. The same pattern is observed within the migrant population, with all four migrant groups predominantly focusing their shopping patterns on the ASD. The accessibility of Mallala SLA to the large shopping complexes of northern Adelaide and the large service centre of Gawler may explain this, especially given that the complement of shopping facilities in the two main local towns (Two Wells and Mallala) is fairly limited. As expected, established residents are more likely than migrants to focus their shopping habits on the local area. However, the proportion shopping in the ASD is much greater among this group than anticipated. Surprisingly, recent migrants are more likely than established residents to shop in other peri-urban locations, predominantly Balaklava (Wakefield Plains SLA), a pattern which was not expected.

**Table 7.6 Location of Area Most Used for Shopping by Recent Migrants and Established Residents, Mallala**

Location	Recent Migrants N	Established Residents N
Same SLA	5 (8.2)	6 (15.4)
ASD	36 (59.0)	27 (69.2)
Other	20 (32.8)	6 (15.4)
Total	61 (100.0)	39 (100.0)

Source: Mallala District Council Survey 1995

Note: Percentages shown in brackets

To summarise, it appears that on the whole, the nature of changes associated with population growth in Mallala are largely related to the proximity of this region to Adelaide. This confirms the hypothesis that the impact of population growth is substantial in those locations with greater access to the metropolitan area. Accessibility to the metropolitan region is clearly important to both recent migrants and established residents in terms of social and shopping linkages. Although migrants may feel accepted by the community, many established residents do not share this perception and the emergence of a 'dormitory population' associated with suburbanisation is likely to result in two parallel systems of interaction. Hence, as Lewis and Maund (1976) suggest, the impact of suburbanisation results in a more segregated community.

#### **7.4.2 The Impact of Population Growth in Strathalbyn**

Population growth in Strathalbyn has been constant since the 1970s, although declining in momentum somewhat during the 1990s. Population growth is largely the result of immigration of young families and their children, as in Mallala. However, Strathalbyn also attracts a substantial pre/retirement population. Although traditionally a typical rural community centred on a strong service centre, retirement, tourism and hobby farming are becoming increasingly important. Although both SLAs are located at the boundary of the ASD, Strathalbyn's linkages with the metropolitan region are much more attenuated than in Mallala. Nevertheless, considerable potential for social conflict will be apparent in Strathalbyn, as the recent migrants and established residents are more equal in number.

With respect to the social integration of recent migrants, the hypothesised lack of acceptance by the local community is apparent from the survey data in Strathalbyn. Table 7.7 suggests that some conflict between recent migrants and established residents is evident with a statistically significant difference in acceptance by the local community, as perceived by recent migrants and established residents respectively ( $\chi^2=8.16 > p > 3.84$ ,  $df = 1$ ).

**Table 7.7 Perceived Acceptance by Local Community by Recent Migrants and Established Residents, Strathalbyn**

Accepted	Recent Migrants N	Established Residents N
Yes	47 (75.8)	37 (97.4)
No/Partly	15 (24.2)	1 (2.6)
Total	62 (100.0)	38 (100.0)

Source: Strathalbyn District Council Survey 1996

Note: Percentages shown in brackets

Although the majority of both recent migrants and established residents feel that they have been accepted by the local community, almost a quarter of migrants do not feel such acceptance, compared with a negligible proportion (2.6 per cent) of established residents. Table 7.8 shows that the majority of in-migrants from the ASD (suburbanites and counterurbanites) feel that they are not fully accepted by the host community. Respondents often made remarks like 'it takes 30 years to become a local'.

**Table 7.8 Perceived Acceptance by Local Community by Migrant Type, Strathalbyn**

Accepted	Suburbanites/ Counterurbanites N	Centripetal Migrants N	Local Movers N
Yes	2 (8.3)	6 (30.8)	11 (47.8)
No/Partly	22 (91.7)	9 (69.2)	12 (52.2)
Total	24 (100.0)	15 (100.0)	23 (100.0)

Source: Strathalbyn District Council Survey 1996

Note: Percentages shown in brackets

Although 69.2 per cent of centripetal migrants also feel a lack of acceptance, 30.8 per cent feel accepted by the local community. This may reflect the rural origin of much of this group which facilitates their integration to some extent. The greatest degree of acceptance is felt by local movers and this confirms the hypothesis that this migrant group are largely already part of the local community. Indeed this may be part of the reason for their decision to stay in the area after moving house.

Given these results, it is interesting that no significant difference exists among recent migrants and established residents in their opinion of how well recent arrivals are fitting into the local community, with only a small proportion of both groups stating that recent arrivals were fitting in poorly. A common response from both groups was that given the number of recent arrivals, or 'tourists' as they are often referred to by established residents, there is no choice but to accept them into the local community. Indeed, this opinion was also widespread among the four migrant groups, with most suggesting that those who make an attempt to participate in the local community are invariably accepted.

In terms of the level of local participation, as in Mallala, the data suggest that no significant difference exists between recent migrants and established residents. Indeed Table 7.9 reveals that similar proportions of both groups did not participate at all, although complete non-participation was much more common in Mallala. Despite this, half of established residents and 40 per cent of recent migrants participated in at least two local organisations, primarily located within the immediate local area, reflecting a similar level of social integration among recent migrants and established residents. However, participation does vary according to migrant type. Participation in local organisations tends to be greater among centripetal migrants and local movers than in-migrants from the ASD (suburbanites and counterurbanites). This suggests that pre-existing levels of social contact with Adelaide are often maintained by the latter group, particularly by suburbanites. In contrast, the activity patterns of local migrants and centripetal migrants tend to be more localised, as expected.



**Table 7.9 Participation in Local Organisations by Recent Migrants and Established Residents, Strathalbyn**

Number of Organisations	Recent Migrants	Established Residents
	N	N
None	21 (33.9)	10 (26.3)
One	15 (24.2)	9 (23.7)
Two or More	26 (41.2)	19 (50.0)
Total	62 (100.0)	38 (100.0)

Source: Strathalbyn District Council Survey 1996

Note: Percentages shown in brackets

Some form of lifestyle adjustment upon migration to the peri-urban region characterises recent migrants to Strathalbyn. Although no significant difference exists among migrants, with approximately half of all migrant groups experiencing some adjustment, the nature of adjustment does vary according to migrant type. Suburbanites reported the greater travelling distance to employment and entertainment, and this reflects the maintenance of pre-existing levels of employment and social contact with the ASD by this migrant group. Counterurbanites stated a change in employment status and larger size of land/housing. This corresponds to the pursuit of a more rural lifestyle, often involving a shift in employment which characterises this migrant group. Among centripetal migrants more frequent shopping and visiting of friends/relatives characterised their move, while improved access to shops, family and employment were reported by local movers.

The majority of both recent migrants and established residents were satisfied with their local community, and the perceived rural nature of the region was prominent in both the migrants' decision to move and established resident's decision to stay in Strathalbyn. However, as an indication of local identification, analysis of the perceived degree of rural change in the local area resulted in a significant difference between recent migrants and established residents ( $\chi^2=12.63 > p > 3.84$ ,  $df = 1$ ). While the majority of established residents (71.1 per cent) perceived that the area had become less rural, largely as the result of the encroachment of urban values and increased residential development, 78 per cent of recent migrants reported that the area was relatively unchanged. Established

residents appear to be more sensitive to changes in their local environment and report both physical and social changes accompanying population growth. A greater tolerance of population growth is evident among the migrant population. These findings are consistent with the hypothesised conflict of values placed on the peri-urban environment by recent migrants and established residents in the case of Strathalbyn.

The majority of both recent migrants and established residents anticipated either increased population growth for Strathalbyn or continued growth at current levels, reflecting a degree of confidence in the local community. Both groups saw advantages of future growth in the form of improved shops and facilities and maintaining local business. Disadvantages included the loss of country atmosphere and increased noise and crime. The majority of both recent migrants and established residents reported changes in the local area within the last five years, which were related to increased population and residential development, expansion of towns and improved facilities. Hence, in terms of perceptions of change and future growth in the local area, both recent migrants and established residents have a similar outlook.

In relation to shopping linkages, there was a statistically significant difference in the location most used for shopping by recent migrants and established residents ( $\chi^2=6.49 > p > 5.99$ ,  $df = 2$ ). Table 7.10 shows that three quarters of established residents frequently used the local area for their shopping requirements, compared with 58.1 per cent of recent migrants.

**Table 7.10 Location of Area Most Used for Shopping by Recent Migrants and Established Residents, Strathalbyn**

Location	Recent Migrants N	Established Residents N
Same SLA	36 (58.1)	28 (73.7)
ASD	9 (14.5)	-
Other	17 (27.4)	10 (26.3)
Total	62 (100.0)	38 (100.0)

Source: Strathalbyn District Council Survey 1996

Note: Percentages shown in brackets

Although 14.5 per cent of recent migrants travel to the ASD to shop, none of the established residents do so. Approximately a quarter of both groups shop in other peri-urban locations, predominantly Mount Barker. Among the migrant population, suburbanites contribute significantly to this statistical difference. Of the 9 recent migrant households shopping in the ASD, 7 are suburbanites and this suggests the incorporation of shopping into the daily journey to work. Indeed a common view among respondents is that newcomers do not support local businesses and shops, preferring larger centres outside of Strathalbyn, such as Mount Barker and Adelaide (see *The Courier*, 1996, Wednesday, February 18, p.2). The survey evidence in Strathalbyn clearly confirms the expected differentiation of migrants and non-migrants in relation to shopping linkages, and is consistent with the findings of Pahl (1965) and Newby (1979).

Some social conflict appears to be evident between recent migrants and established residents in Strathalbyn, although social integration and local identification with the host community is greater among centripetal migrants and local movers, as expected. Ironically, many migrants have moved to Strathalbyn to take advantage of the 'country town' nature of the region but, at the same time, oppose further population growth on the grounds that they will lose what it was they originally migrated for.

#### **7.4.3 The Impact of Population Growth in Wakefield Plains**

Of the three case study areas, Wakefield Plains is the most distant from Adelaide, located on the northern edge of the peri-urban region. It is still predominantly a rural area dependent largely on dryland agriculture, although the number of rural establishments has declined in recent years (337 in 1981 to 246 in 1993). Population growth in Wakefield Plains has not been as rapid as in Mallala and Strathalbyn, with natural increase being the dominant component in population change. Hence, it is expected that the impact of population growth will be least felt in this SLA.

In terms of social integration, this hypothesis is largely confirmed by the survey evidence. No statistically significant difference exists in perceived acceptance by the local community between recent migrants and established residents in Wakefield Plains, with the majority of both groups stating that they were accepted. In contrast, as in Mallala, opinions on the integration of recent arrivals into the local area vary, with half of established residents stating that migrants were fitting in very poorly or poorly, compared with a fifth of recent migrants of the same opinion (Table 7.11).

**Table 7.11 Perceived Integration of Recent Arrivals into the Local Community by Recent Migrants and Established Residents, Wakefield Plains**

	Recent Migrants N	Established Residents N
Very Well or Well	14 (23.7)	4 (16.7)
Moderately	33 (55.9)	8 (33.3)
Very Poorly or Poorly	12 (20.3)	12 (50.0)
Total	59 (100.0)	24 (100.0)

( $\chi^2=7.48 > p > 5.99$ ,  $df=2$ )

Source: Wakefield Plains District Council Survey, 1994

Note: Percentages shown in brackets; Non-response cases omitted.

There was no statistically significant difference in the participation of recent migrants and established residents in local organisations, with approximately a third of both groups stating that they did not participate at all. Similarly, around a third regularly participated in two or more organisations, which again reflects a similar degree of social integration among recent migrant and established resident populations. The local area was the location for virtually all recent migrants and established residents participating in social organisations, and the majority of both groups stated their wish to maintain their current level of participation.

Some lifestyle adjustment is expected among migrant households moving to the peri-urban region and the survey evidence supports this in Wakefield Plains. The degree of adjustment made by migrants differs according to migrant type (Table 7.12), with counterurbanites making the greatest adjustment and local movers the least, as expected.

**Table 7.12 Degree of Lifestyle Adjustment by Migrant Type, Wakefield Plains**

Degree of Adjustment	Counterurbanites N	Centripetal Migrants N	Local Movers N
Not at all	8 (27.6)	9 (47.4)	13 (72.2)
Moderate/considerable	21 (72.4)	10 (52.6)	5 (27.8)
Total	29 (100.0)	19 (100.0)	18 (100.0)

( $\chi^2 = 7.41 > p > 5.99$ ,  $df = 2$ )

Source: Wakefield Plains District Council Survey, 1994

Note: Percentages shown in brackets; Non-response cases are omitted

Evidence of suburbanisation is minimal in Wakefield Plains (see Chapter 5), with only five recent migrant households classified as suburbanite. Hence, this household type has been excluded from this analysis.

It seems likely that due to its more remote location there would be a greater need for lifestyle adjustment among migrants to Wakefield Plains, than in Mallala. According to the data, this is not the case. The greatest proportion of migrants experiencing lifestyle adjustment were in Mallala (41.7 per cent), followed by Strathalbyn (37.7 per cent) and Wakefield Plains (34.3 per cent). This can be explained by the dominance of centripetal migrants and local movers in Wakefield Plains, who largely have rural values and localised activity patterns.

Both recent migrants and established residents appear to be satisfied with the local area and perceive the rural character of the area to be extremely important in their location decision. Both groups report that the area has remained fairly static in terms of perceived rurality, although changes in the last five years were stated by both groups as including expansion of the towns and increased diversification of population. Almost half of recent migrants and of established residents in Wakefield Plains anticipated continued population growth at current levels and perceived there to be no real advantages associated with future population increase. Among migrant groups, there was no statistically significant difference according to anticipated future growth patterns, although counterurbanites and centripetal migrants were more likely to point to the increased number of shops and facilities as potential advantages of population growth.

These results indicate that both recent migrants and established residents have a similar degree of local satisfaction and identification in Wakefield Plains.

In terms of shopping habits, the majority of recent migrants and of established residents focus their shopping patterns on the local area. Although a greater leakage to Adelaide is apparent among recent migrants (Table 7.13), there is no statistically significant difference according to shopping location. Hence, although recent migrants are more likely than established residents to shop outside the local area, a greater proportion than expected focus their shopping activities in the local area.

**Table 7.13 Location of Area Most used for Shopping by Recent Migrants and Established Residents, Wakefield Plains**

Location	Recent Migrants N	Established Residents N
Same SLA	44 (60.3)	20 (74.0)
ASD	29 (39.7)	7 (26.0)
Other	-	-
Total	73 (100.0)	27 (100.0)

Source: Wakefield Plains District Council Survey, 1994

Note: Percentages shown in brackets

Based on the survey evidence, it appears that the rurality and strong local community in Wakefield Plains are both important attractions for recent migrants. Social integration into the local community appears to be equally common among migrants, with little conflict evident between established and migrant populations.

## 7.5 Conclusion

From the survey evidence a number of generalisations can be made about the impact of population growth in the peri-urban region. Despite some variation, the survey uncovered no evidence that the social impact of migrants on the host community leads to substantial friction and structural disturbance. However, the degree of impact varies somewhat according to location (Table 7.14).

**Table 7.14 Differentiation Between Recent Migrants and Established Residents in the Three Case Study Areas Based Upon Survey Results**

	<b>Mallala</b>	<b>Strathalbyn</b>	<b>Wakefield Plains</b>
<b>Social Integration</b>			
Acceptance/ integration into the local community	<b>Migrants perceive themselves to be integrating into local community; established resident's views more polarised</b>	<b>Migrants not completely accepted, particularly migrants from the ASD</b>	<b>Migrants perceive themselves as integrated; established resident's views more polarised</b>
Participation in local community	High non-participation among both established residents and recent migrants	Similar % of both groups not participating; <b>participation greater among centripetal migrants and local movers</b>	Similar degree of participation among both groups
<b>Local Satisfaction and Identification</b>			
Lifestyle adjustment	<b>Lifestyle adjustment among recent migrants, particularly suburbanites</b>	Lifestyle adjustment among all migrant groups	<b>Lifestyle adjustment among recent migrants, particularly counterurbanites</b>
Rural character of local area	<b>Rural qualities more important to established residents</b>	<b>Established residents perceive loss of rurality; recent migrants have greater tolerance to changes accompanying population growth</b>	Rural qualities very important to both groups
Future population trends	<b>Recent migrants anticipate increased growth with no advantages</b>	Both groups anticipate increased growth, accompanied by both advantages and disadvantages	Both groups anticipate increased growth with no advantages
Changes in local area	<b>Greater perception of change by established residents</b>	Both groups perceived changes to be associated with population and residential growth	Both groups perceive rural nature of area as unchanged
<b>Shopping Linkages</b>			
	Majority of both groups shop in metro. region; established residents more likely to shop locally; recent migrants more likely to shop in other peri-urban locations	<b>Majority of established residents shop locally and none in metro. region; recent migrants more likely to shop in metro. region, particularly suburbanites</b>	Majority of both groups shop locally

Note: Bold type indicates that a statistically significant difference exists between migrants and established residents ( $\chi^2$  at 0.05 significance level).

The degree of social acceptance and integration found in the three case study areas appears to be negatively associated with access to the ASD. This provides clear evidence to support Lewis and Maund's (1976) theoretical model of urbanisation. The differences

between recent migrants and established residents are greatest in Mallala, the area which has the best access to the ASD. The survey evidence in Mallala confirms the findings of Smailes (1997, p.31), who suggests that in the immediate commuting zone, 'residual rural community residents are swamped and tend to share physical but not social space with the newcomers, only a minority of whom are interested in assimilating into pre-existing social structures'.

Population growth in Mallala has been rapid, largely due to in-migration from the ASD. Furthermore, distance to the former social networks in Adelaide is small enough for many recent migrants to continue to maintain their urban linkages and these households do not make their local environment the focus of their daily lives. Hence, the impacts of growth are most evident in Mallala, resulting in a more segregated social structure. This confirms the findings of Hudson (1989), Lewis (1989) and Smailes (1997).

In less accessible locations such as Strathalbyn, considerable potential for social conflict exists as the number of recent migrants and established residents are more equal (Smailes 1997, p.31). The survey evidence suggests significant differences between the two groups according to perceived acceptance and integration of migrants into the local community. It appears that resentment towards recent migrants stems from the threatened solidarity of the established rural community. This is reflected in the numerous negative comments made by established residents relating to 'the encroachment of urban values', 'the loss of the close knit community', and 'diversification of an essentially rural town'. These results concur with the findings of Smailes (1997) and Newby (1979), whereby established residents faced with an invasion of their local environment, tend to retreat upon themselves, resulting in a 'two tiered' society.

On the other hand, the survey evidence suggests a lack of differentiation between migrants and established residents in Wakefield Plains, where on the whole the migrant



population resemble the host population in terms of social participation and local identification. It is suggested that the limited evidence of impact in Wakefield Plains indicates that a certain proportion of migration can be absorbed in the community without serious disruption. It seems likely that as recent migrants are still a minority in the outer peri-urban region, pressure to adapt to the local community and social structures is somewhat greater than in locations closer to the metropolitan region. It can be concluded that the extent of change in the host community is not only dependent on the rate of in-migration, but also distance from the metropolitan region. The degree of social integration and receptiveness towards migrants generally increases with distance from the metropolitan region and this confirms the patterns identified by Smailes (1997).

The relationship between the nature of change and the dominant mix of growth processes also becomes clearer. Based on the modified model of Lewis and Maund (Figure 7.2), the hypothesised impacts of the four growth processes have largely been confirmed by the survey data. The survey evidence shows that in-migrants from the ASD contribute significantly to differences in social integration and local identification. Suburbanites combine both urban and rural life; they reside in the peri-urban region, while maintaining employment and social connections in the urban centre. Indeed, it appears that the degree of social conflict and structural change associated with suburbanisation results in a more segregated local community. Clear evidence of this was found in Mallala, where the large numbers of migrants arriving with similar urban values, lifestyles and behaviour enabled suburbanites to establish social contacts among themselves.

Counterurbanisation also appears to be somewhat disruptive to the host community, resulting in changes to the established social structure. Counterurbanites are largely motivated by the pursuit of a peri-urban lifestyle and may try and integrate themselves into the local community in their desire to 'belong'. Nevertheless, some degree of lack of acceptance and social conflict associated with counterurbanisation was evident in Strathalbyn, resulting in a more segregated social structure.

On the other hand, the social and behavioural impact of centripetal migrants and local movers is minimal, largely reinforcing the existing social structures of the host community. In each of the case study areas, social integration and local identification with the host community is greater among centripetal migrants, than among either suburbanites and counterurbanites. Furthermore, the survey data show that the activity patterns and identification with the local area of local movers largely reinforce the existing community structure, contributing to greater social cohesion. Evidence of this was found in Wakefield Plains, where the greater degree of social acceptance and integration among recent migrants is likely to be a reflection of the dominance of centripetal migrants and local movers.

The degree of structural change associated with population growth clearly varies throughout the peri-urban region and is associated with a combination of distance from the metropolitan centre, the level of population growth and the spatial mix of growth processes. Although little evidence was found in the case study areas that in-migration has provoked serious social conflict, the impact of recent migrants has been felt to varying degrees in each of the case study areas. Clearly, the challenge to be met by the social structure in these changing peri-urban communities is to preserve the desirable qualities which attracted the migrants initially, whilst utilising the positive aspects of growth in such a way as to benefit all segments of the community.

## **CHAPTER 8**

### **CONCLUSION**

#### **8.1 Introduction**

Non-metropolitan growth has become spatially concentrated in the peri-urban regions of cities throughout the western world and the significance of this growth zone is reflected in the large body of literature which has been generated. Despite this, significant gaps exist which impede a complete understanding of the patterns, causes and implications of peri-urban growth. This study has endeavoured to bridge these gaps in the existing literature, with the aim of contributing toward a clearer understanding of the nature of current patterns of population change in the peri-urban region. Analysis of aggregate census data, together with local level survey data in the context of Adelaide's peri-urban region has been undertaken in an attempt to contribute to further analytical insights into the dynamics of the migration process in this region. This chapter summarises the key findings of the study and suggests a number of further research issues.

#### **8.2 Key Findings of the Study**

Attempts at explanation of peri-urban population change are largely speculative and fail to adequately understand the processes leading to the complex population dynamics at the local level. It has been argued here that what is required is an understanding of the basic demographic growth processes working in the peri-urban region. In Chapter Three, the peri-urban was conceptualised as a ring-like zone in which demographic growth processes generated in-migration from both inner and outer sides of the ring and from within the region itself. Essentially, the peri-urban region was conceptualised as a set of overlapping zones of net growth representing the product of four demographic processes (suburbanisation, counterurbanisation, centripetal migration and population retention). Previous work has failed to identify these processes which, although quite different, are interlinked, producing differences between and within peri-urban SLAs. Each of these processes acts somewhat differently on particular

population sub-groups. These differences in turn are reflected in variations in the spatial manifestation of peri-urban growth within the region. Hence, differentiation and measurement of each of the four processes was necessary in order to establish the degree to which each process contributed to population change in the peri-urban region.

The conceptual framework distinguished the four growth processes according to six key indicators. Three of these were concerned with the migrants themselves (migrant origin, connectivity with the metropolitan region and motivation of migrants). The remaining three related indirectly to the migrants' behavioural pattern through their choice of peri-urban residence and were expressed as qualities of the destination chosen (amenity value, accessibility and nature of residential development). Following this conceptual model, Chapter Five differentiated and attempted to measure the relative significance of the four processes across the peri-urban region. Based on the analysis of aggregate secondary data, broad zones of process influence were initially inferred at the SLA level. The general picture of peri-urban growth dynamics which progressively emerged at the regional scale, was then assessed at the local scale utilising survey data. It became evident that although the broad zones of process influence inferred at the SLA level were confirmed at the local scale, complex patterns of growth were also evident *within* SLAs, with the case study areas showing at least as much internal diversity as the region as a whole.

It was concluded that population growth in the peri-urban region is not as clear cut as often assumed in the literature. Peri-urban growth is not solely dependent on the existing metropolitan population. Significant growth is also generated from within the region itself and from the outlying rural periphery and interstate. Suburbanisation was found to be most evident in peri-urban locations adjacent to the ASD, with good access to the urban centre. The contribution of counterurbanisation was greatest in destinations with high amenity value, but more distant from the ASD, while centripetal

migration and population retention were found to be more significant in peripheral locations and areas with some amenity value. However, peri-urban growth in locations adjacent to the ASD was not solely the result of continued suburbanisation, representing an expansion of metropolitan growth. Although the analysis showed that suburbanisation was a significant process working in several adjacent peri-urban SLAs, counterurbanisation, population retention and centripetal migration were more important in others. Moreover, the diversity displayed at the broad regional scale was also evident at the local level, with the case study areas showing at least as much diversity. Hence, differentiation of the growth processes reinforced the picture of complexity in population dynamics in the peri-urban region. The intensity at which each process operates within the region varied and the relative significance of each process resulted in distinctive differences between and within SLAs.

As a function of differing population growth processes, it was anticipated that migrant flows from different origins would vary in their characteristics. It was argued in Chapter Six that the four growth processes were effectively associated with a particular type of migrant. Thus a direct link between the type of process and the type of migrant was hypothesised. Based on local level survey data, it was found that despite some variations, the migrant population taken as a whole resembled its resident peri-urban counterpart in many ways. The key differences appeared to relate to the age structure, birthplace and labour force composition of the two groups. At the same time, it was shown that peri-urban migration was not a single, mass movement and, that migration flows were far from uniform. Distinctive socio-demographic differences were evident when the migrant flow was differentiated according to the nature of the growth process which brought them to the region. Suburbanites tended to be the youngest group of migrants, comprising predominantly young couples, often with young dependent children. They were more likely to be born in the nearby ASD and move to suburban-like housing developments. They also had the highest median annual income of the four migrant groups. Counterurbanites differed quite markedly from suburbanites, although

both these migrant groups had moved from the ASD. The age structure of counterurbanites was somewhat older, reflecting the significance of a pre/retirement sub-group. This migrant group was more likely to acquire a larger sized block or part-time farm in well-established country towns or smaller rural settlements in their pursuit of a quiet, country lifestyle. A significant 'welfare client' component was also apparent among counterurbanites.

Centripetal migrants tended to be older than both suburbanites and counterurbanites, and were the most likely household type to acquire a farm. A tendency towards lower socio-economic status was also found among this migrant group. This was largely a reflection of their older age structure. Finally, the survey evidence showed that local migrants had the oldest age structure of the four migrant groups. This was largely a reflection of ageing in place in the peri-urban region. This migrant group were more likely to be dual income, although a greater proportion of households received the age pension than among other household types. Hence, the four migrant types comprised broadly distinct socio-demographic groups. Just as the mix of growth processes throughout the peri-urban region displayed considerable diversity, the composition of the migrant flow reflected this spatial variation.

While there may be similarities in overall growth rates between peri-urban locations, the sources of growth clearly vary, contributing to the inherent heterogeneity of the peri-urban region. It follows that the impact of population growth on the structure of peri-urban communities also varies widely across the region. Chapter Seven assessed the likely impacts of peri-urban growth on the peri-urban host community. Examination of subjective perceptions at the local level was undertaken, focusing on three key aspects associated with population growth: social integration, satisfaction and identification with the local area and shopping linkages. Despite some variation, it appears that the social and economic impact of migrants on the host community does not lead to substantial conflict and structural disturbance. However, the degree of impact does vary

somewhat according to location. The degree of social conflict and lack of integration appears to be positively associated with access to the ASD. This accords with Lewis and Maund's (1976) theoretical model of urbanisation. The impacts of growth were most evident in Mallala, the SLA with the best access to the ASD, resulting in a more segregated social structure. In less accessible locations, such as Strathalbyn, considerable potential for social conflict existed as the number of recent migrants and established residents were more equal. It appears that resentment towards recent migrants stems from the threats they pose to the solidarity of the established rural community. In areas further from the ASD (such as Wakefield Plains) the migrant population generally resemble the host population in terms of social participation and local identification. It is concluded that a certain proportion of migrants can be absorbed in the host community without serious disruption. Hence, the extent of change in the local community is not only dependent on the rate of in-migration, but also on distance from the metropolitan region.

The degree of change associated with population growth also varies according to the spatial mix of growth processes. The survey evidence showed that the degree of social conflict and structural change associated with suburbanisation resulted in a more segregated community. Counterurbanisation also appeared to be disruptive to the host community, as a degree of lack of acceptance and social conflict associated with this process resulted in a more segregated social structure. In contrast, the social and behavioural impact of centripetal migrants and local movers was minimal, largely reinforcing the existing social and economic structures of the host community.

The findings of this study underline the extreme heterogeneity inherent across the peri-urban region, particularly in terms of the dynamics of the migration process. While there may be similarities in growth rates between peri-urban locations, the sources of growth vary considerably and are expected to change further in the future. As a result of the complexities of peri-urban growth dynamics, the composition of the migrant flow

is diverse. As a result, the impacts of population growth on the social structure of the host community vary widely across the peri-urban region.

### **8.3 Research Issues**

Despite widespread recognition of the peri-urban region as the fastest growing in the nation, the distinctive population geography of this growth zone still remains little understood. A central contention of this study is that aggregate census-based studies of peri-urban migration fail to provide a complete picture of peri-urban growth dynamics. Such macro-studies must be complemented by localised studies if the processes involved with population change are to be fully understood. The present study has demonstrated the necessity for small-scale studies which focus on what is actually happening in local communities, in order to gain an understanding of peri-urban population dynamics.

This study has established that peri-urban growth represents the combined effects of four demographic growth processes. Peri-urban growth is not dependent solely on the pre-existing metropolitan population. Significant growth is also generated from within the region itself and from the outlying rural periphery, interstate and overseas. Population retention and centripetal migration are important growth processes throughout the peri-urban region, particularly in the outer part of the region, but have largely been ignored in the literature. Future studies must address these sources of growth, together with in-migration from the metropolitan region, if a clear understanding of peri-urban growth dynamics is to be achieved. Furthermore, it has been shown that in-flows from the metropolitan region are not solely the result of extended suburbanisation, as some commentators have argued (Maher and Stimson 1994; Wardwell and Brown 1980). By definition, counterurbanisation also originates in the metropolitan region, but differs both conceptually and functionally, from suburbanisation. Although the boundary line between them is somewhat blurred, recognition of the distinctive nature of these two processes is crucial if the dynamics of



the migration process in the peri-urban region are to be clearly understood. Hence, future research must recognise the contribution of each of these four, quite distinctive processes to peri-urban growth.

Many studies assume peri-urban migration to be a single, uniform movement, without taking into account the complex dynamics of the migration process at the local level. In order to fully appreciate the characteristics and impacts of the migration flow to the peri-urban region, the migration stream must be distinguished according to the four growth processes. Such differentiation should form a fundamental basis for classification in future studies.

There is a need for more systematic research which assesses the impact of population growth at the local level, particularly in different types of peri-urban locations. The present study has only been able to provide a limited analysis of the impacts of in-migration to three peri-urban locations. The size of the survey population in each of the case study areas restricts the analysis to patterns pertaining to the entire SLA. Nevertheless, it has been demonstrated that the spatial influence of growth processes displays considerable diversity *within* SLAs. It follows that the impact of population growth will also vary considerably within SLAs. For example, the impacts of in-migration to well-established country towns, smaller rural settlements, suburban-like developments and the rural hinterland are certain to reflect the complex nature of population dynamics evident within peri-urban locations. Hence, further examination of specific local conditions and population characteristics *within* specific peri-urban locations is essential.

It is important that cross-national studies be undertaken, as it should not be assumed that the same processes operating in different parts of the world, or indeed different parts of the same country, will produce identical outcomes. As Burnley and Murphy (1995a, p.246) argue, 'while Australian and US cities are similar in many ways, there

are important differences in the factors driving growth and change, resulting in different scales of [peri-urban] development in the two countries'. Similarly, at the national scale, the local conditions evident in each of the Australian states will influence the nature of peri-urban development. In this study, the unique nature of Adelaide's peri-urban region has been highlighted as one of the State's few areas of well-watered, productive agricultural areas. As a result, it has attracted substantial population and settlement, quite independently of its location adjacent to metropolitan Adelaide. Indeed, development controls have tended to limit residential incursion into the peri-urban region to a greater extent than in other Australian cities. Regional strategy plans for the Mount Lofty Ranges and the Barossa Valley are aimed not only at controlling and managing population growth, but also conserving the agricultural and environmental qualities which are of importance to the entire State. Hence, the localised conditions and nature of restrictive planning controls in Adelaide's peri-urban region will almost certainly have resulted in a different peri-urban form than in the other Australian states.

As peri-urban growth and development continue into the twenty-first century, longitudinal studies of migrants are needed to verify whether recent arrivals to a peri-urban location choose to stay, or relocate again, and to establish why. It is simplistic to assume that because migrants are generally very satisfied with their residential decision at present, that this will not change in the future. Essential to a full understanding of population redistribution is analysis of out-migration. The present study is limited in that it only deals with data relating to in-migrants to the peri-urban region. The obvious logistic difficulty in tracing households that have left a peri-urban location is a major constraint. However, insights into the characteristics and behaviour of 'long-term migrants' and those who have left the peri-urban region will provide further analytical insights into the dynamics of peri-urban growth.

The peri-urban region is a growing component of the Australian landscape, with increasing interest being shown in response to the scale and spatial concentration of

population growth in these regions. In order to adequately respond to the challenges of peri-urban growth, a clear understanding of contemporary population dynamics is essential. This study contributes to this understanding by examining the patterns and dynamics of growth in Adelaide's peri-urban region. Population growth in this region has far-reaching consequences for planning and policy formulation and important research issues remain to be addressed.

## **APPENDIX A Deficiencies and Advantages of The Australian Census of Population and Housing**

A number of deficiencies need to be recognised in the reliability of the Australian Census. The census forms are generally completed by the householder or individuals (in non-private dwellings) rather than by census collectors asking questions in an interview, hence there is little control over the types of answers given. However, self-enumeration does avoid interviewer bias and is considered to be the most cost efficient method of collecting information from the very large number of respondents involved in the Census (ABS 1996, p.214).

Despite efforts to obtain a full coverage of all persons and dwellings in Australia, a degree of undercounting does occur. In an attempt to provide a measure of the extent of underenumeration, the Census is followed by a post enumeration survey (PES). The PES (1996) consisted of a sample of two-thirds of one per cent of private dwellings in each State and Territory. Results obtained in the PES are used to adjust census counts in the calculation of Estimated Resident Population (ERP) figures for Australia, but no adjustment for underenumeration is made in data released from the Census (ABS 1996, p.200).

As a source of data for the study of migration, Bell (1992, pp.12-13) recognises the deficiency of the Census in terms of the time interval to which the data relates. Migrants are identified as those persons whose usual residence in any given census year differed from their usual residence one year or five years previously. Although this definition gauges the net result of movements that occurred in each time interval, it does not identify all movements that have taken place. In the case of multiple moves involving two or more changes of address during any given interval, this information is effectively lost, with each migrant being recorded as having made a single move.

Other sources of error in census data include respondent errors and processing errors, although every attempt is made to keep this at a minimum. Introduced random error is used to protect the confidentiality of individuals in Census data. Small non-zero cells in the tabulations are randomly adjusted, thus some of the data may be slightly altered in an unbiased manner. Small area data are particularly affected by this procedure (ABS 1996, p.163,181).

Despite the limitations, there are a number of advantages involved with using census data. The Australian Census of Population and Housing has been held every 5 years from 1961 onwards, thus allowing time series analysis at regular intervals. In addition, the topics covered in the census are restricted to a number of factual questions which are generally consistent in each census, eg. age, sex, marital status. This allows for changes to be measured and analysed over time, however, some changes in definition and coding categories have occurred. For example, the classification of 'family' has changed quite significantly over time. As an indication of this, the 1981 family classification provided for 'head only' households, but since the 1986 Census they are called 'lone person' households and are not regarded as a family type (ABS 1991, pp.47-49).

## APPENDIX B The Questionnaire

1. Is this your **normal** residential address? (Live here more than 50% of the time)

1. Yes                      2.No

2(a). Could you tell me how many people **currently** live in this dwelling?

(Please include any persons temporarily absent, but who usually live here more than 50% of the time)

Number \_\_\_\_\_

(b). Could you please supply the following information for all persons **currently** living here?

Person Number	Relation-ship to Household Head	Age	Sex	Workforce Status 1. employer 2. employee 3. self-employed <b>not in labour force</b> 4. retired 5. home duties 6. student <b>unemployed</b> 7. looking for work 8. not looking for work	Occupation, if Employed
1.	Head				
2.					
3.					
4.					
5.					
6.					
7.					
8.					

3. Which of the following levels of education have been completed by the head of the household and/or spouse? (please tick)

	Head	Spouse
1.Primary school (all years)	_____	_____
2.Secondary school (yrs 8-10 )	_____	_____
3.Secondary school (yr 11)	_____	_____
4.Secondary school (yr 12)	_____	_____
5.TAFE diploma	_____	_____
6.CAE diploma	_____	_____
7.University undergraduate degree	_____	_____
and /or diploma	_____	_____
8.University postgraduate degree	_____	_____
and /or diploma	_____	_____
9.Other(specify)_____	_____	_____

4. Do you-

- 1.Own/are purchasing this house ?
- 2.Rent from Private landlord ?
- 3.Rent from SAHT ?
- 4.Other(please specify) ? \_\_\_\_\_

5. Nature of Holding:
1. House Only \_\_\_\_\_
  2. Full/time Farm \_\_\_\_\_
  3. Rented farmhouse without land \_\_\_\_\_
  4. House with land (no farming use) \_\_\_\_\_
  5. Part-time Farm \_\_\_\_\_
  6. Other (specify) \_\_\_\_\_

6. Size of Holding(if not house only): Acres \_\_\_\_\_ or Hectares \_\_\_\_\_

7. Could you please supply the following information for all persons **currently** living here?

Person Number	Birthplace	How long have you lived at this address?	Immediate Previous Place of Residence	How many times have you moved in the last 10 years?
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

8.(a). Had you ever lived outside of the metropolitan Adelaide built up area before living here?            1.Yes            2.No

(b). If yes,where?(location) \_\_\_\_\_

9. Do you own a second residence? (includes holiday shacks and investment properties)            1.Yes            2.No

If yes,where?(location) \_\_\_\_\_

How much time do you spend there per year? \_\_\_\_\_

10.Why did you decide to leave your former place of residence?

(\* highlight the most important reason)

---



---



---



11. What were your main reasons for **moving into this area in particular** ?

(\* highlight the most important reason)

---



---



---

12. What importance did each of the following factors have in

i) your decision to move here

or ii) your decision to stay here  (Please tick)

Close to employment	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Price of land/housing	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Rural atmosphere/amenity value	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Proximity to Adelaide	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Opportunity for hobby/farming	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Good environment for children	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
To be close to family/friends	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Enjoyed as previous vacation	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
area						
Prior residential experience	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Wanted to get away from city life	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>
Attempt to secure a better						
lifestyle eg. privacy, quiet	considerable	<input type="checkbox"/>	slight	<input type="checkbox"/>	none	<input type="checkbox"/>

13. Compared to all the other aspects of your move, how important was the rural character of this area in bringing you here?

Extremely important \_\_\_\_\_

Somewhat important \_\_\_\_\_

Very important \_\_\_\_\_

Unimportant \_\_\_\_\_

15. Were there any factors which were important to you at the time you made the decision to move here which perhaps wouldn't be as important now ?

1. Yes

2. No

3. Don't Know

Please explain \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

16. How did you find out what this area/town was like before you moved here?

(Main sources of Information) (Tick any that were significant)

1. Visits while travelling

2. Friends (established in the area)

3. Friends (not established in the area)

4. Advertising

5. Holidays spent here

6. Family members (established in the area)

7. Family members (not established in the area)

8. Information supplied by employer

9. Have previously lived here

10. Other (specify) \_\_\_\_\_

11. Specific visit to find out about the area

12. Don't know

17(a). Have you come across any specific difficulties/problems which you did not foresee when you decided to move here?

1. Yes

2. No

3. Don't Know

(b). If yes, i) What are they? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ii) Have the problem(s)/difficulty(s) been overcome?

---

---

18. What were the main changes, if any, in the following aspects of your everyday life?

employment \_\_\_\_\_

shopping patterns \_\_\_\_\_

entertainment \_\_\_\_\_

visiting friends/relatives \_\_\_\_\_

size of house \_\_\_\_\_

size of land \_\_\_\_\_

19. What are the main advantages to you of living in this area?

(List up to 5 advantages in order of importance)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

20. What are the main disadvantages to you of living in this area?

(List up to 5 disadvantages in order of importance)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

21. In general, how satisfied are you with living in this local community?

- |  |                      |
|--|----------------------|
| 1. Very satisfied                              | 4. Dissatisfied      |
| 2. Satisfied                                   | 5. Very Dissatisfied |
| 3. Neutral (neither satisfied or dissatisfied) | 6. Other             |

22.(a) Which of the following best describes this area?

- |                            |                  |                                    |               |
|----------------------------|------------------|------------------------------------|---------------|
| 1. Remote rural            | 2. Typical rural | 3. Rural with some urban influence |               |
| 4. Neither rural nor urban | 5. Suburban      | 6. Highly urban                    | 7. Don't know |

(b) If you consider this area at least partly rural, what features/characteristics make it rural for you?

---

---

---

(c). What features, if any, make it differ from a typical rural area?

---

---

---

23. Has the area become more or less rural in the time that you have been here, or is it relatively unchanged?

- |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| 1. Very much more rural | 2. More rural           | 3. Relatively unchanged |
| 4. Less rural           | 5. Very much less rural | 6. Don't know           |

24. How many vehicles does this household have available for regular private use?

(Exclude motorbikes) Number \_\_\_\_\_

25. Please supply the following information for all persons living here who are **currently** employed(P/T or F/T) or attending school.

Person Number	Employed/ School	Location (town/area)	Method of transport	Distance travelled (one way)	
				Kms.	Mins.

26. Please supply the following information for all persons living here who are **currently** employed(P/T or F/T)

Person No.	Is the Cost /Time of getting to work a problem of living here?	How does this Cost/Time compare with your previous residence?  Please Explain

27. How frequently do the head of the household and /or spouse travel to

Adelaide, other than for employment purposes? (please tick)

	Head	Spouse
1. Every day	_____	_____
2. 2-3 times/week	_____	_____
3. Once a week	_____	_____
4. Weekends only	_____	_____
5. Once a fortnight	_____	_____
6. Once a month	_____	_____
7. Occasionally	_____	_____
8. Never	_____	_____
9. Other(specify)_____	_____	_____

28. What are the main reasons for travelling to Adelaide for each member of the household? (other than for employment) (Please tick as many as are appropriate)

Person No.	Friends	Social/ Entertain.	Relatives	Medical	Shopping	Other (specify)
1						
2						
3						
4						
5						
6						
7						
8						

29. Where would your household normally obtain the following goods/services ?

(Please provide name of town)

- |                    |                               |
|--------------------|-------------------------------|
| 1. Groceries _____ | 6. Electrical goods _____     |
| 2. Chemist _____   | 7. Sporting goods /toys _____ |
| 3. Doctor _____    | 8. Clothing _____             |
| 4. Furniture _____ | 9. Dentist _____              |
| 5. Banking _____   | 10. Hairdresser _____         |

30. Which town named above would you use most often?

(not necessarily where you spend most)

Town \_\_\_\_\_

Distance in Kms. \_\_\_\_\_ Distance in Mins. \_\_\_\_\_

(If not already stated in Question 25)

31(a). How long does it take you to get to Adelaide?

i) by car Hours \_\_\_\_\_ Mins. \_\_\_\_\_

ii) by public transport Hours \_\_\_\_\_ Mins. \_\_\_\_\_ (if applicable)

(b). What is the most common means of transport used by household members to get to metropolitan Adelaide?

\_\_\_\_\_

32(a). Could you tell me the **major** sources of income this household receives?

% of total H/Hold Income

- |                                       |                               |
|---------------------------------------|-------------------------------|
| 1. Wages/salary _____                 | 7. Superannuation _____       |
| 2. Unemployment benefits _____        | 8. Workers compensation _____ |
| 3. Age pension _____                  | 9. Other(specify) _____       |
| 4. Other govt. pension(specify) _____ |                               |
| 5. Interest/dividends _____           |                               |
| 6. Self employment _____              |                               |





(b) Which of the following categories do you think the long-term residents of the area would place you in?

- 1. Very recent arrival
- 2. Recent arrival
- 3. No longer recent arrival but not yet established
- 4. Established resident
- 5. Long established resident
- 6. Born and raised here

36 (a). To what extent do you feel accepted by this local community?

- 1. Fully accepted
- 2. Moderately accepted
- 3. Neither accepted or not accepted
- 4. Poorly accepted
- 5. Not accepted at all
- 6. No opinion

(b). Please explain \_\_\_\_\_

\_\_\_\_\_

37. Has any person left this household in the last 5 years? If yes, please supply the following information for each person.

Relationship to Household	Age	Sex	Reason for Leaving	Current Place of Residence
				Location    metro/country town/rural
Head				
.				
.				
.				
.				

38. How long do the household head(s) intend to stay here?

- 1. Indefinitely
- 2. Unsure
- 3. Intend to move in next 5 years
- 4. Other(specify) \_\_\_\_\_

39. If any person currently living here plans to move in the next 5 years, please provide the following details.

Person Number	Reason for Moving	Intended Destination	Reason for Choice of Intended Destination

40. If you have children, do you see them remaining in this area/town after completing their secondary education?

1. Yes                      2. No                      3. Unsure

If no, please explain \_\_\_\_\_  
 \_\_\_\_\_

41. Where (if known) do you intend to spend your retirement/semi retirement?

Location \_\_\_\_\_

42. What future population trends do you anticipate for this area?

1. Increased rate of population growth    4. Stable population  
 2. Continued population growth            5. Net loss in population  
     at present rate                                6. Other  
 3. Slower population growth                7. No opinion

Please explain \_\_\_\_\_  
 \_\_\_\_\_

43. How well do you think the recent arrivals to the area are fitting into the established community?

- 1. Very well
- 2. Well
- 3. Moderately
- 4. Poorly
- 5. Very poorly
- 6. No opinion

Please explain \_\_\_\_\_  
\_\_\_\_\_

44. Do you see any significant changes in your local area from

5 years ago?      1. Yes      2. No

If yes, please list \_\_\_\_\_  
\_\_\_\_\_

10 years ago?      1. Yes      2. No

If yes, please list \_\_\_\_\_  
\_\_\_\_\_

45. Do you think that the movement of population from metropolitan Adelaide to this area has changed the local community in any way in the last 5 years?

- 1. Yes
- 2. No
- 3. Don't Know

Please explain \_\_\_\_\_  
\_\_\_\_\_

46. Do you see any advantages to the area from population growth? (List up to 3 in order of importance)

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

47. Do you see any disadvantages to the area from population growth?(List up to 3 in order of importance)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**Thankyou for your assistance**



## APPENDIX C The Fieldwork

It was decided that face-to-face personal interviews were the best method of collecting the necessary data for this study and this involved the interviewer visiting each household selected in the sample. It has been suggested that although more costly than postal or telephone surveys, this 'form of data collection is highly effective in terms of establishing rapport, boosting response rates and data quality' (ABS 1989, p.8). There is, however, the disadvantage of potential interviewer bias being introduced in the data.

Before embarking upon the household interviews, a letter was sent to each sample household explaining the purpose of the study and requesting the household's assistance in the survey. This provided an important means of introduction to the respondents. It also enabled any household which did not want to participate to be excluded from the sample and a replacement selected before any visit was made, thus reducing time wasted in the field. Once in the field, a number of sample households also required replacement for various reasons which included:

- refusal by household to participate in survey
- no house evident on property
- household unable to be contacted after 3 visits at different times/days
- property vacant due to sale

Replacement interviews were selected from within the same stratum, thus maintaining the original distribution of the sample during the replacement process. The household interviews were carried out entirely by the author and the timing of fieldwork in each case study SLA was as follows:

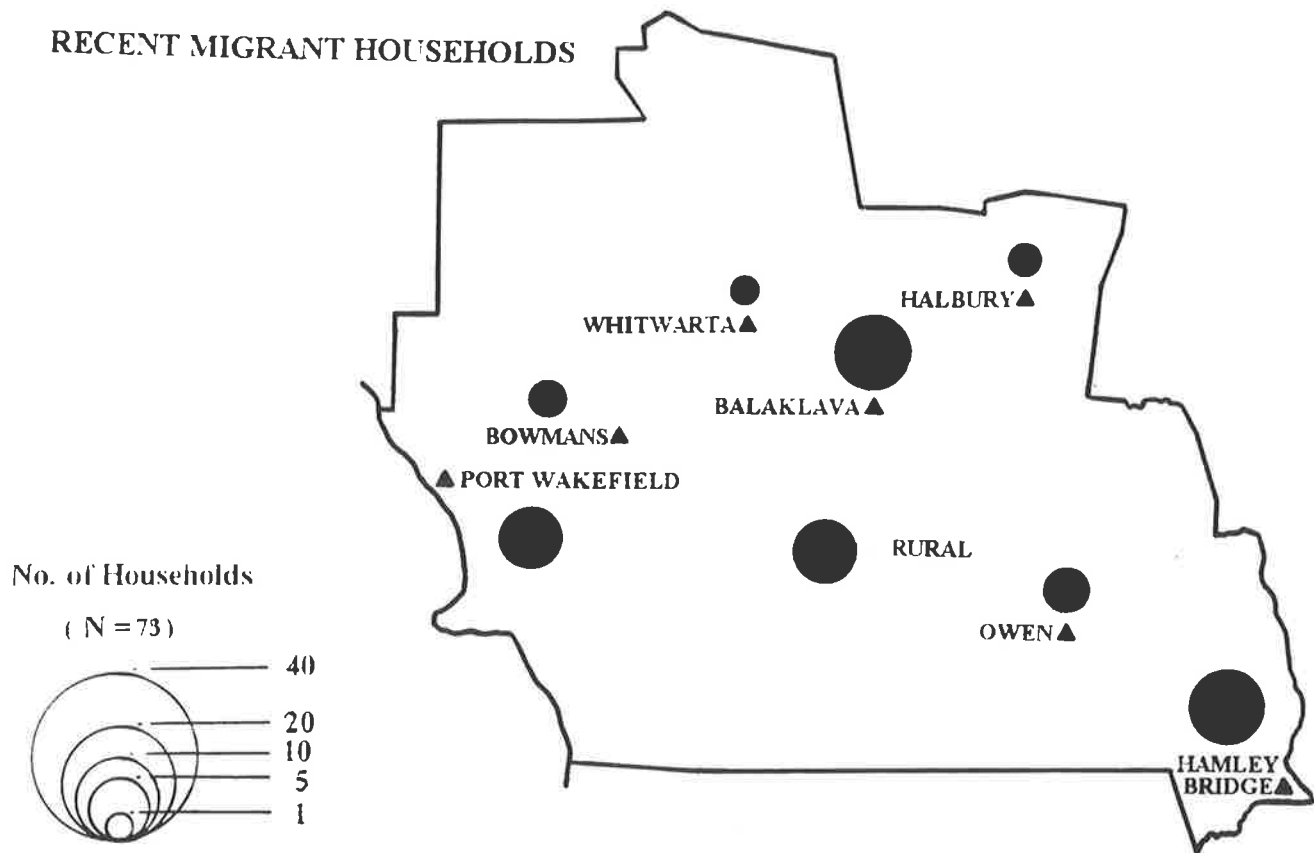
SLA	Date	No. of days in the field
Wakefield Plains DC	December 1994	10
Mallala DC	August-October 1995	14
Strathalbyn DC	March-April 1996	12

Following the first survey undertaken in Wakefield Plains DC, and again following the Mallala DC fieldwork, minor alterations were made to the questionnaire (see Appendix C) in order to better obtain information from the respondents. Final coding of all responses was completed immediately following the collection of data in each case study area. The coded data were then entered into the computer using the SPSS package (Statistical Package for the Social Sciences) to ensure data consistency and accuracy.

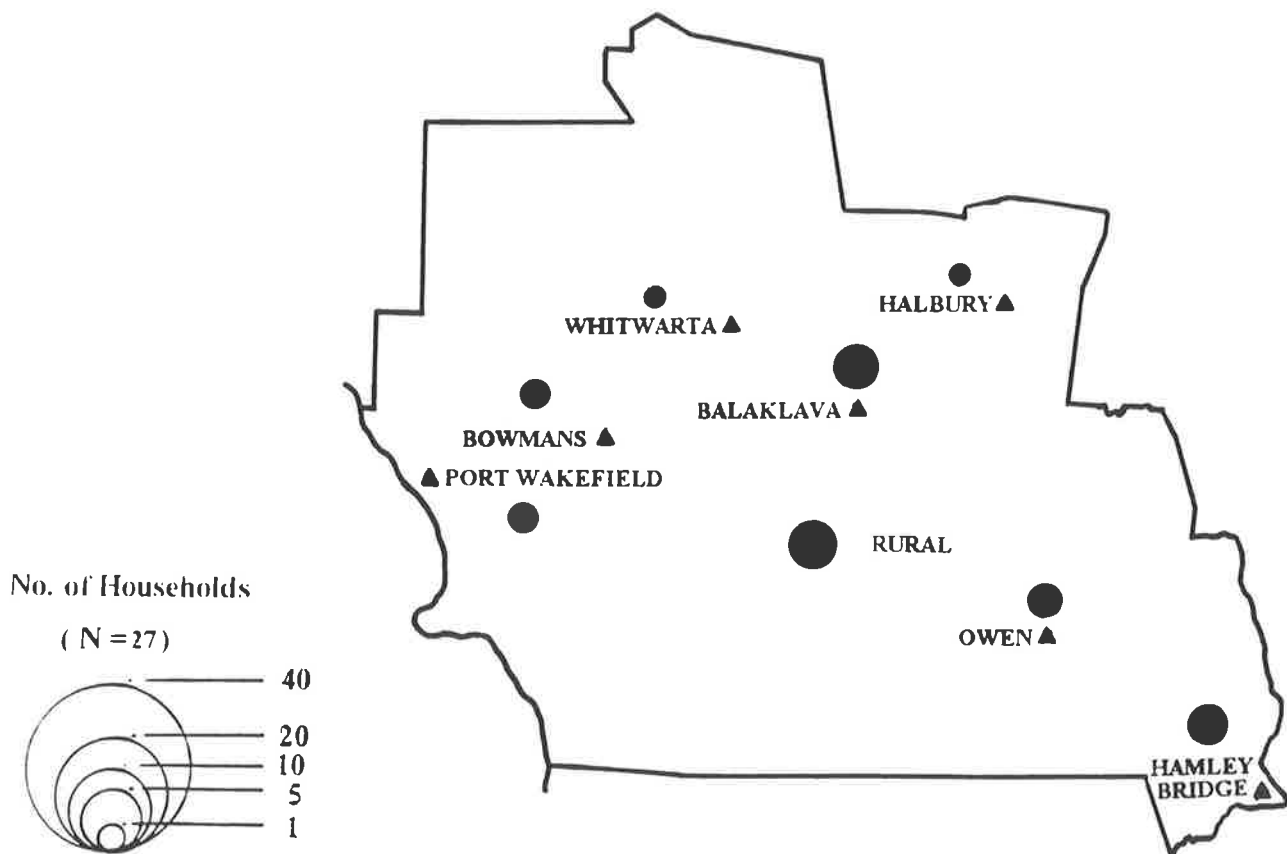
APPENDIX D Spatial Location of Survey Respondents

Wakefield Plains District Council

RECENT MIGRANT HOUSEHOLDS



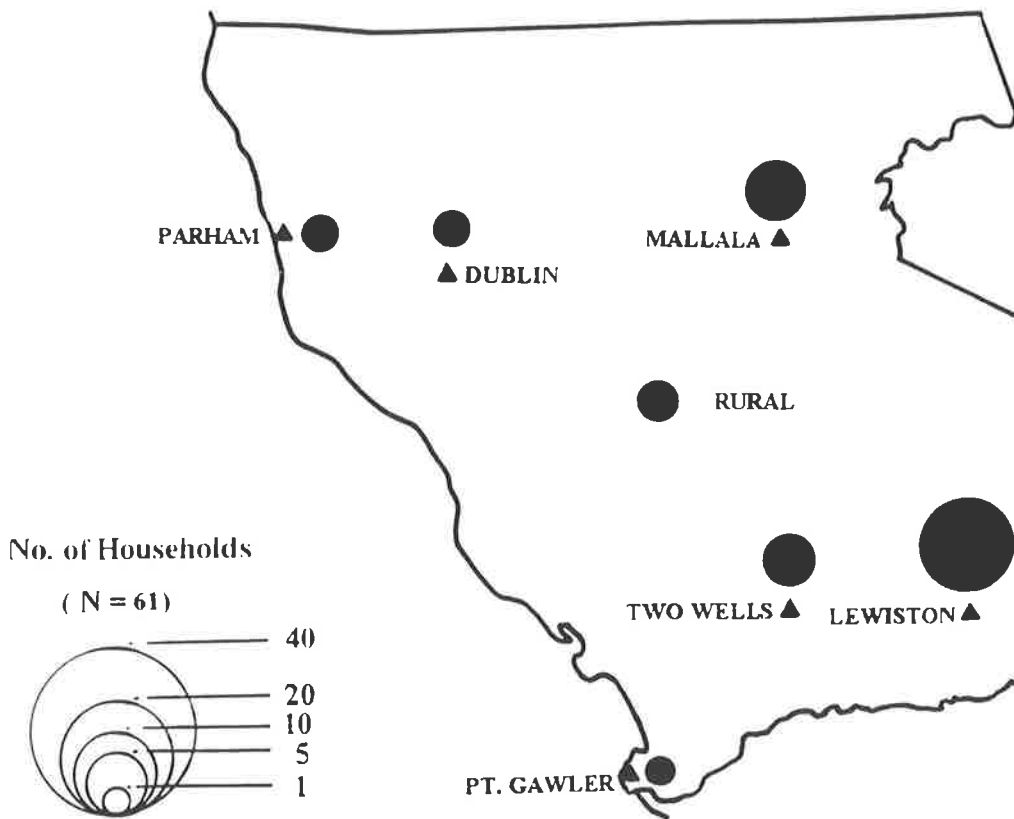
ESTABLISHED HOUSEHOLDS



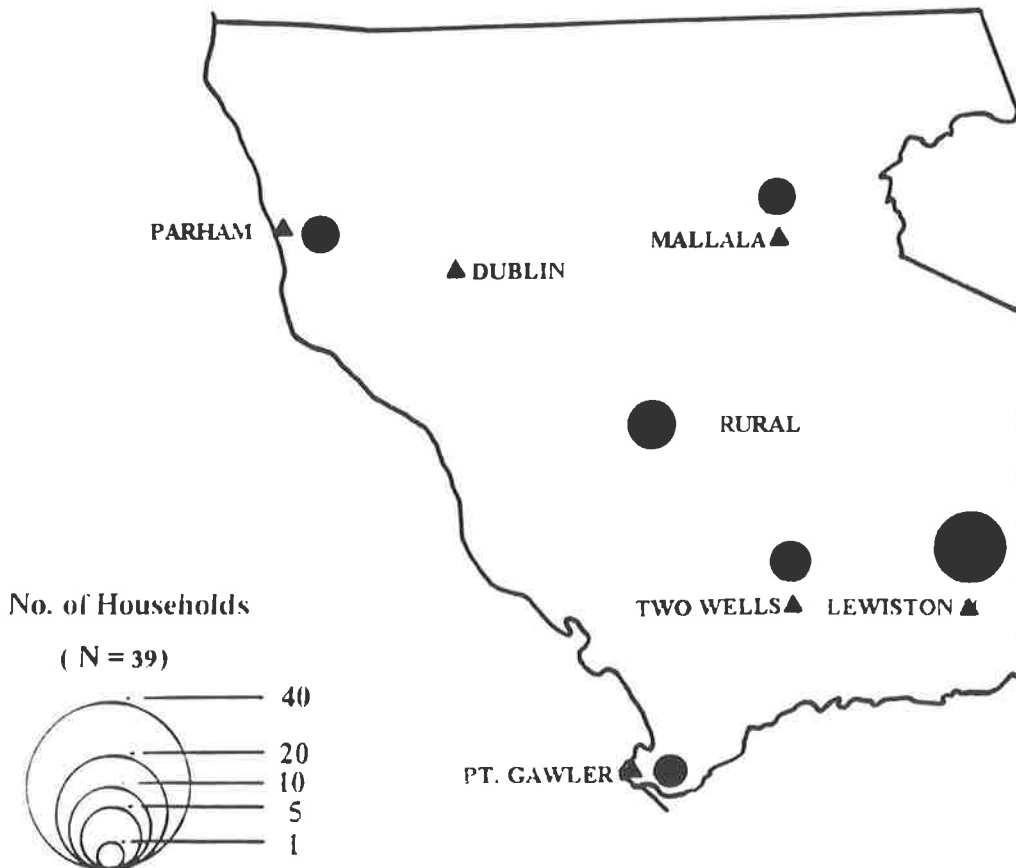


### Mallala District Council

#### RECENT MIGRANT HOUSEHOLDS

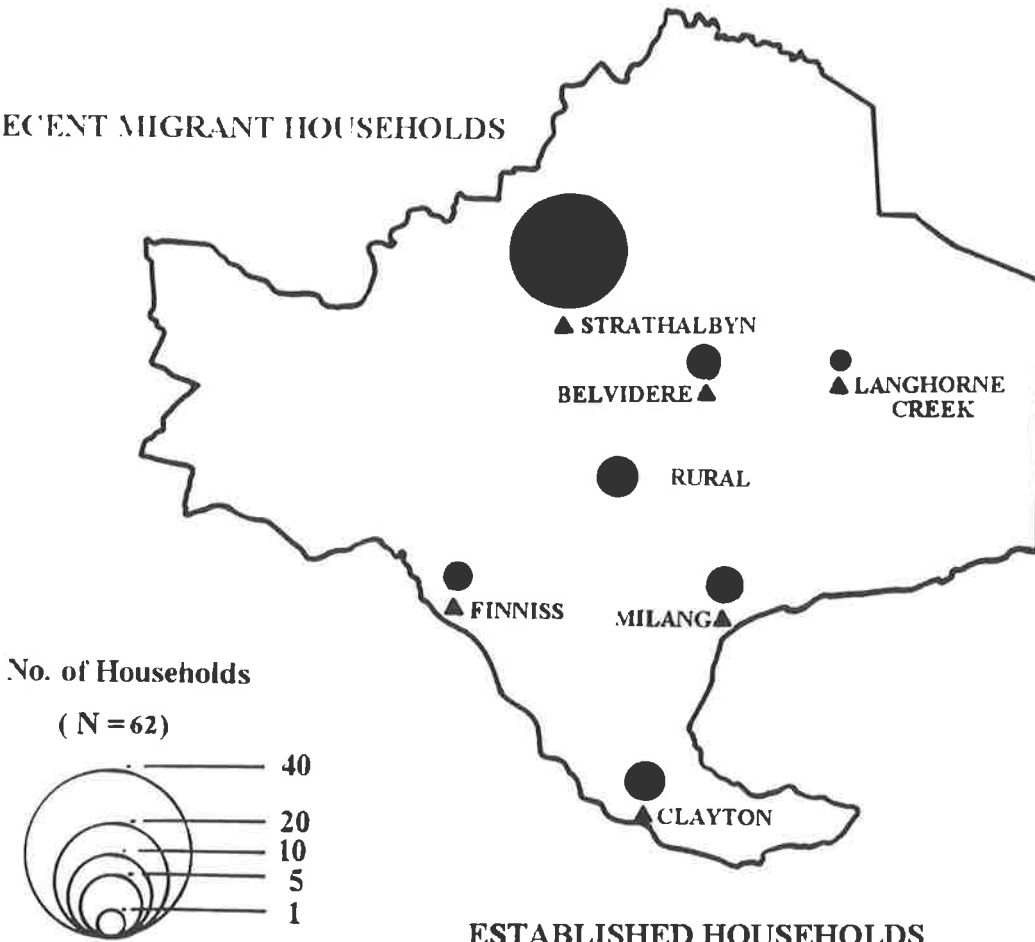


#### ESTABLISHED HOUSEHOLDS

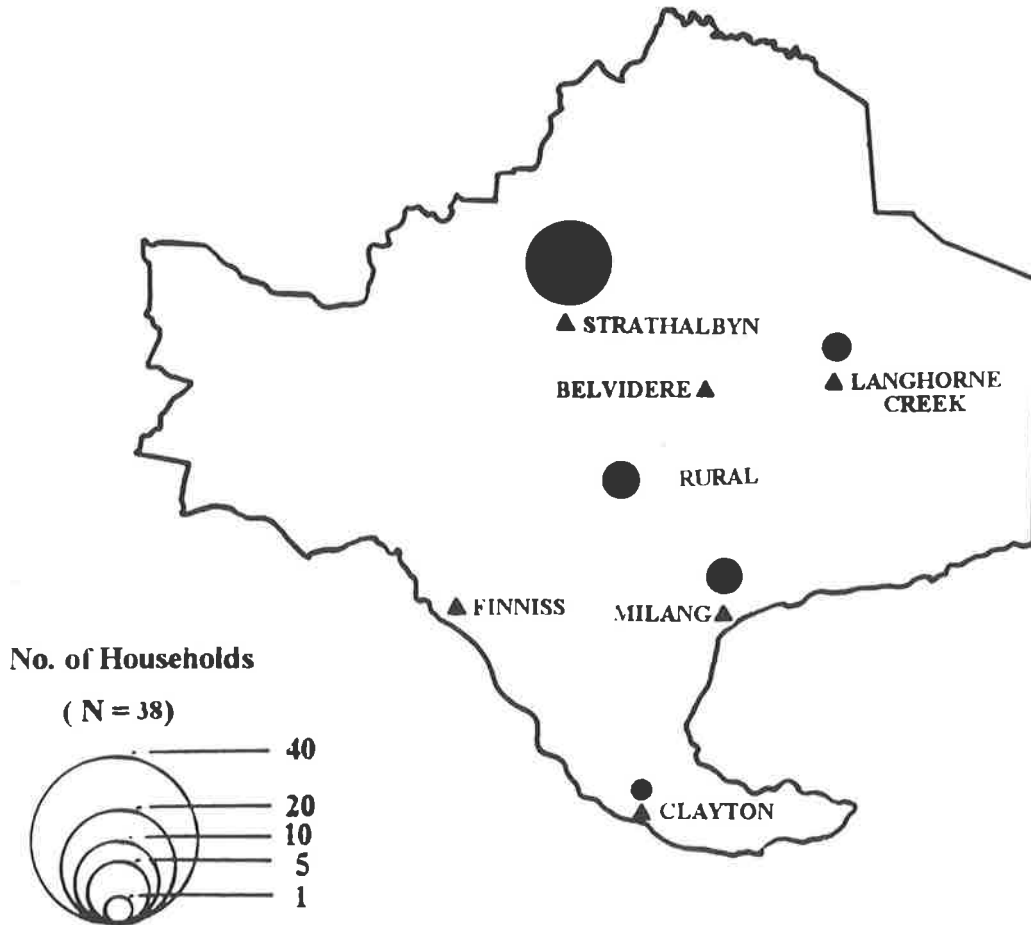


### Strathalbyn District Council

#### RECENT MIGRANT HOUSEHOLDS



#### ESTABLISHED HOUSEHOLDS



## APPENDIX E Classification of Case Study Areas by Location Type

The nature of the peri-urban destination *site* will have an impact on the migration decision of the peri-urban population. The attraction of different peri-urban location types will vary according to the dominant growth process. Furthermore, a key indicator in the differentiation of suburbanisation and counterurbanisation will be the nature of the destination *site*. In order to assess the value of this indicator at the local level (Section 5.5), the location of respondents in each case study area has been classified according to three generalised types as follows:

**Well-Established Country Towns:** well-established country towns with a good complement of services and facilities which have long served as rural service centres to the surrounding countryside (Plate E1). In recent years, some well-established country towns have been bloated by suburban-like developments eg. Strathalbyn.

**Strathalbyn SLA**

Strathalbyn township

Milang

**Mallala SLA**

Mallala township

Two Wells

**Wakefield Plains SLA**

Balaklava

Port Wakefield

Hamley Bridge

**Plate E1 Well-Established Country Town: Balaklava (Wakefield Plains SLA)**



**Suburban-like Developments:** sub-division of broadacre land into suburban sized residential blocks, often isolated and without the provision of associated services and facilities (Plate E2). In addition, the original survey in several locations such as Lewiston, provide for small sub-division with separate titles.

**Strathalbyn SLA**  
**Mallala SLA**

Belvidere  
Lewiston\*  
Parham  
Port Gawler  
Wild Horse Plains  
Windsor

**Wakefield Plains SLA**

Avon  
Whitwarta  
Halbury  
Bowmans

\*Although residential blocks in Lewiston are often larger (1 hectare) than typical suburban blocks (700m<sup>2</sup>), the nature of development in this location resembles suburban development.

**Plate E2 Suburban-like Development: Lewiston (Mallala SLA)**





**Rural Settlements/ Periphery:** small rural settlements with minimal services (Plate E3), consisting largely of non-farm, hobby farms (Plate E4) and larger rural properties. Also includes the surrounding rural hinterland

**Strathalbyn SLA**

Langhorne Creek

Clayton

Finniss

Sandergrove

Ashbourne

Rural hinterland

**Mallala SLA**

Dublin

Rural hinterland

**Wakefield Plains SLA**

Owen

Rural hinterland

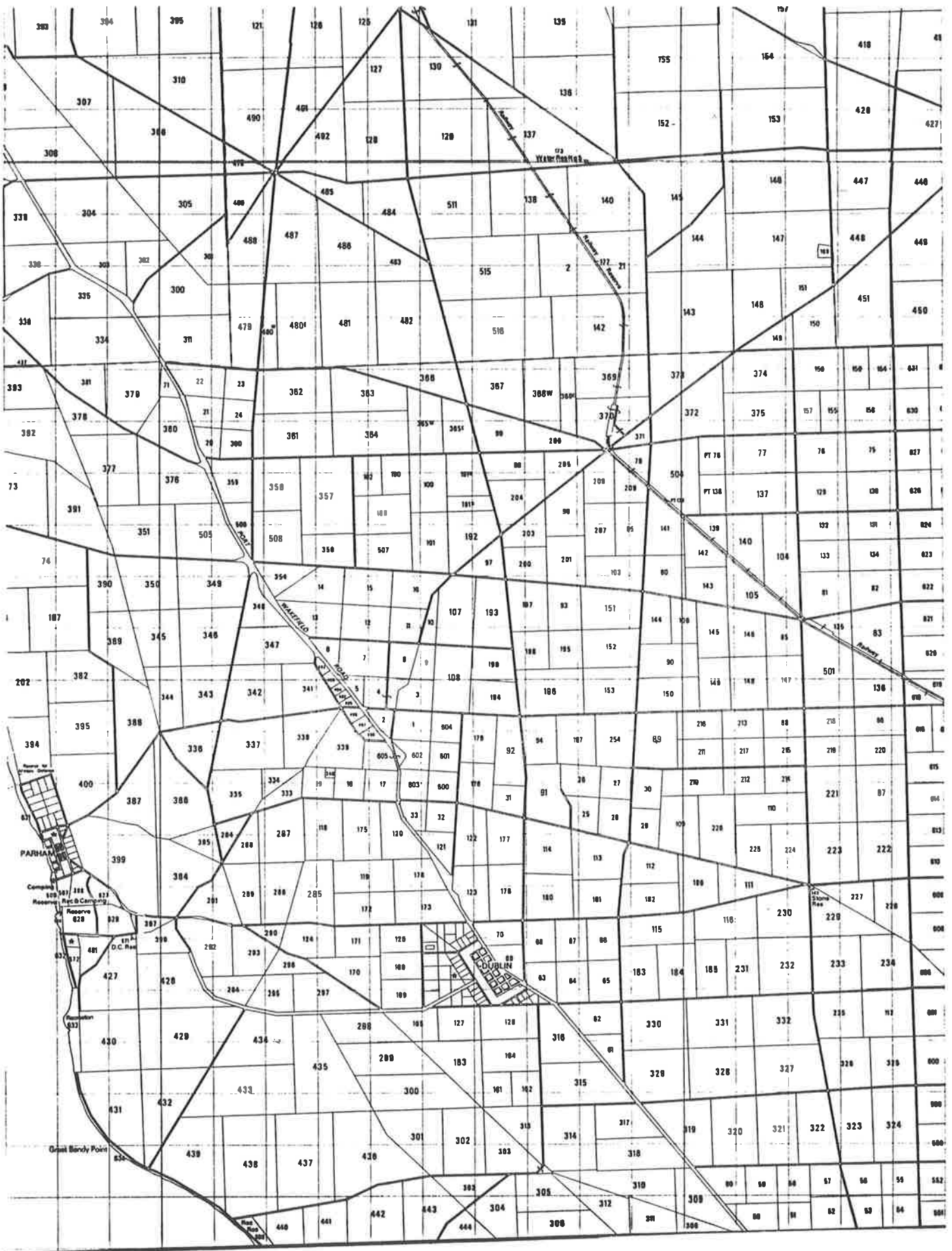
**Plate E3 Small Rural Settlement: Langhorne Creek (Strathalbyn SLA)**



**Plate E4 Hobby Farm: Dublin (Mallala SLA)**



### APPENDIX F Cadastral Land Division, Wakefield Plains SLA



Source: Department of Lands, 1:100,000 Cadastral 1<sup>st</sup> Edition (6727). 1974.

APPENDIX G Cadastral Land Division, Lewiston (Mallala SLA)



Source: District Council of Mallala









## BIBLIOGRAPHY

- Adams, J. S. 1969, 'Directional Bias in Intra-Urban Migration', *Economic Geography*, pp.303-323.
- Aday, R. H. and Miles, L. A. 1982, 'Long-Term Impacts of Rural Migration of the Elderly: Implications for Research', *The Gerontologist*, 22 (3), pp. 331-335.
- Aitken, S. C. and Fik, T. J. 1988, 'The Daily Journey to Work and Choice of Residence', *The Social Science Journal*, 25 (4), pp. 463-75.
- Atkins, D. and Champion, T. 1995, The Impact of Migration on Rural Britain in 1990-91. Paper presented at the Conference 'Migration Issues in Rural Areas', University of Wales, Swansea, March.
- Australian Bureau of Statistics (ABS). 1989, *An Introduction to Sample Surveys: User's Guide*, Cat. No.1202.2, ABS, Canberra.
- Australian Bureau of Statistics (ABS). 1991, *1991 Census Dictionary*, Cat. No. 2901.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS). 1996, *1996 Census Dictionary*, Cat. No. 2901.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS). 1996, *Year Book of South Australia*, Cat. No. 1301.4, ABS, Canberra.
- Beale, C. L. 1975, *The Revival of Population Growth in Non-metropolitan America*, E.R.S, 605, Economic Research Service, Department of Agriculture, Washington, D.C.
- Beale, C. L. 1976, 'A Further Look at Nonmetropolitan Population Growth Since 1970', *American Journal of Agricultural Economics*, 58, pp. 953-8.
- Beale, C. L. 1988, 'Americans Heading for the Cities, Once Again', *Rural Development Perspectives*, 4/3, pp.2-6.
- Beale, C. L. 1997, 'Nonmetro Population Rebound Continues and Broadens', *Rural Conditions and Trends*, 7 (3), pp 8-12. ✓
- Beale, C. L. and Fuguitt, G. V. 1978, 'The New Pattern of Non-Metropolitan Population Change', in Taeuber, K. E., Bumpass, L. L. and Sweet, J. A. (eds.), *Social Demography*, Academic Press, New York, pp.157-177. ✓
- Beale, C. L. and Fuguitt, G. V. 1990, 'Decade of Pessimistic Nonmetro Population Trends Ends on Optimistic Note', *Rural Development Perspectives*, pp.14-18.
- Beauregard, R. A. 1995, 'Edge Cities: Peripheralizing the Center', *Urban Geography*, 16 (8), pp. 708-721. ✓
- Beesley, K. B. 1988, 'Living in the Urban Field', in Coppack, P. M., Russwurm, L. H. and Bryant, C. R. (eds), *Essays on Canadian Urban Processes and Form III-The Urban Field*, Department of Geography Publication Series No. 30, University of Waterloo, Ontario, Chapter 8.
- Beesley, K. B. (ed.), 1991, *Rural and Urban Fringe Studies in Canada*, Geographical Monographs No. 21, York University, Ontario. ✗

- Beesley, K. B. and Walker, G. E. 1990, 'Local Satisfaction and Concerns in Urban Fringe Areas', *Ontario Geographer*, 34, pp. 23-36.
- Bell, M. 1978, Non Metropolitan Population Growth in South Australia: General Trends and a Case Study of Rural Retreaters in the Adelaide Hills, Unpublished BA (Hons) Thesis, School of Social Sciences, The Flinders University of South Australia, Adelaide.
- Bell, M. 1992, *Internal Migration in Australia, 1981-1986*, AGPS, Canberra.
- Bell, M. 1995, *Internal Migration in Australia 1986-1991: Overview Report*, AGPS, Canberra.
- Bell, M. 1996, *Understanding Internal Migration*, AGPS, Canberra.
- Bell, M. 1997, *Population Movement in South Australia: 1986 to 1991*, Working Paper No. 2 of the S.A. Geodemographic Research group, Adelaide.
- Bell, M. and Cooper, J. 1995, *Internal Migration in Australia, 1986-1991: The Overseas-Born*, AGPS, Canberra.
- Berry, B. J. L. 1976, *Urbanization and Counterurbanization*, Sage Publications, Beverly Hills.
- Berry, M., Jackson, J., Johnson, L., Kerkin, K. and Winter, I. 1995, The Social Production of Outer Suburbia: A Study of Melbourne's Northern and North-Western Fringe, AHRF Project No 196, Australian Housing and Urban Research Institute, Melbourne.
- Birtles, T. G. 1990, 'Canberra's Overspill Into New South Wales', *Australian Geographer*, 21 (1), pp. 68-78.
- Blumenfeld, H. 1986, 'Metropolis Extended: Secular Changes in Settlement Patterns', *Journal of the American Planning Association*, 52, pp. 346-48.
- Bolton, N. and Chalkley, B. 1989, 'Counterurbanisation- Disposing of the Myths', *Town and Country Planning*, 58, pp. 249-250.
- Bolton, N. and Chalkey, B. 1990, 'The Rural Population Turnaround: A Case Study of North Devon', *Journal of Rural Studies*, 6 (1), pp. 29-43.
- Bowie, I. J. S. 1993, 'Land Lost From Agriculture: A Dubious Base for Rural Policy', *Urban Policy and Research*, 11 (4), pp. 217-229.
- Bowles, G. K. 1978, 'Contributions of Recent Metro/Nonmetro Migrants to the Nonmetro Population and Labour Force', *Agricultural Economics Research*, 30 (4), pp.15-21.
- Bowles, G. K. and Beale, C. L. 1980, 'Commuting and Migration Status in Nonmetro Areas', *Agricultural Economics Research*, 32(2), pp. 8-20.
- Bowles, R. T. and Beesley, K. B. 1991, 'Quality of Life, Migration to the Countryside and Rural Community Growth', in Beesley, K. B. (ed), *Rural and Urban Fringe Studies in Canada*, Geographical Monograph No. 21, Trent Univeristy, Ontario, pp.45-66.
- Boyle, P. 1994, 'Metropolitan Out-Migration in England and Wales, 1980-1981', *Urban Studies*, 31 (10), pp. 1707-1722.

- Boyle, P., 1995, 'Rural In-Migration in England and Wales 1980-1981', *Journal of Rural Studies*, 11 (1), pp. 65-78.
- Bryant, C. R., Russwurm, L. H. and McLellan, A. G. 1982, *The City's Countryside-Land and its Management in the Rural- Urban Fringe*, Longman, New York.
- Bryant, C. R. and Coppack, P. M. 1991, 'The City's Countryside', in Bunting, T. and Fillion, P. (eds), *Canadian Cities in Transition*, Oxford University Press, Toronto, Chapter 9. ✓
- Bunker, R. and Houston, P. 1992, 'At and Beyond the Fringe: Planning Around the Australian City with Particular Reference to Adelaide', *Urban Policy and Research*, 10 (3), pp. 23-32. ✓
- Burnley, I. H. 1988, 'Population Turnaround and the Peopling of the Countryside? Migration from Sydney to Country Districts of New South Wales', *Australian Geographer*, 19 (2), pp. 268-283.
- Burnley, I. H. 1996, 'Migration, Well-Being and Development in Coastal NSW, 1976-1991', *Australian Geographer*, 27 (1), pp. 53-75.
- Burnley, I. H. and Murphy, P. A. 1995a, 'Exurban Development in Australia and the United States: Through a Glass Darkly', *Journal of Planning Education and Research*, 14, pp. 245-254. ✗
- Burnley, I. H. and Murphy, P. A. 1995b, 'Residential Location Choice in Sydney's Perimetropolitan Region', *Urban Geography*, 16 (2), pp. 123-143. ✗
- Campbell, R. R. and Garkovich, L. 1984, 'Turnaround Migration as an Episode of Collective Behaviour', *Rural Sociology*, 49 (1), pp. 89-105.
- Carlson, E. S. and Coppack, P. M. 1991, 'An Exploration of Exurbanite Service Utilisation in the Rural-Urban Fringe', in Beesley, K. B. (ed.), *Rural and Urban Fringe Studies in Canada*, Geographical Monograph No. 21, Trent University, Ontario, pp. 91-125. ✓
- Carpenter, E. H. 1980, 'Retention of Metropolitan-to-Nonmetropolitan Labour-Force Migrants', in Wardwell, J. M. and Brown, D. L. (eds.), *New Directions in Urban-Rural Migration*, Academic Press, New York.
- Champion, A. G. 1987, 'Recent Changes in the Pace of Population Deconcentration in Britain', *Geoforum*, 18 (4), pp. 379-401.
- Champion, A. G. 1988a, 'Counterurbanization: The British Experience', *Geographical Perspectives*, 61, Spring, pp. 15-29.
- Champion, A. G. 1988b, 'The Reversal of the Migration Turnaround: Resumption of Traditional Trends?' *International Regional Science Review*, 11 (3), pp. 253-60. —
- Champion, A. G. (ed.), 1989a, *Counterurbanization- The Changing Pace and Nature of Population Deconcentration*, Edward Arnold, London. Ⓞ
- Champion, A. G. 1989b, 'Counterurbanization in Britain', *Geographical Journal*, 155 (1), pp. 52-59. Ⓞ
- Champion, A. G. 1992a, 'Urban and Regional Demographic Trends in the Developed World', *Urban Studies*, 29 (3/4), pp. 461-82. ✓

- Champion, A. G. 1992b, 'Counterurbanisation and Population Growth within the Urban System', *Investigaciones Geograficas* (Special Issue), pp. 39-62.
- Champion, A. G. 1993a, Population Distribution Patterns in Developed Countries, Paper presented to the Expert Group Meeting on Population Distribution and Migration, Bolivia, 18-22 January.
- Champion, A. G. 1993b, 'U.S. Rural Demographic Trends and Issues in International Perspective', in *Population Change and the Future of Rural America- A Conference Proceedings*, U.S. Department of Agriculture and Economic Research Service, Washington, November, pp. 154-165.
- Champion, A. G. 1994, 'Population Change and Migration in Britain Since 1981: Evidence for Continuing Deconcentration', *Environment and Planning A*, 26, pp. 1501-1520.
- Champion, A. G. 1995, The Counterurbanisation Cascade: An Analysis of the 1991 Census Special Migration Statistics for Great Britain. Paper presented at the International Conference on Population Geography, University of Dundee, 16-19 September.
- Champion, A. G. and Illeris, S. 1990, 'Population Redistribution Trends in Western Europe: Mosaic of Dynamics and Crisis', in Hebbert, M. and Hansen, J. C. (eds.), *Unfamiliar Territory- The Reshaping of European Geography*, Avebury, Aldershot.
- Champion, A. G. and Atkins, D. 1996, *The Counterurbanisation Cascade: An Analysis of the Census Special Migration Statistics for Great Britain*, Department of Geography Seminar Paper No. 66, University of Newcastle upon Tyne, Newcastle upon Tyne, November.
- Chen, C. 1992, 'Extended Commuting and Migration in the Taipei Metropolitan Area', *Journal of Population Studies* (Taipei), 15, pp 161-183.
- Cloke, P. 1985, 'Counterurbanisation: A Rural Perspective', *Geography*, 70 (1), pp. 13-23.
- Cochrane, S. G. and Vining, D. R. 1988, 'Recent Trends in Migration Between Core and Peripheral Regions in Developed and Advanced Developing Countries', *International Regional Science Review*, 11 (3), pp. 215-243.
- Coombes, M., Dalla Longa, R. and Raybould, S. 1989, 'Counterurbanisation in Britain and Italy: A Comparative Critique of the Concept of the Concept, Causation and Evidence', *Progress in Planning*, 32, pp. 1-170.
- Coppack, P. M. 1985, 'The Nature of Amenity', *Recreation Research Review*, 12 (1), pp. 80-87.
- Coppack, P. M. 1988a, 'The Evolution and Modelling of the Urban Field', in Coppack, P. M., Russwurm, L. H. and Bryant, C. R. (eds.), *Essays on Canadian Urban Process and Form III- The Urban Field*, Department of Geography Publication Series No. 30, University of Waterloo, Ontario.
- Coppack, P. M. 1988b, 'Forces of Change', in Coppack, P. M., Russwurm, L. H. and Bryant, C. R. (eds.), *Essays on Canadian Urban Process and Form III- The Urban Field*, Department of Geography Publication Series No. 30, University of Waterloo, Ontario.

- Coppack, P. M. 1988c, 'Reflections on the Role of Amenity in the Evolution of the Urban Field', *Geografiska Annaler*, 70B (3), pp. 353-61.
- Coppack, P. M., Russwurm, L. H. and Bryant, C. R. (eds.), 1988, *Essays on Canadian Urban Process and Form III- The Urban Field*, Department of Geography Publication Series No.30, University of Waterloo, Ontario.
- Cromartie, J. 1997, 'Higher Immigration, Lower Outmigration Contribute to Nonmetro Population Growth', *Rural Conditions and Trends*, 7 (3), pp.13-17.
- Cross, D. F. W. 1990, *Counterurbanization in England and Wales*, Avebury, Aldershot.
- Dahms, F. A. 1980, 'The Evolving Spatial Organisation of Small Settlements in the Countryside- An Ontario Example', *Tijdschrift voor Economische en Sociale Geografie*, 71 (5), pp. 295-306.
- Dahms, F. A. 1984, 'Demetropolitanization or the Urbanization of the Countryside?- The Changing Functions of Small Rural Settlements in Ontario', *Ontario Geography*, 24, pp. 35-61.
- Dahms, F. 1991, 'St Jacobs, Ontario: From Declining Village to Thriving Tourist Community', *Ontario Geography*, 36, pp. 1-13.
- Dahms, F. A. 1995, 'Dying Villages', 'Counterurbanisation' and the Urban Field- A Canadian Perspective', *Journal of Rural Studies*, 11 (1), pp. 21-33. 
- Dahms, F. and Hallman, B. 1991, 'Population Change, Economic Activity and Amenity Landscapes at the Outer Edge of the Urban Fringe' in Beesley, K. B. (ed.), *Rural and Urban Fringe Studies in Canada*, Geographical Monograph No.21, Trent University, Ontario, pp. 67-90.
- Danta, D. R. 1987, 'Identifying Urban Turnaround in Hungary', *Urban Geography*, 8 (1), pp. 1-13.
- Davies, W. K. D. 1990, 'What Population Turnaround? Some Canadian Prairie Settlement Perspectives, 1971-1986', *Geoforum*, 21 (3), pp. 303-320.
- Davies, S. and Yeates, M. 1991, 'Exurbanization as a Component of Migration: A Case Study in Oxford County, Ontario', *The Canadian Geographer*, 35 (2), pp. 177-186. 
- Davis, J. S. 1993, 'The Commuting of Exurban Home Buyers', *Urban Geography*, 14 (1), pp. 7-29.
- Davis, J. S., Nelson, A. C. and Dueker, K. J. 1994, 'The New Burbs: The Exurbs and Their Implications for Planning Policy', *American Planning Association Journal*, 60, pp. 45-59.
- Dean, K. G., Brown, B. J. H, Perry, R. W. and Shaw, D. P. 1984a, 'The Conceptualisation of Counterurbanization', *Area*, 16 (1), pp. 9-14.
- Dean, K. G., Shaw, D. P., Brown, B. J. H., Perry, R. W. and Thorneycroft, W. T. 1984b, 'Counterurbanization and the Characteristics of Persons Migrating to West Cornwall', *Geoforum*, 15 (2), pp. 177-190.
- DeJong, G. F. and Sell, R. R. 1977, 'Residential Redistribution, Migration and Residential Preferences', *Annals of the American Academy of Political and Social Science*, 429, pp. 130-44.

- Dematteis, G. 1986, 'Urbanization and Counterurbanization in Italy', *Ekistics*, 316, pp. 26-33.
- Department of Housing and Urban Development (DHUD). 1993, *Mount Lofty Ranges Regional Strategy Plan*, Department of Housing and Urban Development, Adelaide.
- Department of Housing and Urban Development (DHUD). 1996, Population Projections for Statistical Local Areas, Information and Data Analysis Branch, Department of Housing and Urban Development, Adelaide.
- Duncan, C. D. and Epps, W. R. 1993, 'Fleeing the Metropolis or a Move to Warmer Climates? A Case Study of In-migration to a Northern Urban Centre', *People and Physical Environment Research*, 44, pp. 3-9.
- Elo, I. T. and Beale, C. L. 1988, The Decline in American Counterurbanization in the 1980s. Paper presented at The Annual Meeting of the Population Association of America, New Orleans, April.
- Engels, R. A. 1986, The Metropolitan/Nonmetropolitan Population at Mid-Decade. Paper presented at The Population Association of America Annual Meeting, San Francisco, April.
- Engels, R. A. and Healey, M. K. 1979, 'Rural Renaissance Reconsidered', *American Demographics*, 1 (5), pp. 16-19.
- Errington, A. 1994, 'The Peri-urban Fringe: Europe's Forgotten Rural Areas', *Journal of Rural Studies*, 10 (4), pp. 367-375.
- Fant, M. P. 1987, Environment, People and Planning in Mount Barker, South Australia: Problems of the Urban Fringe. Unpublished MA Thesis, University of Adelaide.
- Faulkner, H. W. 1981, 'Journey Pattern Adjustments on Sydney's Metropolitan Fringe-An Exploratory Study', *Australian Geographer*, 15, pp. 17-25.
- Fielding, A. J. 1982, 'Counterurbanisation in Western Europe', *Progress in Planning*, 17 (1), pp. 5-51.
- Fielding, A. J. 1988, 'Population Redistribution Trends and the Persistence of Organized Capitalism', *Geographical Perspectives*, 61, pp. 74-76.
- Fielding, A. J. 1989a, 'Migration and Urbanization in Western Europe Since 1950', *Geographical Journal*, 155 (1), pp. 60-69.
- Fielding, A. J. 1989b, 'Population Redistribution in Western Europe Since 1950 and the Debate about Counterurbanisation', in Congdon, P. and Batey, P. (eds.), *Advances in Regional Demography*, Belhaven Press, London, pp. 167-179.
- Fielding, A. J. 1990, 'Counterurbanisation: Threat or Blessing?' in Pinder, D. (ed.), *Western Europe: Challenge and Change*, Belhaven Press, London.
- Flowerdew, R. and Boyle, P. 1992, 'Migration Trends for the West Midlands: Suburbanisation, Counterurbanisation or Rural Depopulation?' in Stillwell, J., Rees, P. and Boden, P. (eds), *Migration Processes and Patterns: Volume 2- Population Redistribution in the UK*, Belhaven Press, London, Chapter 9.
- Ford, T. 1997, *Population Change in Adelaide's Peri-urban Region*, South Australian Geodemographic Research Group, Adelaide.

- Ford, T. and Rudd, D. 1996, Families in Adelaide's Peri-urban Region. Paper presented at the Eighth National Conference of the Australian Population Association, Adelaide, December 3-5.
- Forstall, R L. 1988, Spatial and Temporal Dimensions of Counterurbanisation in the United States: 1960-1986. Paper prepared for The Population Association of America, March.
- Forsythe, D. E. 1980, 'Urban Incomers and Rural Change', *Sociologia Ruralis*, 20, pp. 287-307.
- Foyle, J. and Houston, P. 1992, 'Planning in the Rural-Urban Fringe', *Australian Planner*, 30 (1), pp. 45-50. ✓
- Frey, W. 1987, 'Migration and Depopulation of the Metropolis: Regional Restructuring or Rural Renaissance?' *American Sociological Review*, 52, pp. 240-57.
- Frey, W. 1988a, 'Migration and Metropolitan Decline in Developed Countries: A Comparative Study', *Population Bulletin*, 14 (4), pp. 595-628. ✓
- Frey, W. 1988b, 'The Re-emergence of Core Region Growth: A Return to the Metropolis?' *International Regional Science Review*, 11 (3), pp. 261-267.
- Frey, W. 1991, Perspectives on Recent Demographic Change in Metropolitan and Non-Metropolitan America, Research Report No.92-248, Population Studies Centre, University of Michigan.
- Frey, W. H. 1993a, 'The New Urban Revival in the United States', *Urban Studies*, Vol.30 (4/5), pp.741-774.
- Frey, W. H. 1993b, 'Perspectives on Recent Demographic Change in Metropolitan and Non-metropolitan America', in *Population Change and the Future of Rural America- A Conference Proceedings*, U.S Department of Agriculture and Economic Research Service, Washington, November, pp. 42-59.
- Frey, W. H. and Speare, A. 1988, *Regional and Metropolitan Growth and Decline in the United States*, Russell Sage Foundation, New York.
- Frey, W. H. and Speare, A. 1991, U.S. Metropolitan Area Population Growth 1960-1990: Census Trends and Explanations. Research Report No.91-212, Population Studies Center, University of Michigan, May. ✎
- Frey, W. H. and Speare, A. 1992, 'The Revival of Metropolitan Population Growth in The United States: An Assessment of Findings from the 1990 Census' *Population and Development Review*, 18 (1), pp. 129-146.
- Friedmann, J. and Miller, J. 1965, 'The Urban Field', *American Institute of Planning Journal*, 31 (4), pp. 312-319.
- Fuguitt, G. V. 1985, 'The Nonmetropolitan Population Turnaround', *Annual Review of Sociology*, 11, pp. 259-80.
- Fuguitt, G. V. 1991a, Internal Migration and Population Redistribution, Workshop on Population Change and the Future of Rural America, Aspen Institute, Wye Plantation, May.

- Fuguitt, G. V. 1991b, Did the Nonmetropolitan Population Reconcentrate in the 1980s? Paper presented at the Annual Meeting of the Rural Sociological Society, Columbus, Ohio, August.
- Fuguitt, G. V. 1991c, 'Commuting and the Rural-Urban Hierarchy', *Journal of Rural Studies*, 7(4), pp. 459-466.
- Fuguitt, G. V. 1993, 'Internal Migration and Population Redistribution', in *Population Change and the Future of Rural America- A Conference Proceedings*, U.S Department of Agriculture and Economic Research Service, Washington, November, pp. 93-103.
- Fuguitt, G. V. and Zuiches, J. J. 1975, 'Residential Preferences and Population Distribution', *Demography*, 12(3), pp. 491-503.
- Fuguitt, G. V., Voss, P. R. and Doherty, J. C. 1979, *Growth and Change in Rural America*, The Urban Land Institute, Washington DC.
- Fuguitt, G. V. and Beale, C. L. 1995, Recent Trends in Nonmetropolitan Migration: Toward a New Turnaround? CDE Working Paper No.95-07, University of Wisconsin, Madison.
- Fuguitt, G. V. and Heaton, T. B. 1995, 'The Impact of Migration on the Nonmetropolitan Population Age Structure, 1960-1990', *Population Research and Policy Review*, 14, pp. 215-32.
- Gallusser, W. and Smailes, P. J. 1988, 'Valued Landscapes at the Urban Fringe: Conservation, Controlled Change or Surrender to Market Forces?' *South Australian Geographical Journal*, 88, pp. 37-57.
- Gaston, G. and Associates Pty Ltd and the Centre for South Australian Economic Studies. 1989, *Barossa Valley Economic Profile*, Report prepared for the Barossa Valley Review Steering Committee, Adelaide.
- Goddard, R. F. 1983, Rural Renaissance-But Where? Paper presented to the 53rd ANZAAS Congress, Perth.
- Golledge, R. G. 1959, 'Sydney's Metropolitan Fringe: A Study in Urban-Rural Relations', *Australian Geographer*, 7(6), pp. 243-255. ✓
- Gordon, I. 1988, 'Resurrecting Counter-Urbanisation Housing Market Influences on Migration Fluctuations from London', *Built Environment*, 13(4), pp. 212-222.
- Gordon, P. 1979, 'Deconcentration Without a 'Clean' Break', *Environment and Planning A*, 11, pp. 281-290.
- Grafton, D. J. and Bolton, N. 1987, 'Counterurbanisation and the Rural Periphery: Some Evidence from North Devon', in Robson, B. (ed.), *Managing the City: The Aims and Impacts of Urban Policy*, Croom Helm, London, pp. 191-210.
- Graham, B. 1994, 'Hobart- Explosion Without Growth', *Urban Policy and Research*, 12 (4), pp. 264-70.
- Griffin, T. L. C. 1965, 'The Evolution and Duplication of a Pattern of Urban Growth', *Economic Geography*, 41, pp.133-156.
- Griffin, T. and McCaskill, M. (eds.), 1986, *Atlas of South Australia*, S. A. Government Printing Division, Adelaide.



- Halfacree, K. H. 1994, 'The Importance of 'the Rural' in the Constitution of Counterurbanisation: Evidence from England in the 1980s', *Sociologia Ruralis*, 34(2-3), pp. 164-189.
- Halliday, J. and Coombes, M. 1995, 'In Search of Counterurbanisation: Some Evidence from Devon on the Relationship Between Patterns of Migration and Motivation', *Journal of Rural Studies*, 11(4), pp. 433-46
- Hamnett, C. and Randolph, W. 1982, 'The Changing Population Distribution of England and Wales, 1961-81: Clean Break or Consistent Progression?' *Built Environment*, 8(4), pp. 272-80.
- Hansen, J. C. 1989, 'Norway: The Turnaround which Turned Around', in Champion, A. G. (ed.), *Counterurbanisation: The Changing Pace and Nature of Population Deconcentration*, Edward Arnold, London.
- Harper, S. 1991, 'People Moving to the Countryside: Case Studies of Decision-Making', in Champion, A. G. and Watkins, C. (eds.), *People in the Countryside: Studies of Social Change in Rural Britain*, Paul Chapman, London, pp. 22-37.
- Harris, S. 1993, People, Planning and Floods: Aspects of Rural Living at Lewiston, S. A. Unpublished Master of Environmental Studies Thesis, University of Adelaide, Adelaide.
- Heimlich, R. E. 1989, 'Metropolitan Agriculture-Farming in the City's Shadow', *American Population Association Journal*, Autumn, pp.457-466.
- Heimlich, R. E. and Brooks, D. H. 1989, *Metropolitan Growth and Agriculture: Farming in the City's Shadow*, Agricultural Economic Report No. 619, US Dept. of Agriculture, Washington.
- Herington, J. 1984, *The Outer City*, Harper and Row, London.
- Hodge, G. 1974, 'The City in the Periphery', in Bourne, L. S., MacKinnon, R. D., Siegel, J. and Simmons, J. W. (eds.), *Urban Futures for Central Canada: Perspectives on Forecasting, Urban Growth and Form*, University of Toronto, Toronto.
- Hooimeijer, P. and van der Knaap, B. 1994, 'From Flows of People to Networks of Behaviour', *Nederlandse Geografische Studies*, 173, pp. 177-185.
- Hudson, P. 1989, Change and Adaptation in Four Rural Communities in New England, NSW, *Australian Geographer*, 20(1), pp. 54-64.
- Hugo, G. J. 1971, Internal Migration in South Australia, 1961-66. Unpublished MA Thesis, Flinders University of South Australia, Adelaide.
- Hugo, G. J. 1983, *South Australia's Changing Population*, South Australian Geographical Papers No.1, Royal Geographical Society of Australasia (South Australian Branch), Adelaide.
- Hugo, G. J. 1986, Definition of Metropolitan and Urban Boundaries in Australia: Is it Time for a Change? Paper prepared for the Institute of Australian Geographers Conference, Perth, May. ✓
- Hugo, G. J. 1988a, Counterurbanisation in Australia, *Geographical Perspectives*, 61, pp. 43-63.

- Hugo, G. J. 1988b, 'Mobile or Moribund? Population Dynamics', in Heathcote, R. L. (ed.), *The Australian Experience: Essays in Australian Land Settlement and Resource Management*, Longman Cheshire, Melbourne.
- Hugo, G. J. 1988c, Australia's Changing Nonmetropolitan Population. Paper presented to Rural Australia Symposium, Albury, July 6-8.
- Hugo, G. J. 1989, 'Australia: The Spatial Concentration of the Turnaround', in Champion, A. G. (ed.), *Counterurbanization- The Changing Pace and Nature of Population Deconcentration*, Edward Arnold, London.
- Hugo, G. J. 1993, Australia's Changing Non-metropolitan Population: The Contemporary Situation and the Outlook for the Nineties. Paper presented to Conference on Country Towns and Rural Areas Planning and Development: The Agenda for the Nineties, Bendigo, Victoria, November 4.
- Hugo, G. J. 1994, 'The Turnaround in Australia: Some First Observations From the 1991 Census', *Australian Geographer*, 25(1), pp. 1-17.
- Hugo, G. J. 1996, 'Counterurbanisation', in Newton, P. W. and Bell, M. (eds.), *Population Shift- Mobility and Change in Australia*, AGPS, Canberra, pp. 126-146.
- Hugo, G. J. 1997, Rethinking the ASGC: Some Conceptual and Practical Issues. Final Report for the Review of the Australian Standard Geographical Classification Project, National Key Centre for Teaching and Research in Social Applications of Geographical Information Systems, University of Adelaide, Adelaide.
- Hugo, G. J. and Smailes, P. J. 1985, 'Urban-Rural Migration in Australia: A Process View of The Turnaround', *Journal of Rural Studies*, 1(1), pp. 11-30.
- Hugo, G. J. and Smailes, P. J. 1992, 'Population Dynamics in Rural South Australia', *Journal of Rural Studies*, 8(1), pp. 29-51.
- Hugo, G. and Bell, M. forthcoming, 'The Hypothesis of Welfare-Led Migration to Rural Areas: The Australian Case Study', in Boyle, P. and Halfacree, K. (eds.), *Migration into Rural Areas- Theories and Issues*, John Wiley and Sons, West Sussex.
- Ishikawa, Y. 1992, 'The 1970s Migration Turnaround in Japan Revisited: A Shift-Share Approach', *Papers in Regional Science*, 71(2), pp. 153-73.
- Jackson, J. T. and O' Connor, K. 1993, 'Beyond the Fringe: Social and Physical Planning Problems in Shires Adjacent to Melbourne's Metropolitan Statistical Division', *Urban Policy and Research*, 11(2), pp. 81-95.
- Jarvie, W. 1981, Internal Migration and Structural Change in Australia 1966-76: Some Preliminary Observations. Paper Presented to The Australian and New Zealand Section Regional Science Association, Sixth Meeting, Surfers Paradise, August.
- Jarvie, W. 1984, Internal Migration and The Turnaround in Australia 1966-76, Unpublished PhD Thesis, Flinders University of South Australia, Adelaide.
- Johansen, H. E. and Fuguitt, G. V. 1984, *The Changing Rural Village in America- Demographic and Economic Trends Since 1950*, Ballinger, Massachusetts.
- Johnson, K. M. 1993, 'Demographic Change in Nonmetropolitan America, 1980 to 1990', *Rural Sociology*, 58(3), pp. 347-65.

- Johnson, K. M. and Beale, C. L. 1992, 'Natural Population Decrease in the United States', *Rural Development Perspectives*, 8(1), pp. 8-15.
- Johnson, K. M. and Beale, C. L. 1994a, 'The Recent Revival of Widespread Population Growth in Nonmetropolitan Areas in the United States', *Rural Sociology*, 59(4), pp. 655-67.
- Johnson, K. M. and Beale, C. L. 1994b, Post-1990 Demographic Trends in Non-metropolitan America, Working Paper Number 5, Demographic Change and Fiscal Stress Project, Loyola University, Chicago, May.
- Johnson, K. M. and Beale, C. L. 1994c, 'Nonmetro Population Growth Widespread in Early 1990s, Countering 1980s Trend', *Rural Conditions and Trends*, Spring, pp. 14-17.
- Johnson, K. M. and Purdy, R. L. 1980, 'Recent Nonmetropolitan Population Change in Fifty-Year Perspective', *Demography*, 17(1), pp. 57-69.
- Jones, H. 1990, *Population Geography*, Paul Chapman, London.
- Jones, H., Ford, N., Caird, J. and Berry, W. 1984, 'Counter-urbanization in Societal Context: Long-Distance Migration to the Highlands and Islands of Scotland', *Professional Geographer*, 36 (4), pp.437-444.
- Jones, H., Caird, J., Berry, W. and Dewhurst, J. 1986, 'Peripheral Counter-urbanization: Findings from an Integration of Census and Survey Data in Northern Scotland', *Regional Studies*, 20 (1), pp.15-26.
- Joseph, A. and Smit, B. 1981, 'Implications of Exurban Residential Development: A Review', *The Canadian Journal of Regional Science*, 4 (2), pp. 207-224.
- Joseph, A. E., Keddie, P. D. and Smit, B. 1988, 'Unravelling the Population Turnaround in Rural Canada', *The Canadian Geographer*, 32 (1), pp. 17-30.
- Kayser, B. 1988, 'Rural Renaissance in the United States: The Viewpoint of a French Geographer', *Geographical Perspectives*, 61, pp. 77-88.
- Keddie, P. D. and Joseph, A. E. 1991, 'The Turnaround of the Turnaround? Rural Population Change in Canada 1976 to 1986', *The Canadian Geographer*, 35 (4), pp. 367-79.
- Kephart, G. 1988, 'Heterogeneity and the Implied Dynamics of Regional Growth Rates: Was the Nonmetropolitan Turnaround an Artifact of Aggregation?' *Demography*, 25 (1), pp.99-113.
- Kontuly, T. and Vogelsang, R. 1988, 'Explanations for the Intensification of Counterurbanisation in the Federal Republic of Germany', *Professional Geographer*, 40 (1), pp. 42-54.
- Kontuly, T. and Vogelsang, R. 1989, 'Federal Republic of Germany: The Intensification of the Turnaround', in Champion, A. G. (ed.), *Counterurbanisation: The Changing Pace and Nature of Population Deconcentration*, Edward Arnold, London.
- Kontuly, T. and Schon, P. 1994, 'Changing Western German Internal Migration Systems During the Second Half of the 1980s', *Environment and Planning A*, 26, pp. 1521-1543.

- Lewis, I. R. 1976, *Rural-Urban Land Use Conflict in the Adelaide Hills*, South Australian Department of Agriculture and Fisheries, Adelaide.
- Lewis, G. J. 1989, Counterurbanization and Social Change in the Rural South Midlands, *East Midland Geographer*, 11, p.3-12.
- Lewis, G. J. and Maund, D. L. 1976, 'The Urbanization of the Countryside: A Framework for Analysis', *Geografiska Annaler*, 58B, pp. 17-27.
- Lewis, G. J., McDermott, P. and Sherwood, K. B. 1991, 'The Counterurbanization Process: Demographic Restructuring and Policy Response in Rural England', *Sociologia Ruralis*, 31, pp. 309-320.
- Lichter, D. L. 1993, 'Migration, Population Redistribution and the New Spatial Inequality', in Brown, D. L., Field, D. and Zuiches, J. J. (eds.), *The Demography of Rural Life*, Northeast Regional Center for Rural Development, University Park, PA.
- Lichter, D. T., Heaton, T. B. and Fuguitt, G. V. 1979, 'Trends in the Selectivity of Migration Between Metropolitan and Nonmetropolitan Areas, 1955-1975', *Rural Sociology*, 44(4), pp. 645-666.
- Long, L. and De Are, D. 1982, 'Repopulating the Countryside: A 1980 Census Trend', *Science*, 217, pp. 1111-1116.
- McKenzie, F. 1996, *Beyond the Suburbs- Population Change in the Major Regions of Australia*, AGPS, Canberra.
- McKenzie, F. 1997, Growth Management or Encouragement? A Critical Review of Land Use Policies Affecting Australia's Major Exurban Regions, *Urban Policy and Research*, 15(2), pp. 83-101.
- McQuin, P. 1978, *Rural Retreating-A Review and an Australian Case Study*, Department of Geography, University of New England, Armidale.
- Maher, C. A. 1982, *Australian Cities in Transition*, Shillington House, Melbourne.
- Maher, C. A. 1984, *Residential Mobility in Australian Cities*, Australian Bureau of Statistics, Canberra.
- Maher, C. A. and Stimson, R. J. 1994, *Regional Population Growth in Australia: Nature, Impacts and Implications*, AGPS, Canberra.
- Maher, C. A. and Whitelaw, J. 1995, *Internal Migration in Australia 1986-1991: Residential Mobility and Urban Development*, AGPS, Canberra.
- Menzies, B. and Bell, M. 1981, *Peri-Urban Development: A Case Study of the Adelaide Hills*, Research Monograph No.2, Adelaide Extension Research and Evaluation Unit, Department of Agriculture, Adelaide.
- Mitchelson, R. L. and Fisher, J. S. 1987, Long-Distance Commuting and Population Change in Georgia, 1960-80, *Growth and Change*, 18(1), pp. 44-65.
- Moore, P. and Associates and Walsh, G. and Associates. 1990, *Fleurieu Regional Development: Profile and Prospects- Final Report*, Prepared for the Fleurieu Regional Development Committee, Magill, Adelaide.

- Morison, I. 1995, 'Beyond the City-State- Metropolitan Canberra', *Urban Policy and Research*, 13(2), pp. 117-124.
- Moseley, M. J. 1979, *Accessibility: The Rural Challenge*, Methuen and Co., London.
- Moser, C. A. and Kalton, G. 1993, *Survey Methods in Social Investigation*, Second Edition, Heinemann, London.
- Murphy, P. A. and Zehner, R.B. 1988, 'Satisfaction with Sunbelt Migration', *Australian Geographical Studies*, 26, pp. 320-334.
- Murphy, P. A and Burnley, I. H. 1993, 'Socio-Demographic Structure of Sydney's Perimetropolitan Region', *Journal of the Australian Population Association*, 10(2), pp. 127-144.
- Murphy, P. and Burnley, I. 1996, 'Exurban Migration', in Newton, P. and Bell, M. (eds.), *Population Shift- Mobility and Change in Australia*, AGPS, Canberra, pp. 242-258.
- Nelson, A. C. 1991, 'Characterizing Exurbia', *Journal of Planning Literature*, 6(4), pp. 350-368.
- Nelson, A. C. and Dueker, K. J. 1990, 'The Exurbanization of America and its Planning Policy Implications', *Journal of Planning Education and Research*, 9(2), pp. 91-99.
- Neyland, B. and Kendig, H. 1996, 'Retirement Migration to the Coast', in Newton, P. and Bell, M. (eds.), *Population Shift- Mobility and Change in Australia*, AGPS, Canberra, pp. 364-377.
- Newby, H. 1979, *Green and Pleasant Land? Social Change in Rural England*, Hutchinson and Co., London.
- Nucci, A. and Long, L. 1995, 'Spatial and Demographic Dynamics of Metropolitan and Nonmetropolitan Territory in the United States', *International Journal of Population Geography*, 1, pp. 165-181.
- Nucci, A. and Long, L. 1996, How Population Growth in Rural Hinterlands is Related to Growth in Suburban Fringes and Metropolitan Cores. Paper presented at the Annual Meeting of the American Population Association, New Orleans, May 9-11.
- Pahl, R. E, 1965, *Urbs in Rure*, Weidenfeld and Nicolson, London.
- Perry, R., Dean, K. and Brown, B. (eds), 1986, *Counterurbanisation-Case Studies of Urban to Rural Movement*, Geo Books, Norwich.
- Ploch, L. A. 1978, 'The Reversal in Migration Patterns- Some Rural Development Consequences', *Rural Sociology*, 43 (2), pp. 293-303.
- Pollard, H. 1996, 'Seasonal and Permanent Moves Among the Elderly', in Newton, P. and Bell, M. (eds.), *Population Shift- Mobility and Change in Australia*, AGPS, Canberra, pp. 378-391.
- Poston, D. L. and Coleman, M. T. 1983, 'Conceptualizing and Measuring the Non-metropolitan Turnaround in U.S. Counties: An Alternative Procedure', *Rural Sociology*, 48(3), pp. 436-446.

- Price, M. L. and Clay, D. C. 1980, 'Structural Disturbances in Rural Communities: Some Repercussions of the Migration Turnaround in Michigan', *Rural Sociology*, 45(4), pp. 591-607.
- Rees, P. 1996, Internal Migration and Regional Population Dynamics in Europe. Seminar given at The Key Centre for the Social Applications of GIS, University of Adelaide, Adelaide, December 10.
- Reitsma, F. and Vergoossen, D. 1988, 'A Causal Typology of Migration: The Role of Commuting', *Regional Studies*, 22(4), pp. 331-340.
- Richter, K. 1985, 'Nonmetropolitan Growth in the Late 1970s: The End of the Turnaround?' *Demography*, 22(2), pp. 245-263.
- Robert, S. and Randolph, W. G. 1983, 'Beyond Decentralization: The Evolution of Population Distribution in England and Wales, 1961-1981', *Geoforum*, 14(1), pp. 75-102.
- Robinson, G. M. 1990, *Conflict and Change in the Countryside- Rural Society, Economy and Planning in the Developed World*, Belhaven Press, London, Chapter 4.
- Rowland, D.T. 1979, *Internal Migration in Australia*, AGPS, Canberra.
- Russwurm, L. H. 1975, 'Urban Fringe and Urban Shadow', in Bryfogle, R. C. and Krueger, R. R. (eds.), *Urban Patterns*, Revised, Holt, Rinehart and Winston of Canada, Toronto.
- Russwurm, L. H. 1977, *The Surroundings of Our Cities: Problems and Planning Implications of Urban Fringe Landscapes*, Community Planning Press, Ottawa.
- Russwurm, L. H. and Bryant, C. R. 1984, 'Changing Population Distribution and Rural-Urban Relationships in Canadian Urban Fields, 1941-1976', in Bunce, M. F. and Troughton, M. J. (eds.), *The Pressures of Change in Rural Canada*, Geographical Monographs No. 14, York University, Ontario, Chapter 7.
- Sant, M. 1993, 'Coastal Settlement Systems and Counterurbanization in NSW', *Australian Planner*, December, pp.108-113.
- Sant, M. and Simons, P. 1993a, 'Counterurbanization and Coastal Development in New South Wales', *Geoforum*, 24, pp. 291-306.
- Sant, M. and Simons, P. 1993b, 'The Conceptual Basis of Counterurbanisation; Critique and Development', *Australian Geographical Studies*, 31(2), pp. 113-126.
- Saraceno, E. 1994, 'Recent Trends in Rural Development and Their Conceptualisation', *Journal of Rural Studies*, 10(4), pp. 321-330.
- Schaeffer, P.V. 1992, 'Deconcentration, Counterurbanisation or Trend Reversal? The Population Distribution of Switzerland, 1900-1980', *Socio-Economic Planning Sciences*, 26(2), pp. 89-102.
- Schwarzweiler, H. K. 1979, 'Migration and the Changing Rural Scene', *Rural Sociology*, 44(1), pp. 7-23.
- Scott, R. M. 1982, *Environments of South Australia- Planners Atlas*, Division of Land Use Research-Commonwealth Scientific and Industrial Research Organisation and S. A. Department of Environment and Planning, Adelaide.

- Serow, W. J. 1991, 'Recent Trends and Future Prospects for Urban-Rural Migration in Europe', *Sociologia Ruralis*, 31(4), pp. 269-280.
- Smailes, P. J. 1992, The Gilbert Valley, South Australia: Trends 1980-90 and Prospects for 2000. A report prepared for the District Councils of Riverton and Saddleworth and Auburn, University of Adelaide, January.
- Smailes, P. J. 1996a, 'Demographic Response to Rural Restructuring and Counterurbanisation in South Australia, 1981-1991', *International Journal of Population Geography*, 2, pp. 261-287.
- Smailes, P. J. 1996b, 'Accessibility Changes in South Australia and the Country Town Network', in G. Lawrence, K. Lyons and S. Momtaz (eds.), *Social Change in Rural Australia*, Rural Social and Economic Research Centre, Central Queensland University, Rockhampton.
- Smailes, P.J. 1997, 'Socio-Economic Change and Rural Morale in South Australia, 1982-1993', *Journal of Rural Studies*, 13(1), pp. 19-42.
- Smailes, P. J. and O'Dowd, A. D. 1981, Community and Neighbourhood in the Fleurieu Peninsula, Department of Geography, University of Adelaide.
- Smailes, P. J. and Hugo, G. J. 1985, 'A Process View of the Population Turnaround: An Australian Rural Case Study', *Journal of Rural Studies*, 1(1), pp. 31-43.
- Smailes, P. J. and Clermont, R. (eds), 1994, Agriculture, Business and Population Mobility in the Wakefield Plains District Council, Department of Geography, University of Adelaide, Adelaide.
- Sofranko, A. J. and Fliegel, F. C. 1983, 'The Neglected Component of Rural Population Growth', *Growth and Change*, 14(2), pp. 42-49.
- South Australian State Planning Office. 1975, *Outer Metropolitan Planning Area Development Plan*, S.A. State Planning Authority, Adelaide.
- Spencer, D. 1995, 'Counterurbanisation: The Local Dimension', *Geoforum*, 26(2), pp. 153-173.
- Stillwell, J., Rees, P. and Boden, P. (eds), 1992, *Migration Processes and Patterns: Volume 2- Population Redistribution in the United Kingdom*, Belhaven Press, London.
- The Advertiser*. 1997, 'Prices the Highest for Five Years', Saturday, October 11, p.21.
- The Courier*. 1996, 'Opinion- Strath Shopping Not on Special', Wednesday, February 28, p.2.
- The Natural Resources Management Standing Committee. 1991, *A Report on the Alienation of Rural Lands*, S.A. Government, Adelaide.
- Thomas, D. 1990, 'The Edge of the City', *Transactions of the Institute of British Geographers* (New edition), 15, pp. 131-138.
- Tsuya, N. O. and Kuroda, T. 1989, 'Japan: The Slowing of Urbanization and Metropolitan Concentration', in Champion, A. G. (ed.), *Counterurbanization-The Changing Pace and Nature of Population Deconcentration*, Edward Arnold, London, pp. 207-229.

- Tucker, C. J. 1976, 'Changing Patterns of Migration Between Metropolitan and Non-metropolitan Areas in the United States: Recent Evidence', *Demography*, 13(4), pp. 435-443.
- United Nations (UN). 1970, *Manuals on Methods of Estimating Population, Manual VI: Methods of Measuring Internal Migration*, Department of Economics and Social Affairs Population Studies, No. 47, United Nations, New York.
- Vining, D. R. and Strauss, A. 1977, 'A Demonstration that the Current Deconcentration of Population in the United States is a Clean Break with the Past', *Environment and Planning A*, 9, pp. 751-58.
- Vining, D. R. and Kontuly, T. 1978, 'Population Dispersal from Major Metropolitan Regions: An International Comparison', *International Regional Science Review*, 3(1), pp. 49-73.
- Vining, D. R. and Pallone, R. 1982, 'Migration Between Core and Peripheral Regions: A Description and Tentative Explanation of the Patterns in 22 Countries', *Geoforum*, 13 (4), pp.339-410.
- Walker, G. 1987, *An Invaded Countryside: Structures of Life on the Toronto Fringe*, Geographical Monographs No.17, York University, Ontario.
- Walker, G. and Beesley, K. B. 1984, 'Urbanites in the Rural-Urban Fringe: The Case of Northwest Toronto', *Geographical Perspectives*, 53, pp.44-52.
- Walmsley, D. J., Epps, W. R. and Duncan, C. J. 1995, *The New South Wales North Coast 1986-1991: Who Moved Where, Why and With What Effect?* AGPS, Canberra.
- Ward, B. J. 1975, Intra-urban Migration in the Adelaide Metropolitan Area: A Spatial Analysis of Suburban Population, Unpublished Masters Thesis, Department of geography, University of Adelaide.
- Wardwell, J. M. 1977, Equilibrium and Change in Nonmetropolitan Growth, *Rural Sociology*, 42 (2), pp. 156-179.
- Wardwell, J. M. 1980, 'Toward a Theory of Urban- Rural Migration in the Developed World', in Brown, D. L. and Wardwell, J. M. (eds.), *New Directions in Urban-Rural Migration*, Academic Press, New York, pp. 1-34.
- Wardwell, J. M. and Brown, D. L. 1980, 'Population Redistribution in the United States During the 1970s', in Brown, D. L. and Wardwell, J. (eds.), *New Directions in Urban- Rural Migration*, Academic Press, New York, pp. 5-35.
- Wardwell, J. M. and Gilchrist, C. J. 1988, Counterurbanisation in the United States: Facts of the 1980s and Theories of the 1970s. Paper presented at the Population Association of America Annual Meeting, New Orleans, April.
- Weber, B. A. and Howell, R. E. (eds.), 1982, *Coping with Rapid Growth in Rural Communities*, Westview Press, Colorado.
- Weinand, H. C. and Lea, D. A. M. 1990, 'The Movers and the Strayers: Changes in Population in Northeastern New South Wales', in Walmsley, D. J. (ed.), *Change and Adjustment in Northern New South Wales*, Department of Geography and Planning, University of New England, Armidale.



- Wehrwein, G. S. 1942, 'The Rural-Urban Fringe', *Economic Geography*, 18 (3), pp. 217-228.
- Williams, J. D. and Sofranko, A. J. 1981, 'Why People Move', *American Demographics*, 3 (7), pp. 30-31.
- Williams, M. 1992, *The Changing Rural Landscape of South Australia*, Second Edition, State Publishing, Adelaide.
- Winchester, H. P. M. and Ogden, P. E. 1989, 'France: Decentralisation and Deconcentration in the Wake of Late Urbanisation', in Champion, A. G. (ed.), *Counterurbanisation: The Changing Pace and Nature of Population Deconcentration*, Edward Arnold, London.
- Wood, G. 1986, *The Mount Lofty Ranges Watershed: Impact of Land Use on Water Quality and Implications for Reservoir Water Quality Management*, Engineering and Water Supply Department, Adelaide.
- Wright, J. 1990, Non-metropolitan Population Growth in the Peri-Urban Region, Unpublished M.A. Thesis, Flinders University of South Australia, Adelaide.
- Zelinsky, W. 1977, 'Coping with the Migration Turnaround: The Theoretical Challenge', *International Regional Science Review*, 2(2), pp. 175-178.