SOCIAL ISSUES AND TRENDS ASSOCIATED WITH MEDIUM- TO HIGH- DENSITY URBAN LIVING

FINAL REPORT FOR
THE LAND MANAGEMENT CORPORATION

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Executive Summary

In April 2004, Sarkissian Associates Planners, in association with Urban and Regional Planning Solutions, was contracted to prepare a report on social issues and trends in relation to medium- and high-density housing by the Land Management Corporation of South Australia. The main objective was to advise about issues to be considered to ensure that new housing developments are socially acceptable to residents and do not present perceived or actual social problems for the surrounding neighbourhood. Research included an extensive literature review, expert workshops, and site visits to award-winning and recommended medium- and high-density residential developments. Expert workshops and site visits were conducted in Brisbane, Adelaide, Sydney and Melbourne. The brief report contains seven chapters: Introduction, methodology, demographic analysis of households, identification of leading practices, social issues and findings and lessons.

Demographic factors

Preliminary demographic analysis revealed that in South Australia people will marry later, have smaller families and earlier retirement, and that the ageing baby boomer population will significantly affect housing trends. Other trends include the decline of the empty nest (children living at home longer), share housing, student housing and working from home.

Leading-practice model

Site visits and expert workshops revealed that social aspects of housing have often been sacrificed for innovation or profitability. Some basic social elements have been forgotten, including:

- Location and accessibility
- Public, shared and private open space
- Conforming image
- Universal Design
- On-site facilities
- Personalisation opportunities
- Adaptable housing
- Security
- Provisions for children and older people
- Sustainability
- Privacy

Lessons

The following general lessons were identified (see Section 8.0):

- **Market factors:**
  - Balance commercial interests with social concerns.
- **Profitability:**
  - Social design doesn’t always cost more.
  - Demonstrate appropriate and adaptable leading practice.
- **Marketability:**
  - Learn from others’ mistakes and provide leadership in social design.
  - Poor designs don’t sell!
  - Consult the local experts.
  - Find a “sweetener” that is appropriate.
  - Pay attention to communication: be clear, not glossy.
- **Supportive factors:**
  - Push the boundaries for a good cause.
  - Meet or exceed standards.
  - Coordinate the vision
- **Community capacity building:**
  - Engage in education and awareness to decrease negative perceptions.

- **General social design factors:**
  - Stay abreast of new information.
  - Integrate with existing community.
  - Take ageing seriously.
  - Know your markets.
  - Build housing near or with community infrastructure.
  - Design for diversity.
  - To pay close attention to acoustics.
  - Take accessibility seriously.
  - Accommodate homeworking.
  - Design in opportunities to reduce crime.
  - Support socialising with on-site community spaces and facilities.
  - Provide generous on-site shared open space.
  - Start out as you intend to end up.
  - Orient buildings to maximize solar passive benefits.
  - Take children’s play needs into account.
  - Don’t let one solution become another problem.
  - Aim for tenure mix to encourage diversity.
  - Horses for courses.
  - It might be innovative, but does it work?
  - Embrace appropriate technology.
1.0 Introduction

This report was prepared for the Land Management Corporation of South Australia (LMC) by Sarkissian Associates Planners Pty Ltd, with the assistance of Urban and Regional Planning Solutions in Adelaide. It summarises the results of a five-week consultancy to provide a brief overview of social factors relating to the provision of medium- and higher housing.

The main objective of the consultancy is to advise the LMC about issues to be taken into account to ensure that new housing developments at medium and higher densities are socially acceptable to residents and do not present perceived or actual social problems for the approving authority or the surrounding neighbourhood.

The report is not a thorough investigation of issues other than social issues and does not purport to be an ‘academic’ study, as a more detailed investigation would require a longer time frame.

In consultation with the client, it has been agreed that this report would not include site-planning or design guidelines, although these may be considered at a later stage. A large number of advisory documents are available to provide guidance on site planning and design, including a 1986 study by Clare Cooper Marcus and Wendy Sarkissian, Housing as if People Mattered: Illustrated Site-Design Guidelines for Medium-Density Family Housing. This book is still in print and provides the conceptual basis for this report.

The report also relies heavily on recent research conducted for Mirvac Fini in Perth, and the primary author gratefully acknowledges the support of Mirvac Fini in the preparation of those materials.

1.1 Terms of this consultancy

This consultancy is to “undertake a review of social issues and trends associated with medium- to high-density urban living and to propose urban designs and planning solutions/ responses.” The report discusses macro-scale and micro-scale social planning and design issues related medium- and high-density housing, as well as emerging demographic trends related to this housing form.

Research for this report began on 5 April 2004 and the final report was completed on 14 May 2004.

1.2 Authorship and acknowledgements

This report was prepared by Sarkissian Associates Planners in association with Urban and Regional Planning Solutions for the Land Management Corporation.

The report was written by Dr Wendy Sarkissian, Yollana Shore, Elyssa Ludher, Helen Kerr and Steph Walton, assisted by Johanna Hazebroek, Claire Humphreys, Karl Langheinrich, Angela Hazebroek and Millicent Stoopman.
Site visits in four capital cities were conducted as follows:

**Brisbane, 21 April and 7 May:** Dr Wendy Sarkissian, Yollana Shore, Elyssa Ludher, Steph Walton, and Helen Kerr.

**Adelaide, 3 and 4 May:** Dr Wendy Sarkissian, Helen Kerr, Angela Hazebroek, and Grazio Moriano.

**Melbourne 4 and 5 May:** Dr Wendy Sarkissian, Steph Walton, Helen Kerr, and Kelvin Walsh.

**Sydney, 6 and 7 May:** Dr Wendy Sarkissian, Steph Walton and John Murray.

Site visit photographs are by Elyssa Ludher, Wendy Sarkissian, Steph Walton, Yollana Shore and Kelvin Walsh unless otherwise credited.

Additional photographs were taken by Wendy Sarkissian in New Zealand, Perth, Canada, and the United States.

Illustrations are by Andrea Cook and Steph Walton unless otherwise credited.

The authors express special thanks to the staff of Urban and Regional Planning Solutions in Adelaide, especially to Angela Hazebroek, Irene Jones, and Grazio Moriano for arranging site visits, research assistance, and logistics and for inviting participants to the Adelaide workshop.

We thank Helen Kerr of Brisbane City Council for her depth of statutory planning expertise and generous and significant contributions to this report. The assistance of Michael Kerry is also acknowledged with gratitude.

We offer a deep bow of gratitude to the many people who participated in our expert workshops in Adelaide, Brisbane, Sydney and Melbourne: social planners, planners, urban designers, developers, architects, academics and researchers. For a full list of invitees and attendees, see Appendix A.

A special vote of thanks goes to Kelvin Walsh, John Murray, Angela Hazebroek and Grazio Moriano for organizing the transportation for site visits and taking us to many sites.

The generous assistance of Varouge Patapan of HPA Architects in Brisbane is acknowledged with many thanks.

We thank the Land Management Corporation, Paul Reed and Peter Boyle of the Department of Sustainability and Environment in Melbourne, Helen Kerr of Brisbane City Council and Libby Ozinga in Sydney for assisting with the workshop organisation. For offering their venues free of charge, we thank the Department of Sustainability and Environment, Brisbane City Council and the Land Management Corporation. The excellent services of the Cammeray Golf Club in North Sydney are acknowledged with thanks.

For accommodation support and gracious hospitality we gratefully thank Barb and John Murray and Shelagh Noble.

We thank Rhys Sullivan for dropping everything to design our on-line survey questionnaire in rapid time and Karl Langheinrich for working with him to get it onto our website.
1.3 Organization of this report

This report contains six Sections. Section 1.0 is this introduction. Section 2.0 introduces the concept of medium-density housing and describes the Adelaide context. Section 3.0 describes the study methodology, the literature review, demographic research and the site visits and expert workshops in Brisbane, Adelaide, Melbourne and Sydney.

Section 4.0 discusses the selected findings of user needs in medium-density housing.

Section 5.0 discusses the context of structural changes in the Australian population and the implications for household size.

Section 6.0 offers examples of leading practice, showing results from site visits and expert workshops. It also shows alternative housing models that are gaining popularity in the Australian markets.

Section 7.0 explores social issues relevant to medium- and higher density housing in Australia.

Section 8.0, the final section in this report, offers key findings and lessons to be learnt from the research for this report.

The Appendices include a list of journals and databases explored for the literature review, a list of sites visited, a checklist for the site visits, a list of the invitees and attendees to the workshops across Australia, the expert workshop agendas, an explanation of CPTED practices, a collection of notes and notes from the workshops, the questionnaire used to explore issues via the internet, and finally a list of eco-village related websites.

The report concludes with a comprehensive list of References.

1.4 Disclaimer

This report is confidential. Contents should not be copied, circulated, or quoted fully or in part without approval from the Land Management Corporation and Sarkissian Associates Planners Pty Ltd.

Recommendations are based upon information provided to Sarkissian Associates Planners Pty Ltd at the time of assessment.

In conducting this evaluation, Sarkissian Associates Planners Pty Ltd does not offer any promise or guarantee of safety to persons or property.
2.0 What is medium-density and higher density housing?

2.1 Definitions

The brief from the Land Management Corporation uses densities outlined in the South Australian planning strategy (PlanningSA, 2003:84), where medium-density housing is defined as 40–22 dwellings per ha; medium-to high-density is defined as 67-40 per ha and high-density housing is defined as greater that 67 per ha. For the purposes of this report, the short-hand term “medium-density housing” is used to cover housing in all the densities described above. It is accepted that this definition includes lifted blocks (see Section 2.2 below).

The research literature on medium-density housing describes a continuum of models that this form can take, with a great diversity of housing products, from a three-storey townhouse block with internal courtyard, to large and small lifted apartment buildings, student housing and self-care accommodation in retirement villages.

2.2 Medium-density housing forms under consideration

The expert workshops revealed a clear consensus that medium-density housing takes two common forms in Australia: cluster housing (and perimeter block developments) and lifted blocks. The settings in which these housing forms occur vary greatly across Australia. They may include: redevelopment of existing sites, conversion of non domestic buildings into flats, in fill housing on small lots, shop-top housing, cohousing, co-operative housing and eco-village models (Purdon Associates et al., 1996:7).

Cluster housing or perimeter block developments

The first form is low-rise housing without lifts, generally no more than four storeys and often only two storeys in height. While there are now many higher density versions of this low-rise model, many sites are still being developed in cluster housing models, perimeter block models or what is called in Queensland, the “frog-mouth model”.

These forms generally include a central area of shared open space which may either be landscaped or given partly or entirely over to parking, as in many examples in Green Square, Sydney. In some cases, the central courtyard area is almost exclusively taken up by fenced private yards with a small access route between them and in other examples, the backyards share a common fence and there is no central shared open space. A variety of access arrangements characterise this housing form, including developments where all units have an individual front entry to the street and developments where all units are accessed through a central secure lobby and individual units are accessed from hallways or common outdoor spaces.

Lifted blocks

The other form of higher density housing relevant to the Adelaide market is usually comprised of a building or group of buildings with lifts and units accessible via a central lift foyer and corridors at each level. This form is
essentially high-rise flats and, depending on strata title and tenure arrangements, may have provision for recreational facilities for residents. Typical forms in Brisbane usually include swimming pools because of the subtropical climate, whereas bocce courts have been included in upmarket central Melbourne developments. A model from Vancouver has a podium level which creates human scale at the street level, with a high-rise core of apartments above the lower levels of housing and carparking.

While these medium-density housing forms are familiar in most Australian capital cities, early South Australian housing policy decisions have resulted in few examples of this housing form in Adelaide until recent years. Examples now exist in the central city and at selected beachfront locations where high local amenity factors and convenience to facilities and services make them an attractive option. The twelve-storey high-rise Holdfast Shores apartment buildings at Glenelg are a modern example of this form.

## 2.3 Medium-density housing: the Adelaide context

Medium-density housing and higher density housing in lifted blocks, ranging from four stories to over twenty stories are becoming increasingly popular in Australian capital cities. Whereas a decade or two ago there was still considerable resistance to this housing form in Adelaide and Melbourne, and Perth and Brisbane had only a small number of examples, the landscape has changed dramatically in recent years. Participants in this study described the Melbourne higher density housing market as “mature” reflecting the wide range of developments that now exist in Melbourne and Sydney. Today there are also many examples in metropolitan Perth, Brisbane, the Gold Coast and the Sunshine Coast of Queensland.

Housing at higher densities in Adelaide was pioneered in the 1970s with small and successful cluster housing developments in the City of Adelaide and in neighbouring inner urban suburbs such as Kent Town. Some of the innovative cluster housing was developed by the South Australian Housing Trust at lower densities which are now seen as unlikely to be repeated because of economic factors.

Innovative work by Ecopolis Pty Ltd and Urban Ecology Australia resulted in socially and ecologically responsible planning and design recommendations for the Halifax Street site in the City of Adelaide. This site has now been developed by private enterprise at relatively high densities but with a low-rise character. Environmental or social factors do not appear to have been taken into consideration to any extent. The only development by Ecopolis/Urban Ecology is the Christie Walk development in the City (see Figure 1), which adheres strictly to ecological design principles and is aligned with a cohousing, ecovillage model.

Controversial higher density housing developments in Adelaide include the Holdfast Shores development on the foreshore at Glenelg (see Figure 2), which has been the subject of protracted community resistance and concern by the local council and others. This twelve-storey development is notable for its size and the impression of bulk and density, as it sits at the termination of Anzac Highway.

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1 This “Vancouver model” for housing form is distinct from the “Vancouver model” for balconies, discussed below.
Finally, it has been estimated that 28,000 homes will need to be demolished in the next fourteen years to make way for medium-density housing in Adelaide (Wheatley, 2003:15). This has important implications for councils and developers who will need to sustain good relationships with local communities and with the Adelaide population in general, who may perceive significant “loss” associated with changes and express further resistance if social concerns are not adequately and consistently addressed (see Section 2.4, below).

2.4 Perceptions of medium-density housing

A wide body of research has identified resident and community concerns about medium-density housing. In recent years, withdrawal of funding to national housing research programs in the English-speaking world has led to a reduction in post-occupancy evaluations of housing in use. However, some earlier research is still relevant and recent findings have confirmed the critical social issues associated with this housing form. This issue is canvassed more thoroughly in Section 4.0, which presents selected research findings on user perceptions and needs in relation to medium-density housing.

A call for an education and marketing program to target local government planners, architects, lending institutions, the development industry and politicians was echoed by participants in the expert workshops in this study who felt that negative perceptions of medium-density housing would not be overcome without comprehensive consumer education (as well as education for those who plan, design and produce this housing form).
3.0 Study methodology

3.1 Introduction

Our methodology included a literature review, a socio-demographic analysis, a review and photographic analysis of leading practice projects, a series of expert workshops and an online survey. Each method is described below.

3.2 Literature overview

In order to achieve a sufficient overview of relevant literature, we utilised a wide range of sources including databases and journals, web resources and articles and books referred by professional contacts or previous experience. Databases and journals included in our literature search are shown in Appendix A.

Databases were selected from a list of databases accessible from the University of Queensland. Many of the journals listed in Appendix A can be accessed through these databases. Journals were selected via a search of leading planning and housing journals by nationally accredited planning and housing institutes. Journal articles were selected, based on being professional contributions to recognized journals. The databases and journals were searched for relevant articles and references to issues relating to medium- and higher density housing.

3.3 Socio-demographic analysis

Our brief socio-demographic analysis was intended to confirm information already available about Australian households and implications of this housing form. Data on population and housing were accessed from the Australian Bureau of Statistics website. In particular, the 2001 Population and Housing Census provided valuable data on trends relating to specific age groups, including information discussing the housing practices of older people and the changes occurring in the living arrangements of young people.

Other data were used to explore the trends in dwelling choices over the past decade, as well as trends in family and household structures. These were investigated over a period of three decades in order to glean a broader understanding of the changes transpiring.

3.4 Review of leading practice projects and photographic analysis

A range of sites was chosen in Brisbane, Adelaide, Melbourne and Sydney based on UDIA awards from the last four years (2000-2003) and accessibility to the research team. Additional leading-edge sites were chosen according to recommendations from leading architects, developers, town planners and government agencies. An effort was made to include both suburban and CBD locations in the analysis. A list of sites visited is in Appendix B.

Each site was analysed externally and, where possible, internally for various design characteristics and elements (e.g., private and public open space, opportunities for social interaction and functionality of internal areas).
Appendix C outlines some of the issues considered at each site. Where possible, the research team spoke to residents and/or management and observed how the developments were being used. When developers were available, the team spoke to them about their intended market, the diversity of built form, various design features and market take-up. On some sites we were fortunate to be accompanied by a senior architect or were able to speak to a senior project manager or real estate agent. In some sites under construction we were able to access the development for photographic purposes.

The research team was able to compare two sites in Adelaide that had well established early release stages with later released stages. These were Oakden in Regency Gardens and Christie Walk in the City of Adelaide.

A full photographic record of all sites design elements was made; some of those images appear in this report.

3.5 Expert workshops

Expert workshops were conducted first in Brisbane (30 April), in Adelaide (3 May), Melbourne (5 May) and finally in Sydney (May 7). A mix of professions was represented in each workshop: architects, urban designers, town planners, social planners, private consultants, developers, academics and representatives from local and state authorities. A list of workshop participants can be found in Appendix D.

The sessions followed a basic format including an overview of the project brief, then a formal presentation from Wendy Sarkissian followed by roundtable discussion. The workshop agendas are in Appendix E.

Comments from each expert workshop session were recorded and extensively analysed for key issues, priorities and lessons. These key issues are recorded in Appendix G.

Figure 3: The Adelaide expert workshop, 3 May 2004

3.6 On-line survey

An on-line questionnaire survey was developed (see Appendix H) for gathering quantitative data on the views and opinions of all invitees, including those that could not attend, on a range of issues involving their assessments of the current provision of medium- and high-density housing in their respective cities. While this was not required by the Land Management Corporation, Sarkissian Associates Planners believed it important to gain the participants’ further reflections and to capture the views of those who could not attend.
The questionnaire was designed by Dr Wendy Sarkissian and converted to a web format by Rhys Sullivan, a website specialist subcontracted by Sarkissian Associates Planners. The information was collated electronically and made available for subsequent analysis. (This work is continuing and a full analysis is not currently available.)
4.0 Selected findings on user needs in medium-density housing

This section outlines selected foundational research perspectives on user needs and perceptions of medium-density residential housing and factors which contribute to residential satisfaction. The research presented summarises over twenty years of research in medium-density housing.

Negative public perceptions of medium-density housing have been revealed in a wide range of studies, including the 1980 Melbourne Housing Study and the 1984 ABS supplementary survey on housing preferences. These studies, while indicating considerable public demand for medium-density housing in locations with good accessibility, revealed that the demand was not being met because of public perceptions that medium-density housing represented an over-development of sites, threatened suburban tranquility and reduced property values.

**Housing as if People Mattered, 1986**

The key document upon which much later research and policy development has been based is a 1986 research-based book by Clare Cooper Marcus and Wendy Sarkissian, *Housing as if People Mattered: Site-Design Guidelines for Medium-Density Family Housing*. This book is still in print and while it does not address issues associated with building design or interiors, it stands as a primary research resource because of its grounding in evaluation studies, many of which were conducted in Australia.

**Space around the home, 1980**

Prior to the publication of *Housing as if People Mattered*, a 1980 study presented what is now widely known about the factors that contribute to resident satisfaction. In medium-density housing, where space is necessarily limited, space around the home becomes a critical contributor to resident satisfaction. The most important components are spaciousness, upkeep or maintenance, greenery and vegetation and views of activity from the dwelling. Factors promoting satisfaction are play opportunities near home, acoustic controls so children are not heard inside the dwelling when they are playing outside, privacy inside (no overlooking from other dwellings or public areas) and privacy outside (in a private yard, balcony, terrace or garden). Elements outside the control of designers but nevertheless important to residents are friendliness of the neighbouring community and the residents themselves and safety of self and property.


In 1981, research conducted in Canada revealed that residents’ experiences of medium-density housing are markedly different from that of neighbours or professional designers. In a remarkable study entitled “Design Awards: Who Cares?” Clare Cooper Marcus and Jacqueline Vischer revealed three critical criteria for residents: appearance, livability and quality of construction. While the professional architectural jury in a major housing design competition focused primarily on innovation, residents were preoccupied with how the building worked. The jury was reluctant to consider quality of construction or livability, whereas for residents, livability concerned the fulfillment of day-to-day social and psychological needs—and was, therefore, essential.
The distinction between attitudes of residents and neighbours is further explored in a 1987 study entitled *Neighbours’ Attitudes to Medium-Density Housing Types: Some Implications for Planning* by Margaret Munro-Clark and Ross Thorne of the University of Sydney. This study revealed that anxiety and suspicion about foreshadowed changes to residential neighbourhoods in New South Wales were probably well justified. Half the respondents in that study did not understand the term “medium density” in the sense it is used by architects and planners. There was strong resistance to notions of broad-scale urban consolidation and concerns that medium-density housing would result in deterioration of aesthetic and environmental considerations, amenity and social compatibility or homogeneity between existing and incoming residents. The need for “social compatibility” was underscored in responses which highlighted high levels of anxiety and mistrust about the outcomes of medium-density housing policies.

**South Australian Urban Consolidation Working Party Report, 1987**

The South Australian Urban Consolidation Working Party Report, released in September 1987, reiterates the same array of social concerns related to perceptions of medium-density housing. Among the social concerns identified were a lack of understanding of medium-density housing and misconceptions leading to negative perceptions (Department of Environment and Planning 1987:12).

**The Medium-Density Housing File, 1990**

*The Medium-Density Housing File*, prepared by the Royal Australian Institute of Architects in 1990, attempted to address these concerns with a number of information sheets, including one entitled “Attitudes to Density”. Using a South Australian Housing Trusty project in Kent Town as an illustration, the fact sheet argued that medium-density housing has an undeservedly poor image in Australia for three reasons: a strong, often emotional attachment to detached housing; poor examples built in the 1950s and 1960s; and beliefs that higher densities may negatively affect health and wellbeing. This advisory document summarised international research which revealed that the most important factors in determining housing preferences were distance from work and shops, neighbourhood appearance and the age of neighbours.

**Medium-density housing study, Melbourne, 1990**

A 1990 study for the Victorian Department of Planning and Urban Growth by Tract Consultants, Swinburne Centre for Urban and Social Research and Sarkissian Associates Planners reviewed the history and decline of medium-density housing in Melbourne, as well as views of consumers, residents and neighbours. At that time, 62 percent of that housing was occupied by renters, with owner-occupiers being mainly in the 55 years and older category. When the views of local government were canvassed, a wide range of misconceptions was revealed, with councils feeling that they had to pay the costs of this housing form and contend with overloading of social and physical infrastructure. There was a call for more local control and less top-down communication from central government.

Among the reasons residents chose this housing form were price and affordability, the design of the dwelling, the development and the streetscape. In general, neighbours agreed with residents’ perceptions. Residents expressed high degrees of satisfaction with the following
features of their developments: the general location, the general condition, space, natural light, size of dwelling, privacy and yard maintenance. Importantly, space for children’s play rated very poorly by residents, with slightly over one-third saying they were satisfied or very satisfied with that feature. Interestingly, neighbours rating nearby medium-density developments rated space for children highly (75 percent satisfied or very satisfied) and also rated front garden space much more highly than residents did.

Satisfaction with medium-density development on selected indicators revealed a dramatic contrast between views of residents and those of neighbours. For example, while 82 percent of residents were satisfied with the landscaping of individual units, only 65 percent of neighbours were satisfied with that factor. Neighbours rated all of the following features significantly lower than did residents of medium-density housing: landscaping, resident parking, landscaping of units, attractiveness, traffic safety, noise, visitor parking and open space.

As neighbours frequently complain about provision of visitor parking, it is interesting that 69 percent of residents were satisfied while only 40 percent of neighbours were.

“Medium-density housing in the United States: Implications for Australia”, 1991

In a 1991 paper entitled “Medium-density housing in the United States: Implications for Australia,” Terry Burke lists four key objectives of medium-density housing which justify its increased use in urban planning: housing affordability, infrastructure savings, housing appropriateness (to household size, etc) and environmental sustainability. However, citing USA trends as illustrative, he also suggests that many people are likely to maintain a preference for single-detached dwellings in Australia in the years to come.

Design for Urban Living, 1993

In a 1993 study of medium-density housing by Bruce Judd and John Dean, entitled Design for Urban Living, a chapter entitled “Community attitudes and resistance to change” reveals some reasons for the persistent resistance to higher density housing forms in Australia. The study is supported by 21 case studies, photographs, plans and sections, with each case study evaluating according to key design criteria. The authors identified a strong association between home ownership and feelings of achievement, privacy, security and control. If these requirements are not incorporated into higher density housing forms, local opposition is likely to continue.

This study also identifies the need to integrate housing strategies with strategies for employment, access to services, transport and urban infrastructure. Other social design features identified as key design issues are the following: neighbourhood design and environmental fit; perceived scale and density; landscape design; integration of vehicular access and parking; improved noise and visual privacy control; territorial definition of individual dwellings; climate control; and internal planning of the dwelling.

Pyrmont Ultimo, Sydney, 1997

Finally, a professional review of high-density housing in Pyrmont, Sydney, conducted by one of the authors for the NSW Department of Urban Affairs and Planning in 1997, revealed a number of significant social planning and design concerns with the dwelling units and the design of the buildings
themselves. These issues are often highlighted in the research literature on high-density housing. The concerns included:

- **Streetscape:** Blocks of high-density housing often lack a clear relationship to the street and may detract from the streetscape;

- **Site characteristics:** These were often not considered so that views were not utilised, the natural light and warmth of solar access were lost or uncontrolled; and prevailing breezes were ignored.

- **Dwelling entry:** Individual units lack well-defined entrances that clearly demarcate shared and private space;

- **Entry foyer:** A transition space or buffer zone from the public to the private realm is often inadequate or non-existent;

- **Frontstage/backstage:** There is often poor separation between space and activities that are shared and visible and those that are private and personal, e.g., a toilet visible or very audible from the living area, or audible from an adjacent dwelling;

- **Storage space:** This is often inadequate or non-existent especially in the kitchen or bathroom (for example, for winter clothing, bedding and heaters in summer, fans in winter, toys, bikes and prams, camping gear, cleaning and plant-care equipment);

- **Circulation within dwellings:** Frequently, the designed usage of spaces and throughways may become altered or unworkable once people and their belongings move in;

- **Lack of space:** Adequate private open space (even a balcony) is often lacking;

- **Shower and toilet:** These facilities should be much more effectively screened to allow simultaneous use of the bathroom;

- **Furnishability:** Odd rooms, diagonal walls, oddly-shaped windows, and insufficient corners minimise options for furniture placement and window fittings;

- **Door and window hardware:** These were not always of appropriate quality to effectively discourage break-in;

- **Children’s needs:** Playing areas that are safe both for the children and from the children were often not provided;

- **Adult recreation areas:** Often these areas were inappropriately located or furnished and did not appear to relate to residents’ needs;

- **Cross-ventilation:** This was not possible in almost every case in the dwellings visited;

- **Provision for home offices:** This requirement was poorly thought out, with little attention to storage and electronic communication requirements; and

- **Kitchens:** These often had inaccessible features, awkward storage, poor day lighting and no outward view.
4.1 Potential Social Benefits of Medium Density Housing

The many documented negative perceptions of medium-density housing from a social perspective appear to ignore the wide range of social benefits which residents (and, to some extent, neighbours) can enjoy in this housing form. These include:

- Shorter journeys to work, facilities and services;
- Reduction in pollution;
- Greater opportunities for social interaction and support;
- Greater opportunities for provision of social infrastructure;
- Opportunities to revitalize declining inner city areas; and
- Amelioration of problems commonly associated with geographic isolation and/or urban sprawl.

Such preferences fly in the face of a widespread understanding that higher density housing is both socially and ecologically desirable. Many residents of this housing form report their satisfaction with a small yard or garden, having found a large garden a burden. Older people appreciate locations close to services and facilities, reporting that the stress of travel in low-density settings was a problem for them.

Children and young people are likely to find a greater catchment of peers to play and associate with within walking distance of their home. Child safety may be enhanced in cluster configurations where natural surveillance of shared open space permits adults to monitor small children’s play. Safety and security of property, vehicles and the person may be enhanced by territorial boundaries and a clear sense of ownership and control by residents. Smaller housing forms and associated outdoor spaces reduce both the effort and cost of maintenance. Well designed smaller dwellings can be easier and less expensive to heat and cool. Opportunities for neighbourliness may increase as a result of the proximity of neighbours with shared socio-demographic characteristics and values.
5.0 Household formation

5.1 Introduction

The debate about social issues associated with medium-density housing must be seen within the context of structural changes in the Australian population and the implications for household size and formation. It is now well documented that household size is declining and that well over half of households have only one or two people. By 2006 it is estimated that half of Australian households will be single people or childless couples over 35. It is also well known that people are marrying and partnering later in life, having children later and having fewer children. Older people are living longer and people who have had serious accidents or illnesses are now surviving and living with some form of disability or impairment into old age. The proportion of the population who has some form of mobility impairment is increasing and this increase is related to the ageing of the population.

In 2006, approximately 40 percent of the Australian population will be over 45. The well-documented ageing of the population is now about to have a dramatic impact on housing provision and perceptions. Whereas in the past, people reached retirement age and moved through predictable steps into full-time retirement after a long period of employment, often with the same employer, current and future situations will be characterised by much greater diversity.

Retirement is now seen as a continuum which may begin with shorter working hours, moving into part-time consulting, perhaps with the semi-retired person working from a home office. The fact that the Baby Boomer generation has been highly influential and has experienced the dramatic social changes of the civil rights movement, opposition to war and the rise of feminism has affected their activities as consumers. The image of the compliant, polite, elderly retirement village resident needs to be replaced by that of a stroppy, independent, forthright and outspoken consumer who will demand value for money in an increasingly competitive market. As the OECD (2003:15) succinctly reports, “Older people are no longer a homogeneous group with similar and limited aspirations and expectations but increasingly diverse, demanding and ‘young’ in outlook.”

While a large proportion of people likely to move into medium-density housing will be in this age cohort, the range of activities they are likely to undertake in and around their dwellings means that they are not likely to demand smaller dwellings. It is well documented that the average size of new dwellings in Australia is increasing. While some of this is a response to materialism and the desire to demonstrate that one has been successful, other more pragmatic requirements dictate dwelling size. For example, ABS statistics reveal that a high proportion of older people now have full-time care of a child during the working week. This responsibility is not confined to the “young” old, and as housing prices rise, and both parents must work to pay a mortgage, this trend is likely to continue. Therefore, medium-density housing must be designed to accommodate children on a more permanent basis than might have originally been envisaged.
5.2 Population trends affecting housing choice

A number of demographic statistics and trends are relevant to social issues related to the production of medium-density housing in Australia. This section presents major trends include changing household and family structures, declining household and family sizes, increasing numbers of people living alone – including young people and older people – and the ageing of the Australian population. Data related to dwelling types, home ownership, and affordability are also relevant and are presented below.

Other lifestyle factors to be considered include marriage and divorce patterns, working from home, the “not-so-empty nest” and cultural considerations.

5.2.1 Changing household structures and family sizes

Figure 5 below represents the types of families that made up households in Australian capital cities\(^2\) in 2001. Couples with children still make up the greatest proportion of Australian families (between 40 percent and 51 percent). However, evidence in each city also suggests the prominence of the childless couple, a group that includes couples who have children later in life or not at all, as well as couples whose children have moved out of home.

This pattern is particularly marked in Adelaide, where the percentage of childless couples is close to the percentage of couples who have children. The percentage of lone-parent families is greater than that of lone-person households. However, the proportion of lone-person households is more than double the percentage of group households.

![Family Structure 2001](chart)

**Figure 5:** Family Structures in Selected Australian cities, 2001

Source: ABS, 2001

These statistics indicate moves towards smaller families and therefore smaller households, a trend supported by the following graphs and tables.

\(^2\) Capital cities referred to in this section are for metropolitan areas, rather than the central area or the City of Adelaide, Melbourne, etc.
Figure 6 demonstrates that couples in Australia with children are decreasing (particularly sharply between 1996 and 2001), while divorced people, lone parent families and people living alone are increasing. These increases are also reflected in Figure 7, which shows that the average Australian household size decreased from over 3.0 to a little over 2.5 members between 1971 and 2001.

Figure 6: Changing nature of Australian households over ten years, Australia
Source: ABS, 2001

Figure 7: Average Household Size over Ten Years, Australia, 1971-2001
Source: ABS, 2001
5.2.2 Living alone

The figures 8 and 9 demonstrate the increased numbers of people living alone. Among others, this population includes people aged 20-29 and people over 75. Figure 8 represents the declining percentage of young people (20 - 29 years) living in the family home. Over the past three decades, increasing numbers of young people have moved out of the family home and into dwellings by themselves, indicating a growth opportunity for smaller rental properties, as these are the preferred living option for young people living alone.

![Changing Living Arrangements for Young People](image)

**Figure 8:** Changing living arrangements for young people, Australia, 1971-2001

Source: ABS, 2001

![Older People Living Alone 2001](image)

**Figure 9:** Older people living alone, Australia, 2001

Source: ABS, 2001

Figure 9 shows the high percentage proportion of people 75 and older who choose to live alone (over 35 percent). This figure also shows significant gender distribution patterns. Over 45 percent of all women 75 and older and just fewer than 20 percent of all men in the same age group live alone. These statistics are clearly relevant to the provision of medium-density housing.
5.2.3 Ageing of the Australian population

The ageing of the Australian (and global) population is currently discussed across a range of sectors. Further, it will continue to be an important topic into the future as Australians recognize the physical and social needs of the changing cohort. Figure 10 below shows the projected demographic shift over half a century, as “baby boomers” make their way from 35 to 85 and older. This trend has important implications for housing – and particularly for medium-density housing, which are discussed further in this report (see Section 7.1.2).

![Figure 10: Age structure of the projected population, Australia, 1999 and 2001](image)

Source: ABS, Population Projections, Australia, 1999 to 2101 (ABS Cat. no. 3222.0)

5.2.4 Residential dwelling types

![Figure 11: Residential dwelling types in selected cities, Australia, 2001](image)

Source: ABS, 2001
In terms of the types of dwellings where Australians live, Figure 11 clearly demonstrates the continued popularity of detached housing. The notable difference occurs in Sydney, where high property prices encourage more people to live in units, flats and apartments. Townhouses are less popular than units in every city except Adelaide, a pattern that reflects both affordability and housing development profiles in Adelaide. These data also have implications for the provision of higher density housing in Adelaide.

5.2.5 Home ownership and affordability

Australians prefer home ownership to renting. Over a decade, this pattern has remained consistent in the four capital cities represented (Table 1), with 70 percent of residents owning or purchasing their homes and 30 percent renting. A small percentage decrease in owned dwellings in Brisbane, Sydney and Melbourne can, in part, be explained by the data presented in Table 2: for many people it is simply more cost-effective to rent. The South Australian housing market is most affordable in terms of both owning and renting. This affordability is likely a contributor to the percentage of home ownership in Adelaide, which is slightly higher than in Sydney and Brisbane.

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<tbody>
<tr>
<td></td>
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<td>Rented</td>
<td>Fully Owned/Being Purchased</td>
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<td></td>
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<td>283 161</td>
<td>799 393</td>
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<td>22.80%</td>
<td>70.30%</td>
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<td></td>
<td>901 770</td>
<td>416 463</td>
<td>847 129</td>
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<tr>
<td></td>
<td>62%</td>
<td>29.00%</td>
<td>63.80%</td>
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<tr>
<td>Brisbane</td>
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<tr>
<td></td>
<td>388 322</td>
<td>180 464</td>
<td>352 243</td>
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<tr>
<td></td>
<td>64.60%</td>
<td>30%</td>
<td>65.70%</td>
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</table>

Table 1: Trends in owning and renting in Australian capital cities 1991–2001

Source: ABS, 2001
Table 2: Median cost of housing 2001

<table>
<thead>
<tr>
<th></th>
<th>Median Monthly Home Loan Repayments</th>
<th>Median Monthly Rental Repayments</th>
<th>Median Weekly Rental Payments</th>
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<tr>
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<td>$667.33</td>
<td>$154.00</td>
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<td>New South Wales</td>
<td>$1,049.00</td>
<td>$767.00</td>
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<td>Queensland</td>
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<td>Victoria</td>
<td>$850.00</td>
<td>$671.67</td>
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<tr>
<td>South Australia</td>
<td>$650.00</td>
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</tbody>
</table>

5.3 Housing market influences

Recent reports that the Australian housing market (in particular the market for inner city units) has continued its slump from July 2003, with Sydney recording the worst auction clearance rates in a decade, have caused market analysts to declare that boom conditions are over. In Melbourne, analysts are concerned about the continued drop in investor interest for inner city apartments and in Brisbane the Real Estate Institute of Queensland (REIQ) released figures showing a two percent fall in housing sales, predominantly medium- and high-density, for the March, 2004 quarter.

If statistical evidence proves correct and the buoyant market conditions of the past four years are indeed over, there is real potential that a glut of poor-quality medium- and high-density housing will become less and less attractive to investors who are still able to access funds. Being the major players in inner city unit purchases, investors’ inability to access the market may intensify the pre-existing perception that there is an oversupply of medium-density housing.

The possible inflationary effect of tax cuts and additional family payments, as promised by the Federal Government in the latest budget, may well cause interest rates in Australia to rise and the affordability of housing purchase to decrease. This is exacerbated by increased interest rates in the USA and the decreasing value of the Australian dollar. In NSW, the introduction of new property taxes, at 2.25 per cent of sale value, provide even more disincentive for investment in a market where sellers are becoming increasingly concerned over the length of time properties remain on the market and the loss in value experienced over the past few months.

In general, the Australian population identifies that important elements of traditional housing are outdoor open space, nearby facilities and services, interior space and the ability of the dwelling to adapt to suit changing households needs. This means that medium-density housing is not necessarily *de facto* a good product without the inclusion of some essential
ingredients. These include appropriate location, adequate on-site facilities and shared and private open space and aesthetically pleasing and integrating design that complement the existing community. Without provision of these features, medium-density housing provides little incentive for investment, especially in a market where access to funds is difficult, repayment rates are high and the price of housing stock is falling. Thus, this housing form becomes the first to suffer in these unfavourable conditions.

The bust in the housing market creates real concern for the provision of amenity, especially where isolated medium-density housing relies on future developments in the surrounding area for its supply. There is a danger that residents of these forms of development will remain isolated as building works deemed unnecessary or unprofitable grind to a halt in response to unfavourable market conditions. As the market cools, it will become increasingly important to locate new housing in appropriate locations, with access to necessary facilities, services and transport not reliant upon the possibility of future development.

The perceived over-supply of medium-density housing in areas such as Docklands in Sydney, a city where newspapers have lauded their “mastering the art of medium- and high-density inner city living”, will require an analysis that seeks to understand why the imbalance exists and how these conditions can be avoided in the future.

In a market where conditions for investment in new housing forms are not favourable, brought about by poor-quality examples and a cooling market, it will become increasingly important that developers provide medium- and high-density housing that identifies the needs of residents and provides them with a package that addresses the range of residents’ individual and communal housing requirements.

5.4 Affordability

The present downturn in the housing market is experienced most significantly in higher densities, where a history of poor-quality design and construction has created a perception that this form of investment is not as “safe” an investment as more traditional forms of housing.

The affordability of medium-density housing and the perceived cost-benefits to investors have enormous bearing on the present market situation experienced in Australia. Well executed, this form of housing costs less than lower density models and can provide social outcomes that are positive for residents and neighbours alike.

Understanding the needs of lower income individuals and households and marrying this with good design and location and provision of adequate on-site “sweeteners” can create real opportunities for the positive integration of medium-density housing. Further, there are opportunities to market medium-density housing based on its ability to support the needs of lower income people.

Many lower income people find the cost of maintenance of a garden prohibitive and appreciate the lower levels of maintenance associated with small units. Medium-density housing also permits community gardening in shared space where people can save money on food costs without the additional cost or responsibility of a private back yard.

Low-income people greatly value shared spaces because they frequently cannot afford holidays and therefore open space near home is particularly
important. Many low-income people are single and some have lived in Single Room Occupancy (SRO) situations and are quite happy with a small dwelling and the protection of their privacy.

Many low-income households are female-headed and the natural surveillance and child-supervision opportunities are important to them. Single-parent families, who are often low-income, also value a catchment of peers nearby for their children to play with.

Many older people have low incomes and many low-income people are elderly. Medium-density housing is particularly appropriate for older people if their specific needs are addressed through incorporating Universal Design principles. Many low-income people have a disability and medium-density housing provides opportunities for caregivers to live nearby so that independence can be fostered and appropriate care provided, while the resident still has an individual dwelling and a sense of autonomy.

It should also be noted that if medium-density housing were more accepted and there was less community resistance, there would probably be less resistance, as well, to a tenure mix that incorporated a predetermined proportion of dwellings for social and public housing.

The South Australian Housing Trust has an admirable record of producing medium-density housing since the 1970’s. There exist real opportunities for medium- and high-density housing to adapt to the needs of residents and provide real incentive not only for investment, but also for relocation from more traditional forms of housing. However, this will require dedication to understanding both the specific housing needs of people and social groups and commitment to providing quality examples of this housing form.
6.0 Identifying leading practice in and higher medium-density housing

We are conscious that most of the examples of housing in this report do not represent leading practice. This did not result from our desire to provide a scathing critique of current medium-density housing, but rather that there were few examples of a sophisticated response to the challenges of this housing form, despite the protestations of designers and developers and the numerous awards received by several projects found to be deficient according to social planning and design criteria.

6.1 Summary of leading practice elements

Of all the projects visited, only one stands out as having a site plan that met most of the requirements in the social design literature: SY21 by Mirvac in South Yarra, Melbourne. We were not able to visit the interiors of any units however, and are unable to assess them, although some other Mirvac Units that were visited did not live up to expectations from a social planning perspective.

Learning from poor examples, however, yields a wealth of advice about the elements of leading practice, as almost every development had one or more positive features that could be applauded. For example, a development in Sydney that handled dwelling access very poorly provided good privacy to back yards. A high-rise building in Melbourne, which completely ignored resident needs in the design and furnishing of the central foyer and the shared open space contained brilliant innovations in dwelling design, including innovative bicycle storage off a balcony and excellent location of a bathroom to provide for supervising parents.

Cluster housing in Brisbane which had major acoustic transmission problems between the shared open space and dwellings and between dwellings themselves, nevertheless handled the separation of shared and private space with great skill. While the second stage of the Oakden development in Northfield in Adelaide paid virtually no attention to interface issues with the neighbouring Housing Trust development, these issues were handled with great skill in Stage 1 and the early provision of the Lakeside Café (with its range of services) is an innovation rarely achieved in new housing developments. In Newington, Sydney, community and commercial facilities appear to be inadequate for the needs of the local community but the attention to sustainability principles in the planning of the housing is commendable.

The social elements of leading-practice housing at medium density applicable to the Adelaide context include the following:

1. Location in a setting that provides a “sweetener” to offset the disadvantages of a smaller unit and smaller yard.

2. Clear connections to the neighbouring community and facilities and services, especially high-quality public transport.

Figure 12: Lakeside Café, Oakden, Northfield, 2004

Image 13: Lakeside Café, Oakden

3 The artful retrofit of the Waratah Mills in Dulwich Hill, Sydney, is an example of a successful redevelopment project but the site planning was largely determined by the location buildings already on the site.
3. An image and building form which is appropriate to the character of the neighbourhood and does not appear bulky or overwhelming with respect to neighbouring buildings and structures.

4. Universal Design principles applied throughout, to achieve more than merely “visitability” and accommodate the predictable life-cycle processes of illness, accident, ageing, frailty and associated caregiver requirements.

5. Opportunities to express a sense of individuality and personalisation to make the dwelling “look and feel like home”, at street level or in a corridor of a high-rise building.

6. Mechanisms that protect the safety and security of the residents and the development.

7. Housing forms which acknowledge ethnic diversity and changes in the life cycle and which maximise opportunities for adaptability.

8. Clear messages communicated about private, shared and public space, with appropriate territorial buffers between each level of the hierarchy.

9. Pedestrian circulation systems that foster informal social encounters near home, support incidental physical activity, while protecting the privacy of individual dwellings.

10. Sensitive arrangements for resident and visitor parking which do not dominate the site or create other problems (such as inaccessible dwellings).

11. Provision of on-site recreation facilities for adults and children, bearing in mind that young children cannot be expected to play unsupervised in an of-site neighbourhood park.

12. Location and design of recreational facilities and shared open space so that their use does not intrude on the privacy of neighbouring dwellings.

13. Applicability of sustainability principles to support residents caring for the Earth, e.g., generous provision for outdoor drying, undercover or indoor clothes drying space, natural ventilation, rooms able to be isolated for heating, on-site compost and recycling provisions, use of water sensitive urban design (WSUD) principles in landscaping, plumbing fixtures that promote water conservation and grassed areas for car washing, etc.

14. Interior design of units that supports predictable behaviours, promotes socialising, ensures ease of maintenance and allows for personalisation and display.

A leading-practice approach to medium-density housing by the LMC will require a conscientious assessment of the weaknesses of the current provision of housing in this form across Australia and in the Adelaide context. This brief review has identified a number of persistent problems and weaknesses that continue to be replicated in Australian developments despite a large body of local and international research that has highlighted these problems and suggested amelioration measures.
The most persistent problems are: ignorance of needs of older people and specific housing requirements; lack of attention to Universal Access and understanding of the necessity for “visitability” (the need for people to be able to visit dwellings without access impediments); poor provision or no provision of children’s play areas within development sites; lack of attention to the territorial distinctions between private open space and the shared open space which is under the control of a group of individual households; and lack of attention to issues of image, built form, and suitability to the neighbourhood context.

Addressing these issues will inevitably contribute to greater resident satisfaction and ensure that housing products will be able to be marketed without the levels of resistance that have been experienced in the past.

6.2 Innovations: alternative housing models

This section discusses three “alternative housing models” which actually represent concerted attempts to address social and ecological challenges presented by housing developments today. The three models discussed here are cohousing, ecovillages and community housing.

6.2.1 Cohousing

Cohousing co-operatives originated three decades ago in Denmark as an opportunity to create community through housing design. Cohousing has been hugely successful, with developments throughout Scandinavia, Holland, the United Kingdom, and North America, and more recently in Australia. In Denmark, ten percent of all new development is designed on the cohousing model. The term cohousing can refer to separate houses or to apartment buildings located around a shared area of common space, or a common house or building. The privacy of individual houses or apartments is not compromised, yet the design of the development promotes the use of the shared area to encourage a sense of community and security.

Living in cohousing is beneficial for a wide range of people, particularly families with young children and people with mobility impairments, as they create a social network on one’s doorstep. A common or shared area of open space, such as a community garden, can be shared by children, promoting interaction between children and for potentially housebound parents, and opportunities for social networking and support. The development can be designed with Universal Access in mind and made accessible, as well as for part-time and permanent carers for the older people or people with a disability.

Another positive aspect of the cohousing practice is the emphasis often placed on making co-operatives ecologically sustainable, optimising the efficiency of water and energy use and encouraging community recycling initiatives. This often leads to the tag ‘eco-city’ or eco-villages’ associated with cohousing. As well as addressing issues of ecological and social responsibility, in urban areas, cohousing attends to matters associated with medium- and high-density housing development and inner suburban infill to combat problems associated with the expansion of suburban sprawl.

The cohousing phenomenon has been gaining popularity in Australia in recent years, with developments occurring in Tasmania, Victoria, Western Australia and South Australia and the discussion and planning of cohousing co-operatives in Queensland and the ACT. Most Australian
initiatives place importance on the ecological aspects of community living, as well as the social features and cohousing developments occur both in the inner city and outer suburban areas. Typifying inner city developments has been Christie Walk in Adelaide, and Westwyck in Melbourne, with the model of the Urban Ecology Halifax Ecocity project serving as an example of excellent design and community involvement. The Aldinga Arts Eco Village in South Australia and South Beach Village and Pinakarri Community (both near Fremantle in Western Australia) serve as examples of innovative, ecologically sustainable communities supporting strong social interaction. There is clearly an emerging market for this housing form. The opportunities for social and ecological benefits from cohousing in Australia are limited only by community and industry enthusiasm and involvement.

There are many opportunities for the LMC to incorporate cohousing principles in medium-density developments. For example, a small gesture toward resident participation could be to leave the final decisions about community facilities in a large development up to the decision-making processes of residents using a “co-production” model whereby residents have control of the budget allocation for the furnishing and fitting out of interior spaces and the landscaping of exterior spaces.

More complete cohousing models could also be sponsored by the LMC, bearing in mind the wide research literature on this housing form. Some basic principles include: providing opportunities for socialising while still respecting individual privacy; designing kitchens for amateur cooks (who may take more space); providing thoughtful pedestrian circulation routes to allow for both socialising and privacy in appropriate areas; and the provision of a common house in a central and accessible location, designed for flexibility to accommodate a range of uses at different times (e.g., communal dinners, community activities, a teen space, children’s activities, informal meetings, etc.).

An innovation popular in Scandinavian cohousing is “Exchange-a-Room”, where two dwellings share an extra bedroom which is accessible from each dwelling and can be used by guests by arrangement.

The wide body of evaluative literature on cohousing can provide useful guidelines on the critical issues of maintaining privacy and supporting sociability, particularly for older people.

6.2.2 Eco-villages

Eco-villages are a response to the need for sustainability in human habitation and reversal of social disintegration of community structures (GEN 2004). An eco-village is described as:

“a human scale, full featured settlement in which human activities are harmlessly integrated into the natural environment in a way that is supportive of healthy human development and can be successfully continued into the indefinite future.”

The main principle of eco-villages is that they are a place to live that is “in harmony with nature” (Sound Images, 1998). This is gained through upholding ecological, cultural-spiritual and social economic dimensions. Practices to achieve this include ecological design, Permaculture, ecological building, green production, alternative energy, community building practices, etc. (GEN, 2004). Eco-villages try to emulate sensible
traditional knowledge and lifestyles with new technologies to allow them to live sustainably on the Earth (Shore, 2003).

Eco-village development follows a set of ‘Best Development Practices’ that include:

- participatory village-based development;
- a critical mass for sustainable development (villages linking with other villages to form “resource access units” of 35 000 to 50 000 people);
- access to resources (human, information, physical, technical, energy and financial);
- a bottom-up approach;
- emphasising local values;
- inclusiveness;
- self-reliance and entrepreneurial spirit;
- basic mutual agreements;
- a systems approach;
- a holistic, multi-sector approach;
- sustainability;
- appropriate technology;
- networking; and
- monitoring and evaluation (CSBVD, n.d.: 6-11).

These approaches can, it is argued, contribute to a more socially inclusive and environmentally benign development.

There are numerous examples of ecovillage developments internationally, including 13,000 eco-villages in Sri Lanka pioneered by the Sarvodaya Movement, Los Angeles Ecovillage development, and Findhorn in Scotland. Examples of ecovillage developments in Australia are included in Appendix I.

**Christie Walk**

Christie Walk is an Ecocity development in Adelaide in the south-west corner of the City of Adelaide near Whitmore Square. The goal is to create a liveable, affordable and environmentally benign urban community that provides a practical prototype for the ecological development of cities. The project consists of 14 dwellings, including four linked three-storey town houses with full solar orientation, a three-storey block of six apartments with east-west orientation, four freestanding cottages and a community house. The social form is a co-operative structure for a group of clients represented by a development co-operative, Wirranendi Inc.

Residents include first home buyers, investment purchasers, experienced homeowners and older people. The development is on a T-shaped site the size of two quarter-acre blocks and house prices range from $150 000 to $400 000. Each purchaser owns their own dwelling but also shares ownership of and responsibility for the landscaped community areas, including a community garden, a community house with a kitchen, a small general-purpose hall and a laundry.
The non-profit structure of the co-operative is designed to keep house prices comparable to conventional inner city properties in Adelaide.

6.2.3 Co-operative and community housing

South Australia has had a long and distinguished history with cooperative housing, which is currently managed by the South Australian Community Housing Authority (SACHA). SACHA is a government agency under the Department of Human Services, established in 1991. Members include representatives of housing cooperatives and housing associations. SACHA's functions include regulation and funding community housing sector housing.

SACHA seeks to promote community housing as a distinct social housing product. Community housing organisations are established as either housing cooperatives or community housing associations. Housing cooperatives are democratic, member-run, and they acquire, manage and maintain housing for the benefit of its members. Housing associations aim at disadvantaged groups (income, social circumstances, physical or intellectual disability). They often have an associated sponsor organisation.

Community housing organisations provide housing for low-income people and families. Special needs groups are housed by Community Housing organisations (older people, domestic violence victims, linguistically disadvantaged people, etc.). SACHA funds the Community Housing Council of SA as the peak representative body to provide advocacy and are involved in policy development to the community-housing sector in South Australia.
7.0 Social issues

The following section represents the core of the information gathered in this research study. It addresses, at various scales, the critical social considerations that need to be taken into account in producing high-quality medium-density housing. Bearing in mind the leading-practice principles discussed above in Section 6.0, this section provides examples from existing practice which, unfortunately, are often examples where the objective has not been achieved. While this study did not set out to undertake a critique of the current provision of medium-density housing, the information provided below reveals that there are still significant weaknesses in the available models in Australia.

This section is organised around four key areas: first, the specific population groups which medium-density housing must accommodate in order to be universally accessible and appropriate are presented; second is a discussion on site selection; third, specific issues relating to site planning are canvassed; and fourth, elements of building design are presented. Thus, the section is organised to drill down from a broad perspective to quite specific detailed considerations. The level of detail is sometimes appropriate, as small, detailed problems with dwelling design can sometimes pose major problems for residents.

7.1 Accommodating a diverse range of households

Today, the OECD advocates a “people and places” policy approach which is social, humanistic and people-centered and generates policy that is place-related, multi-sectoral and outcome oriented. This type of policy tends to focus on specific needs of, for example, older people, people with a disability, young people, etc. This is in contrast to the more “functionalistic” approach which organises policy around activities (transport, leisure, housing, etc.) (OECD, 2003:17).

7.1.1 Households with children

Outdoors

The expert workshops and site visits revealed virtually no acknowledgement of the needs of children, both in dwelling design and in the design of open spaces. With respect to shared space of cluster housing developments, a wide body of research summarised in Cooper Marcus and Sarkissian (1986) and subsequent publications identifies the particular requirements of children and adults in the residential environment. While higher density housing can provide great opportunities for children in terms of safe play areas, a catchment of peers to play with and surveillance by adults, these benefits are rarely achieved in current Australian medium-density housing models. More often, what could be a play space has been planted to reduce the noise problems of children playing or has been paved and given over entirely to cars, with the odd brave child venturing to share the space with vehicles.

Children under the age of five need places for a range of play opportunities, accommodating different types of play. Because the child’s world is largely based on the home environment and for the very young child the majority of experiences are centered on the home and adult caregivers, a supportive physical environment can enhance a child’s conceptual development. Outdoor spaces need to be planned with children’s play in mind and the predictable activities at the various stages of childhood identified and catered for. Housing as if People Mattered contains two chapters on

Figure 14: The only grassed space in a large new Sydney development
designing medium-density housing for children. Specific guidelines are included in that book and in subsequent reports (see Sarkissian et al., 2002 and Sarkissian and Shore, 2003).

The key considerations in designing housing to fit the needs of children are well documented in numerous publications, including Cooper Marcus and Sarkissian (1986)

**Indoors**

Research on children’s housing needs repeated emphasises problems with space shortage: children are nagged, required to pick up in small spaces, and unable to work cumulatively on the same activity where space is constrained. Recommended spatial arrangements include: avoidance of formality, especially with regard to common interior space; attention to the relationships between spaces (e.g., the need for a direct connection between living room and kitchen space); storage issues; bedroom design, size and shape to support predictable activities; and bathrooms designed to support communal bathing as the bathroom is a place where children congregate. A wide range of advisory documents is available which provide guidelines on these matters (see Sarkissian and Kerr, 2003).

**Figure 16: Furnishability of Children’s Balconies**

**7.1.2 Older people**

Older people spend a great deal of time in the home and therefore are particularly sensitive to the problems that higher density housing can create if it is not sensitively designed. A major concern is the need for a smooth transition to avoid the trauma of moving. Among the features which support this transition are: a homelike image with an individual entry to each unit, a clear transition from public to semi-public (or shared) to private zones; warm colours, ‘homely’ finishes and domestic scale; adequate opportunities to display and/or store prized possessions; and furnishability options (see Figure 17).
While it is clear that current requirements of older people emphasise their independence and hybrid work/retirement arrangements, the realities of ageing need to be taken seriously in housing design. Virtually none of the projects visited incorporated design features that positively support ageing and disability, although the physiological and psychological characteristics of the ageing population are widely known and well-documented (Sarkissian and Forsyth, 1986; OECD, 2003:17).

The Australian developments visited had dark kitchens with poor task lighting, poor transitions from dark entryways to bright glary courtyards (Figure 18), convoluted carparking arrangements and site plans that made orientation and wayfinding difficult (with no landmarks). Virtually all entries in cluster developments were inaccessible to a person with a mobility impairment and many had as many as seven steps to dwelling entries (OECD, 2003:17). Predictable behavioural patterns were not accommodated in the arrangement of rooms and privacy was compromised in balconies, terraces and yards. There appeared to be virtually no attention to social design literature on designing for older people.

Older people's needs in outdoor spaces were virtually ignored, with little or no comfortable seating options, few choices of walking circuits, little opportunity to be part of the wider social world without being “on display” and few opportunities to contribute to the landscaping unless the resident was in a ground-floor unit.

These findings are disappointing, as research in New South Wales indicates that a very high proportion of older people surveyed (91 percent) were very satisfied or satisfied living in multi-unit housing. The benefits included: lower maintenance, lower running costs, generally lower purchase costs than detached housing, convenience and security (NSW Department of Urban Affairs and Planning, 1998:1).

Figure 17: Furnishability

Figure 18: Open courtyard that is very glary, Brisbane, 2000
A recent BIS Shrapnel study, which claimed that empty nesters want higher density housing, focused on the needs of accommodating larger than expected households because children may continue to live there or visit (Huffer, 2004:83). A “surge of demand” is expected by 2008.

A Canadian study emphasised the need to accommodate blended households of parent-child families, two or more older people living independently, or caregivers living in the home or visiting regularly (Taylor, 1998:13).

The well-documented preference of older people to “age in place” means that housing will need to be adaptable as residents become frailer. This also has implications for the mix of tenures and housing types within a neighbourhood to allow older people to move to a more appropriate dwelling nearby without shattering their social networks. Canadian research confirms that people moving to new dwellings want them to be close to their former residence. Many older people own their own home outright, but it is too large, requiring too much maintenance and there are no alternatives in their local community (ABS, 1999:88). Most older people (76 percent in Canada) move less than 50 kms, usually to smaller homes, closer to other family members (Taylor, 1998:13).

For a range of guidelines on this topic, see the references.

7.1.3 People with a disability

One of the most disturbing findings of this research is the almost complete lack of regard for access by people with a disability in all aspects of the planning and design of medium-density housing developments. While Australian legislation addressing disability has been in effect since March 1993 and Australian and New Zealand standards now exist for many aspects of the built environment, these considerations are still not mandated by the BCA for Class 2 Buildings (see Australian Standards AS1428.1-2001, AS1428.2-1992, AS1428.3-1992, AS/NZS1428.4:2002).

As noted above, while until recently people with a disability rarely enjoyed a similar life expectancy to their able-bodied peers, advances in medicine, rehabilitation and quality of life have translated into increased life expectancy for most of the population, even for those with a significant disability.

Because of the problems associated with putting parking underground in large developments, the ground-floor level in many developments is raised well above street level. Some large lifted blocks in Melbourne were completely inaccessible from any entry and many clustered housing developments had awkward back-door entry arrangements that could be considered accessible.

The solution to these problems lies in a more vigorous application of the principles of Universal Design – a worldwide movement that envisages that all products, environments and communications be designed to consider the needs of the widest possible array of users (see Vanderheiden, 1990). While there are certainly costs associated with making buildings and open spaces accessible, the costs of not incorporating principles of Universal Design may put the suitability of medium-density housing at risk. These costs include: unsuitability for certain user groups, the potential to trigger social exclusion, later requirements for expensive retrofitting and adaptation, potential risk and hazard and discouraging the independence and sociability of some residents. As the OECD noted, “Bad design turns
The requirements for people with a disability are incorporated in the South Australian Government’s *Good Residential Design SA* (GRDSA) Package, prepared by PlanningSA (see PlanningSA, 1997). A fact sheet promoting the *Housing for Life* concept emphasises the importance of housing design that provides freedom of access and movement for everyone. This initiative aims to remove the barriers encountered daily by people with a disability and many other members of the community by promoting the concept of “visitability”. This means that dwellings need to be able to be visited by everyone as well as being adaptable to suit the needs of a resident with a disability.

Among the many accessibility issues identified in this research were narrow path widths and turning circles, steep path slopes, awkward and dangerous paving and walking surfaces, poor lighting, legibility, shade and rest areas and inattention to the requirements for designing for children with a disability. For detailed guidelines on these issues see Sarkissian and Stenberg, 2003c (see also www.planning.sa.gov.au/gooddesign, accessed 020504).

### 7.1.4 Cultural difference

Medium-density housing in Australia has been slow to respond to the needs of our increasingly diverse population, despite the expanding popular discourse on multiculturalism. This topic was rarely raised during the expert workshops and none of the housing visited appeared to take into account basic principles of housing design that persist across cultures. Anecdotal evidence from Sydney, however, suggests that Asian investors and owner-occupiers are increasingly requiring designers to accommodate *Feng Shui* principles and some high-rise housing now has kitchens located near balconies to accommodate cooking patterns that commonly include outdoor barbequing.

Australian research on multicultural housing revealed that “good housing” communicates warmth, solidity and comfort, with “frontstage” and “backstage” zones to permit and support predictable household activities, especially in traditional households. Among the important requirements were: clear porch, entry, threshold and hallway definitions; sociable cooking and eating arrangements; opportunities for communal food preparation; clear differentiation between front and back yards in terms of privacy and fencing; back yards and/or terraces appropriately oriented and large enough to accommodate a significant amount of food gardening (Social Planning Consortium, 1985).

The “threshold of anxiety” between the private domain of the dwelling and its yard and the public street was seen as a much more important psychological issue for some cultures than for Australians of Anglo-Celtic heritage, as shown in the illustration (Rapoport, 1969).
Appropriate for all cultures is a space that can be used as an altar, to display sacred objects or memorabilia, such as this one in Figure 19 (see Social Planning Consortium, 1985).

A recent Canadian study examining housing in multicultural neighbourhoods focused on the need for close social ties and networks of support provided by extended family, clubs and places of workshop, especially for first-generation migrants. It described both “good” and “bad” ethnic segregation and has implications for the provision of a wide range of housing options in culturally diverse neighbourhoods to ensure that different cultural groups can continue to be supported by their networks.

For further details, see Sarkissian and Stenberg, 2003f and Social Planning Consortium, 1985).

7.1.5 Student housing

Several examples of student housing at higher densities were discussed in the expert workshops and one excellent recent example was visited at the University of Sydney (Sydney University Village, Camperdown) (See Figure 21)

For further details, see Sarkissian and Stenberg, 2003f and Social Planning Consortium, 1985).
Student housing is a rapidly expanding market in Australia, catering for the needs of international as well as local students. While space is not at such a premium for students as it may be for some other households, acoustic privacy, storage, support for predictable activities and communal facilities are highly valued. A range of unit sizes and arrangements is also ideal, as some dwellings can accommodate up to five students while others will have only one occupant. As women make up about half the student population of many universities, gender issues must be taken into account, especially with respect to safety and crime prevention.

An award-winning example of medium-density student housing is Sydney University Village, a purpose-built housing complex consisting of 360 apartment-style units in a self-contained village. Located immediately adjacent to the University of Sydney’s Camperdown Campus, the Village has self-contained studio apartments and single bedroom units with a shared bath in a five-bedroom suite that includes a shared full kitchen and living room. There is a compulsory “food plan” for residents costing approximately $40 per week during the entire semester.

A brief assessment of the housing revealed that students’ social needs appeared to be very well catered for, natural surveillance opportunities were provided by the location of the resource centre next to a student lounge with good views of the interior street.

A large grassed area surrounded by dwellings is highly suited to informal ball games and other recreational activities.

![Image of Sydney University Village](image)

*Figure 22: Appropriate recreation space, Sydney University Village, 2004*

Camperdown is, however, a very high-crime area and the University Security Service reports that the lack of target hardening of the dwellings and inadequate attention to protection against burglary mean that this site has been the subject of persistent residential burglaries which could have been avoided had CPTED (Crime Prevention through Environmental Design) principles been taken into account.

### 7.1.6 Homeworkers

With the exception of some “commercial units” in a housing development under construction in Five Dock in Sydney, we found little evidence that the needs of homeworkers were being taken into account in any significant way in this study. As noted above, older workers nearing or moving into retirement are likely to become homeworkers, with a range of arrangements that can vary from being a full-time home-based worker, a home-based business operator, an independent contractor working from home, a moonlighter, an occasional homeworker, a part-time home-based
worker, a self-employed consultant working from home, a tele-worker or tele-commuter, or any combination of the above.

The minimalist provision of one small room in a dwelling for the homeworker does not reflect the requirements of the variety of homework arrangements in the research literature (see Gurstein 2001; Ahrentzen, 1992). ABS Statistics for June 2000 show that a total of 980,200 people were working at home in Australia. While most probably have a dedicated workspace, two-thirds of respondents in an American study conducted nearly two decades ago reported using other areas of the home to do work: the dining or living room, the family room, the study or the kitchen (Antonoff, 1985).

The most common groups of Australians working from home were professionals, managers and administrators, advanced clerical and service workers, associate professionals, tradespersons and related workers, and intermediate clerical sales and service workers (ABS, 2000). Gender issues feature in American and Canadian household requirements to accommodate homeworking, particularly with respect to locating housing in compact neighbourhoods which encourage use of local facilities and encourage the expansion of women’s activities (Gurstein, 2001:128).

An important implication for the design of medium-density housing is the need for the homeworker to escape from the computer or other work situations, including the need to separate the “refuge” from the work space (Thompson, 2002).

While specific requirements for homeworking are rapidly changing with technological advances, they currently include numerous telephone lines, power points, computer plugs and Internet or broadband cabling or home wireless technology, as well as space for office equipment in a location that will minimise risk from toxic fumes or electromagnetic radiation.

A new generation of inexpensive wireless technology means that a home wireless kit is now available for approximately $500, while home cable networks can cost more than $2000. As it is cheaper to install this facility at the time of construction, at least one developer is now offering packages in Sydney housing projects.

For further information see Sarkissian and Stenberg, 2003e; Ahrentzen, 1992; and Gurstein, 2001.

7.2 Site selection

The wide discourse on urban consolidation, automobile dependence in cities and housing density highlights the critical importance of site selection for medium-density housing developments. Wide community resistance to comprehensive consolidation policies has reinforced accepted wisdom that higher density housing must be located where the disbenefits of tighter spaces are compensated by significant and apparent locational advantages. This requirement applies both to the residents of medium-density housing and to the neighbourhoods which ultimately must accommodate this housing form. Our research revealed that some sites which have been developed for medium-density housing in Australia do not meet the criteria of accessibility and convenience to facilities and services.

A protracted search for a photographic shop and a post office in the vicinity of the Newington development in Sydney in early May 2004 revealed that neither facility was within walking distance of this new housing development located on a relatively isolated but large near the 2000 Olympic Games site. The minimal commercial facilities available at Newington and the poorly designed and poorly furnished landscaped
spaces suggest that greater attention to social planning considerations was probably required. Because of the previously buoyant housing market in Sydney, the units at Newington have sold successfully. However, in the softer market conditions currently experienced in all Australian cities, the “sweetener” of locational advantage must be considered in site selection for medium-density housing.

In the Adelaide context, a location close to reliable public transport, a range of community and commercial services and facilities, appropriate recreation spaces and facilities and an environment perceived to be safe, are requirements necessary to overcome perceived disadvantages of higher density. These factors were emphasised repeatedly by participants in the expert workshops.

The Women in Adelaide study (2000), which focused on gender issues in the City of Adelaide, and reviewed international literature, revealed that women and girls’ territorial mobility is likely to be constrained in environments which are seen as unsafe. Some suburban locations where there is likely to be little pedestrian traffic during the day may be less safe for women than more centralised locations with a mix of employment and housing, where natural surveillance from buildings is augmented by natural surveillance from passersby. Numerous advisory documents on CPTED and community safety are available to guide site selection from a CPTED perspective (see Sarkissian Associates Planners, 2000 and Sarkissian and La Rocca, 2003).

Integration with the surrounding community also means ensuring that the housing form is appropriate for the host community and that the site is not an isolated island of density within a sea of low density housing or other uses. Careful attention must, however, be paid to ensuring that public routes through the development do not compromise the safety of residents.

Sites must be sympathetic to local character (Burke, 1991). Integrating new developments into an existing community requires careful attention to existing design styles, building sizes and the contextual assessment of the community’s needs in terms of developing a design theme that gives consideration to existing themes and community sentiment for future design.

Traffic management is also a site-selection issue with many implications. A higher density housing development will generate traffic and can lead to parking and congestion problems if traffic management is not carefully considered. Acoustic issues are also important, as co-location of housing and commercial entertainment facilities often leads to complaints by neighbouring residents. For example, in one of the higher density enclaves in the early stages of the False Creek development in Vancouver, a small neighbourhood restaurant and bar had to be closed down because of objections from neighbours in upper storey units to noise reverberating between buildings (See Figure 24).

A new award-winning cluster housing development in Brisbane was found to have high levels of intermittent noise on a weekday afternoon, with sound reverberating between exterior masonry walls from sources within dwellings (a television), on a patio (two people talking) and in the swimming pool in the shared open space (two people). Although the dwellings appear to be sufficiently far apart to protect acoustic privacy, noise nevertheless was a potential problem when virtually nobody appeared to be at home.

While small sites are sometimes easier to manage politically in terms of approval processes, they often offer little for the residents except their individual dwelling and contribute nothing to the wider community. In contrast, a large site permits the provision of on-site community facilities for residents and, in the case of shared open space (generally for resident-only use), can take the pressure off neighbouring recreation facilities and Figure 23 A route from a public housing estate with high child densities traversed this housing estate for older people, Campbelltown, 1983

Figure 24: A café in this location had to be closed because of neighbours’ complaints, False Creek, Vancouver, 1980
parks. Thus, larger sites can be seen as making a contribution to social infrastructure, rather than placing a burden on it.

Further, more comprehensive developments can actually offer public community facilities, such as a playground, a nature walk, a café or a community centre. The Lakeside Café in Oakden is an excellent example.

7.3 Site planning

The core document for advice on medium-density housing in cluster configurations is the book by Cooper Marcus and Sarkissian (1986). When research for that book was undertaken, it was widely accepted in the expert literature that the main problems with this housing form related more to site planning than to the design of the buildings or their interiors. The book reviewed research studies from Sweden, the United Kingdom, the United States, Australia and New Zealand and reviewed over 100 post-occupancy evaluations. The accepted wisdom was that interior arrangements of dwellings were generally well thought-out and required little modification.

This finding probably no longer holds, as Australian households have become increasingly diverse, and changes in work patterns require dwellings to accommodate hybrid home/work options. Nevertheless, as the client has requested a focus on site-selection and site-planning issues, these issues are addressed below in greater detail than are interior design issues.

7.3.1 Size and scale of development

Within the Adelaide context, there appears to be significant local resistance to large, bulky blocks of units that dominate the skyline, block views and create an image that is inconsistent with the low-density character of the metropolitan area. Residential character is an important consideration. Within the context of local development plans and state planning legislation, it appears that greater attention needs to be given to the visual impact of a higher density housing development on the streetscape and the surrounding neighbourhood. The strong local resistance to the development at Holdfast Shores in Glenelg, supported by the local council, reflects concerns that public open space and a precious view of the water from Anzac Parade should have been protected. Not only is the building out-of-scale with neighbouring developments, it also creates strong wind tunnel problems in the adjacent public spaces.

The intensity of the Council’s reaction is reflected in a media release from the City of Holdfast Bay of 17 February 2004, which read, in part: “The Holdfast Bay Council is very disappointed and angry at the Government’s decision to allow Urban Constructs to build a high-rise apartment complex on public land at the foreshore at Glenelg…. “This is just Round One. There are many more battles to be fought in this war and we have no intention of conceding this public land to the developers. We are resolute, said Mayor Ken Rolland.”

The press release went on to say that 14,000 petition signatures collected in three weeks was a signal to the Rann Government, whose Cabinet decision was made under “a heavy veil of secrecy”. The Council contended that the State Government had failed to hold the developers accountable for failing to deliver on the undertakings given in Stage 1" (www.holdfast.sa.gov.au/holfast_shores_have_your_say.htm).

7.3.2 Building form

Although many of the fashionable and “funky” new high-rise buildings in Sydney and Melbourne do not conform with this requirement, building
forms which are not avant-garde and which fit into neighbourhood contexts are undoubtedly more likely to be acceptable to residents and neighbourhoods alike.

Image is very important for residents and neighbours for different reasons. People generally prefer housing which “looks like home”, which resonates with images of home and hearth at an archetypal level that is often unconscious, and which contains certain key elements that communicate a ‘domestic’ environment. These issues appear to be particularly important for some migrant groups who feel that Australian houses do not obey traditional rules regarding the zoning of dwellings. Few of the new developments visited achieved the objective of creating an image of a house on its own land and sometimes it appeared that aesthetic concerns and a desire for an “integrating aesthetic” had compromised the necessity for differentiation. A body of evaluation research reveals that the subtle articulations by designers in roof shape, fenestration, setbacks and colours are rarely perceived by lay people. (See Cooper Marcus and Sarkissian, 1986 and Cooper, 1975.)

At higher densities, there appears to be absolutely no effort to create a sense of individuality to entries to individual units or apartments in high-rise buildings, as these photographs from Melbourne and Sydney reveal (See Figures 25 and 26, previous page).

7.3.3 Universal Design

As noted above, Universal Design aims to simplify life for everyone by making products, communications and the built environment more useable by as many people as possible at little or no extra cost. Universal Design benefits people of all ages and abilities.

Virtually none of the buildings visited were fully accessible and one large new high-rise building in Melbourne, which has yet to be fully occupied, has absolutely no wheelchair access (see Figures 27, 28, 29). The site visits revealed a predominant form of cluster housing with underground parking, which results in dwelling entries being located well above street level. This is a matter which needs to be resolved urgently, as Universal Design requirements currently being considered by the BCA may result in requirements for accessibility to new housing.

7.3.4 Wayfinding and orientation

A critical factor in the success of medium-density housing is a legible site plan which allows residents and visitors to find the front doors of units via a logical direct route. One of the common characteristics and problems with this medium-density cluster housing, widely discussed in the evaluation literature, is “front-back confusion”, wherein visitors typically arrive via their natural path of travel at what is essentially the back door of a dwelling. These configurations characterise much of the unsuccessful medium-density public housing built by the NSW Housing Commission in suburban Sydney in the 1970s (see Sarkissian and Doherty, 1987 and Woodward, 1997). Resolving this planning feature is an essential building block of situational crime prevention, as it reduces opportunities for excuse making by intruders because access points and territorial definitions are clearly defined.

7.3.5 Orientation of living spaces

Orientation of living spaces can support residents’ safety and other social requirements by providing opportunities for natural surveillance of shared spaces, private spaces and the wider public domain and, for people susceptible to shyness or loneliness, provide a view of the wider social world. Orientation according to solar design principles makes living spaces more
comfortable and less expensive to heat and cool.

7.3.6 Pedestrian access and circulation systems

To support unforced social encounters near home, pedestrian systems need to be designed as an integrated, connected network, linked to the wider public realm. A pedestrian network that supports strolling and sitting, with shaded and comfortable rest places, offering opportunities for interaction and solitude will greatly contribute to the social life of residents. As children will play anywhere and everywhere, a network of play which supports their predictable behaviours according to their ages will reduce neighbour conflict and support parenting and child development.

![Walking Circuit](image)

*Figure 30: Walking Circuit*

![Texture and Visual Variety](image)

*Figure 31 Path qualities and visual variety*
7.3.7 Privacy

One of the common complaints in medium-density housing is that people can see into other people’s dwellings or into their private yards. A UK study reported in Building Design (2003:7), described the most common complaints from higher density residents as being about “being overlooked, not having enough space or [not] feeling secure”. This is a very difficult issue because space cannot be used as a buffer and therefore artful design is required to address these potential problems. Successful medium-density housing protects the privacy of individual units from visual intrusion at ground level and, ideally, reduces visual intrusion from above.

7.3.8 Children’s play

None of the developments visited made adequate provision for children’s play, despite evidence of children in the households occupying the developments. The general rule is that younger children (up to the age of five) need play opportunities within sight and calling distance of the dwelling.

Play in shared spaces where adults can supervise from the dwelling or private yard is an ideal arrangement. It is an unrealistic expectation that a preschooler will meet their play needs in the neighbouring park, as this requirement places undue stress on supervising adults and will result in disadvantage for the child. The messages communicated about territorial boundaries need to be very explicit if children are to decode them and act appropriately. Subtle territorial markers will simply be overlooked. Managing the predictable acoustic implications of children’s play in cluster housing requires great care (as does the management of noise from adults in a swimming pool).

7.3.9 Hierarchy of open space

A strict distinction between different types of open space will greatly support the acceptability of medium-density housing (See Figure 34).

What this means is that there is a clear distinction between the private space of the dwelling and its yard, terrace, garden, patio or balcony and other non-private spaces. In dwellings with two private spaces (often a front and back yard), there is generally a distinction within that form, whereby more public activities occur in the front yard and the backyard is usually fully private and fenced above eye height (usually 1800mm).

It is important to separate the private spaces from spaces which can be used by all residents of a development and are generally regarded as the shared territory of those residents. These shared spaces, also called “interior neighbourhood spaces” (Martin, 2001), may contain children’s play areas, recreation areas, barbeques, seating and landscaping and sometimes places for visitor or resident parking. This shared space performs a critical function for children’s play and is very important to single-parent households because it can be a protected, supervisable place where small children cannot wander out into the public realm.

Just as the private space must be buffered from the shared space, so, too, the shared space must be appropriately buffered from the wider public realm where anyone can travel. The territorial markers that define a sense
of entry into a cluster of dwellings must communicate to an outsider (and especially to a potential intruder) that this is a resident-only territory (See Figures 35 and 36).

Some new developments, notably in Green Square in Sydney, reveal an eroding of these basic rules of territorial definition, with public paths traversing the centre of the shared space of a group of units, resulting in resident dissatisfaction and the potential for burglary. While there is considerable debate in urban design circles about whether housing in cluster configurations or cul-de-sac are safer than housing in New Urbanist configurations (grid road patterns with parking accessed from back lanes), in thecluster configurations reviewed for this study, it is clear that these hierarchical distinctions should apply. In one case in particular, SY21 in South Yarra, Melbourne, these distinctions have been particularly well handled (See Figure 38).

7.3.10 Landscaping

Opportunities to add to landscaping are much appreciated by residents and care of landscaping in shared open space can contribute to community safety. See Figure 39.

7.3.11 Shared adult recreation facilities and spaces

Depending on the size of the site, it may be possible to provide recreation facilities for adults in or adjacent to the shared spaces described above. Important considerations for the location and design are that they are not in such an exposed location that people will feel uncomfortable using them, as is likely to be the case in the example shown in Figure 40.
The most contentious issues regarding adult recreation space relate to noise intrusion or lights from tennis courts shining into bedroom windows after dark. In a medium-density housing development in Paterson Lakes in Melbourne, location of the tennis courts immediately below the bedrooms of a number of units would almost certainly cause social conflict in the development.

Noise from swimming pools usually necessitates body corporate regulations controlling hours of use, but even then residents with windows or balconies near the swimming pool often find noise intrusion a problem.

These considerations notwithstanding, a critical requirement is that the neighbouring community should not be expected to meet the recreation needs of a large number of residents which could potentially be accommodated on the site (with perhaps a slight reduction in the number of units). Wise developers have found that generous provision of on-site recreation facilities and spaces greatly contributes to resident satisfaction and the success of a development.

Figure 41: Casual social encounters near home in shared open space
(Cooper Marcus and Sarkissian, 1986)

7.3.12 Vehicular access and parking

Leading practice urban development focuses on the need to reduce car domination in cities and particularly in housing developments. The innovative and highly controversial approaches of the City of Port Phillip in Melbourne (following community consultation processes for the expertly handled “Parking Summit” in 2000), led to initiatives removing the requirements for car parking for some new housing developments within the Council area.

The much awarded Kelvin Grove Urban Village development in Brisbane is an excellent example of a mixed-use, mixed-density development with a

5 The Kelvin Grove Urban Village development in Brisbane, currently being developed, has been undertaken by the Queensland University of Technology and the Queensland Department of Housing. It is the first development in Australia where a community including tertiary education, recreation, leisure, residential and business opportunities were created from the ground up. The development includes a Creative Industries Faculty, a Creative Industries Precinct, and about 700 housing units located in three- to four-storey buildings along some streets and up to six and seven storeys along Main Street, which includes education facilities and retail outlets.
Some of the most inappropriate Adelaide examples of medium-density housing are to be found in Halifax Street in the City of Adelaide. In several of these new private developments, streets and laneways are addressed by banks of garages, creating a harsh face to what is essentially row housing. While costs have been reduced by not putting parking underground in most of these sites, the harsh impact of street-facing garage doors creates an image that is neither domestic nor in keeping with the existing character of the neighbouring residential area.

While reducing or removing parking from housing is an ecological objective to be aimed for, most sites in Adelaide are unlikely to have the public transport infrastructure to make this a reality at present. Where vehicles must be accommodated, parking must take into account predictable patterns of resident and visitor demand. Space for parked cars should, however, never be confused with adult recreation space or children's play.
space. In some smaller sites in Brisbane, it has been difficult to incorporate both shared open space and parking and, as a general rule, the parking has dominated.

The LMC could consider a range of alternative parking options. Anecdotal evidence from Maroochy Shire on Queensland’s Sunshine Coast suggests that carparking stations could be used to provide for overflow from adjacent housing developments. Adelaide is a world leader in traffic management, supporting environments for incidental physical activity and a large number of research projects are under way on this topic. The LMC could support these initiatives and combat automobile dependency through focused policies that address vehicular access needs. One alternative is the “car-sharing option”, now being pursued in Europe and the USA, where developers are partnering with car-sharing companies to offer residents “house-and-car packages” which minimise requirements for cars and parking spaces (Matusik Property Insights, 2004).

Many concerns about medium-density housing focus on vehicular access and parking, with visitor parking being a source of frequent neighbour complaints. Some poor examples of perimeter block or cluster housing developments at high densities in Sydney’s Green Square have the entire central courtyard dedicated to parking. As these areas have not been designed specifically for shared use with children, they are hard, environmentally insensitive, hostile and dangerous places for children and adults alike. On other sites, the common arrangement is to locate the parking in an underground carpark and provide lift access to the units within the building. On smaller, lower density sites, access to the carpark may be exclusively by stairs.

In the sites reviewed, none of these arrangements appeared to be ideal. A large high-rise housing development in Melbourne (The Utopia) was completely inaccessible to visitors entering from the street, with the only compliant access route to any part of the building being from the underground carpark (see Figure 28).

In a new site under construction in Five Dock in Sydney, steep stairs were the only access from the carpark to the main level of the development.

In some cases, visitor parking was located in grouped lots some distance from individual dwellings, preventing natural surveillance, while in others visitor parking was incorporated into a secure underground parking lot, accessible only by key card or intercom. The ideal arrangement for resident and visitor parking is to have a clear, direct and safe route to the dwelling entrance, preferably protected from the weather. For households with children, it is particularly important that this route is protected from traffic hazards.

All these considerations accept and even promote automobile dependence. An alternative view, proposed by Martin (2001:148), among others, is that “one shouldn’t design the world to suit the vehicle but vice versa.”

### 7.3.13 Safety and security

The safety and security of residents and property in medium-density housing is always a concern for residents, particularly in high-crime areas in Australian cities. The established field of Crime Prevention through Environmental Design (CPTED) (See Appendix F) offers a range of approaches and tactics for reducing opportunistic crime, including: creating territority, natural surveillance and “eyes on the street” and controlling access into and out of developments and buildings.
Because crime is situational and contextual, and any crime prevention strategy must be based on a full understanding of local crime statistics, trends and the activities of perpetrators, it is not possible to provide specific guidance about medium-density housing for the Adelaide market without further investigation. Generic guidelines are available from many sources and Adelaide has a well-developed history of assessing CPTED issues in a variety of contexts. At planning and design stages, it is wise to consult the local police, crime prevention officers within the State Police Department or the Attorney General’s Department and the relevant community safety personnel within councils.
Some CPTED matters which can be taken into account are the following:

- Activity generators (features that tend to create local activity, which may be legitimate or illegitimate);
- Territorial boundaries;
- Natural surveillance and sightlines;
- Movement predictors (predictable or unchangeable routes or paths that offer few choices to pedestrians to escape from pursuit or entrapment);
- Concealment and entrapment spaces;
- Access control;
- Natural ladders (often unintentional building design structures which serve as potential ladders for illegitimate users to access private space above street level, see Figures 44 and 45);
- Target hardening (paying attention to locks, door fittings, gates and materials to prevent access or vandalism);
- Fencing and buffers to maintain territorial distinctions;
- Landscaping to define territory and reduce opportunities for concealment and entrapment; and
- Lighting.

**Gated communities**

One of the “coarser” measures used to protect resident safety and property is to design medium-density housing as a “gated community”. Within social planning and CPTED fields, there is mounting concern about this prevalent housing form, for a number of reasons. First, research and criminological theory support the view that, while these developments may be free from residential burglary, vehicle theft and theft from vehicles in the early stages of occupation, enterprising local burglars soon find ways around the system. Second, the illusion of security means that some residents may leave their individual dwellings unprotected, believing that the gate at the development entry protects them from all forms of intrusion. Third, and most importantly, the form of “cocooning” represented by the gated community means that people living there are increasingly isolated from the diversity of the wider social world and this form of exclusion has negative social consequences of huge dimensions. (Social exclusion is a major policy concern of all western governments.) Fourth, because of the inward focus of gated communities, both sociologically and physically, residents are less likely to look out for neighbours who live across the street or down the road. Their capacity to act as “capable guardians” is much reduced and the chances of their intervention to save a person in danger are likely to be minimal.

Fifth, alarming Australian research on the reduced territorial mobility of Australian children (Tranter, 1993) reveals that parental concerns about child safety are restricting children’s access to both the wider social world and the natural environment. There are gender implications in these findings, with young girls generally having a reduced territorial range. If parents perceive that the only “safe” place for their children to play is within the gated community, they are putting their children’s cognitive, social and physical development at risk. This “bubble wrap” approach can lead to frightened adults who are unfamiliar with (and frightened of) the “other” in society and wider physical and societal realms.
Finally, from a public policy perspective, the provision of exclusive indoor and outdoor space in gated communities contributes to a perception that the developer (and the residents) need not contribute to the funding of physical and social infrastructure in the wider social realm. The illusion that "we are taken care of in our own small corner of the world" leads to a lack of willingness to contribute to funding infrastructure elsewhere.

7.3.14 Construction and staging

Common complaints from residents of medium-density housing built in stages are that the noise, dust and inconvenience of construction negatively impact resident satisfaction. If a development has to be built in stages, careful consideration of these factors will reduce conflict and dissatisfaction. Specifically, timing, buffers and control mechanisms should be carefully considered.

7.4 Building design

7.4.1 Image: house as “home”

The issue of image is primarily about creating a “home-like” image for the residents and a public image consistent with neighbourhood character. A UK Study reported in Darling (2000) asked 1500 volunteers, “What does home mean to you?” According to Darling, most replies mentioned feelings rather than objects or spaces: “relaxation, freedom, peace” or “refuge” and “family life” were typical themes. This “feeling” relationship to home has also been explored in detail by others, including Clare Cooper Marcus (1995).

7.4.2 Universal design

With respect to building design, fixtures and fittings, the accepted wisdom in the development industry that accessibility features will make interiors unattractive (or look “institutional” or therapeutic”). However, examples of elegant plumbing fixtures and towel racks that double as grab rails have been available for many years. In the sites visited, it was clear that Universal Design is almost completely ignored in both building design and fixtures and fittings. The particular requirements of older people (susceptibility to glare, failing eyesight, reduced peripheral vision, limited mobility, etc.) are not taken into account in many designs and, as noted above, most entrances were not wheelchair accessible.

7.4.3 Adaptable design

Because of the variety of households likely to be living in medium-density housing in the future, and predictable patterns in the household lifecycle of childbirth, ageing and disability, with implications for dwellings design, attention to adaptability is essential (see PlanningSA, 1997).

7.4.4 Personalisation and modification

Personalisation and control over the home environment are important for self-esteem, satisfaction and efficiency. Some theorists argue that full human potential cannot be realised unless a person has opportunities to optimise their immediate environment. In medium-density housing, design and management policies should permit and encourage residents to project their own personalities onto spaces and rooms by minimal, non-structural changes to suit individual needs and tastes. The more the layout and design offer options and opportunities for furnishability and personalisation, the more expressive the dwelling may be of the self,
leading to satisfaction. Careful attention to social design principles can greatly enhance resident satisfaction.

7.4.5 Furnishability

All residents, and particularly older people, use furniture to make their home unique, to distinguish it from others and to reflect their personality. A key interior design requirement, especially at higher densities where individual ground level gardens are not provided, is the concept of “Furnishability”. This can be achieved by: allowing for maximum diversity of furniture placement; locating windowsills high enough (750mm -800mm) for dressers and small desks or tables to fit underneath; ensuring that there are several walls in one room long enough to accommodate a couch, a stereo and/or bookshelves; and providing a maximum number of corners in a room.

7.4.6 Predictable activities

Dwelling design needs to accommodate the predictable activities of households, including those associated with life-cycle changes. The predictable activities of children are well known and the relationships between children’s play and adult supervision can easily be accommodated through dwelling design elements.

A simple requirement that could be accommodated is the ability to see out of a bedroom window when lying or sitting on a bed (See Figure 49). Equally, the ability to see who is at the door is a predictable and important behaviour that can be supported by simple design features such as the placement of windows where the resident can see out but they cannot be seen.

In some cultures, part of the dwelling is regarded as “the women's realm” where “back stage” activities that are highly personal and family oriented are undertaken, whereas the front of the dwelling (the “front stage”) is a more formal display zone where guests are received. The predictable activities of different cultural groups can be determined through consultation with their representatives and incorporated into the design of dwellings. In low-income households, student households and households occupied by Indigenous Australian residents, accommodation for long-term guests must be considered and provided in ways that do not compromise the privacy of the rest of the dwelling.

The associations of housing with being a “product” means that the practical needs of residents are compromised by the perceived requirement to provide aesthetic value. This caters towards a very narrow range of households and is not conducive to the long-term stability of the resident population. Aesthetic design principles need to be intelligently balanced with practicality. For a particular household type such as childless professional singles and couples, the functional requirements of “home” are likely to be less rigorous than for families.

7.4.7 Access and entry

As noted above, most of the dwellings visited were inaccessible by a person with a mobility impairment, except in cases where they could be accessed by a lift from an underground carpark. The examples in Figures 27 to 29 reveal the sorts of problems that would be encountered by a person with a mobility impairment. In the development shown in figure 29, a wide ramp could provide access to the rear of the units, but this approach is generally inconsistent with the principles of Federal disability legislation, as it requires a person with a disability to use a separate route, contrary to mainstreaming principles.
7.4.8 Grouped mailboxes

In most medium- and high-density developments, mail is delivered to grouped mailboxes. In every site visited, mailboxes had been designed and located in ways which failed to maximise their significant potential value as a focus for socialising. Well designed and carefully located grouped mailboxes can help to combat the loneliness experienced by some people in higher density housing, especially older women. Focusing a social space around grouped mailboxes also supports resident safety.

The photographs on the right (See Figures 51 and 53) show the mailbox arrangement in the new Uropa apartments in Melbourne. There is absolutely no seating in the building lobby or in the adjacent outdoor courtyard. This means that a predictable activity, which should be supported by the design – waiting for daily mail delivery – cannot be supported because there is simply no place to sit. For shy people, the legitimate activity of waiting for a daily event such as the arrival of the mail can significantly combat loneliness and isolation.

In the excellent redevelopment of the Waratah Mills in Dulwich Hill in Sydney (See Figure 53), probably the only defect that could be ascertained without access to the dwellings was the inappropriate location of the grouped mailboxes with no adjacent seating.

In the photographs to the bottom right (See Figures 54 and 55), the grouped mailbox in the Ellington development in Brisbane can be seen – another lost opportunity for socialising, where the exterior mailboxes have no adjacent seating. A short distance from the mailbox is this narrow bench which meets no accessibility criteria and has absolutely no shading or protection from Brisbane’s subtropical sun and fierce storms.

7.4.9 Space within the dwelling

An important contributor to resident satisfaction in medium-density housing design is space within the dwelling. For example, in terms of privacy, a UK study found households to be “more concerned about getting away from each other within their homes than they are about having space between them and their neighbours” (Winkley, 2003:3). That study suggested that the impression of more indoor space could be created through the inclusion of higher ceilings. This form of design also increases ventilation and lighting through opportunities for greater window sizes afforded through increased wall area.

According to Burke, trends in the USA and Australia are towards smaller households but still larger houses (Burke, 1991). Australian data support this finding, revealing that people are living in houses which are larger than they appear to need (ABS, 1999:94). The factors that will require dwellings to be larger include: working from home, older children living at home longer, shared housing arrangements, blended families, and personal or “me” space (Matusik Property Insights, 2004).

7.4.10 Interior storage

Adequate interior storage space is essential for all residents and is particularly important for older people who have gathered the memorabilia of a lifetime. Storage areas should be of appropriate size, located appropriately and conveniently, easily accessible (particularly for people with mobility impairments), designed and located to minimise the necessity.
to extend or stoop and designed to minimise excessive lifting. In many of the units visited, storage space was adequate; however, repeated enquiries in medium-density housing have met with the response that broom closets are not a necessity.

One display village manager suggested that the only place to locate a broom, a mop and bucket and a vacuum cleaner would be in the bedroom closet. Because of the seasonal climatic variation in Adelaide, it is essential that space be provided for the storage of seasonal items, such as quilts, fans and heaters. It is often not appropriate to store these items in garages as they can become dirty and garage storage is often susceptible to burglary.

Detailed guidelines are available on the subject of interior and exterior storage space.

7.4.11 Bathrooms

Bathroom design guidelines to support predictable behaviours are available from many sources. Here we discuss some recent “innovative” approaches which cause concern from a social perspective.

A disturbing trend in new medium-density dwellings that reflects a disregard for, or ignorance of, design according to predictable activities can be seen in two examples of recent innovations in Queensland. Each one ignores predictable human behaviour. They are the flat bathroom washbasin and the “bathtub-in-the-bedroom” arrangement.

It is not difficult to imagine the range of predictable behaviours that require a bathroom basin to be able to be filled with water. That is probably why the bathroom basin evolved in its current form. For example, some men prefer to shave with a basin full of hot water so as not to use running water and to keep the razor hot; many women will rinse or soak clothes, especially underwear, in cold water prior to washing in the laundry; removal of makeup by women often requires a basin of warm water; cleaning of dentures can also be done in a basin to reduce water consumption; facecloths are often rinsed in a basin of warm water for babies, children or adults, and numerous other activities that have influenced the evolution of the bathroom basin. The flat basin shown below requires a tap to be continually running which is counter to accepted sustainability practice.

Another innovation observed in Queensland in up-market housing was the “bathtub-in-the-bedroom”, where a full bathtub is located directly adjacent to the bed, surrounded by a very narrow tiled space. Where this is the only bathtub in the house or unit, this location would cause major difficulties. First, many households not intended for children have children resident, often for long periods, as increasingly grandparents have full-time care of children during the working week. Bathing a child in such a setting would be extremely inconvenient and would almost certainly cause damage to the carpet and spoil the child’s fun with imposed controls on splashing around! Second, for many tired people, a long private soak in a bathtub with essential oils or bath salts would not be possible because other people could access the bedroom and interrupt this interlude.

A relaxing soak is probably a gender issue, given the current images on television of tired mothers relaxing in the privacy of a candlelit bath. The third concern is the impact of steam on the wall finishes in the bedroom and, in a humid climate such as the Gold Coast of Queensland, the impact of mould and damage to curtains, furnishings and clothes. Finally, the narrow tiled space around the bathtub means that, should an accident occur (as in leaving the tap running or overfilling), the carpet would almost certainly be damaged.
A member of our assessment team, who raised twin daughters as a single parent (a common and representative household type), was highly critical of most of the bathtubs and bathroom arrangements we observed, as she felt they did not support predictable or convenient child-bathing practices. In one award-winning house on a small lot in Brisbane (which was on the market for over $800,000), the only bathtub in the house was located in the ensuite attached to the main bedroom (requiring the main bedroom to be traversed to reach it. It would be very inconvenient to bathe children in such a location and when visiting elderly “Aunt Maisie” needed to soak her arthritic bones, she would probably not be comfortable doing that in the ensuite bathroom.

We realise that these innovations are designed for a particular market niche; however, in view of the available information about the increasing heterogeneity of Australian households, it is probably wise not to include innovations which would exclude predictable forms of behaviour.

7.4.12 Laundry and drying

A recent report by Matusik Property Insights (2004) revealed what has been known for many years – people in smaller dwellings require more space for laundry than is generally provided. In most of the dwellings we were able to visit, laundry arrangements were little more than a tiny space the size of a cupboard. This “cupboard” needs enough space for the equipment, some soiled clothes storage and clothes sorting space. It is not appropriate to locate this facility in the kitchen. In smaller dwellings, it is critical that the laundry be designed with care, as laundries are often the source of resident satisfaction.

Specific laundry design guidelines based on comprehensive Australian research are available.

Both open-air and under-cover drying spaces must be provided to ensure that residents do not have to resort to clothes dryers. One of the common complaints about higher density housing from a sustainability perspective is that poor design forces residents to use clothes dryers, even in good weather.

7.4.13 Lighting and ventilation

In smaller units, particularly in lifted blocks with double-loaded corridors, the problem of “borrowed lighting” can mean that some units are particularly dark during part of the daylight hours. It is commonplace in apartment design to locate the kitchen along a back wall where it is almost always necessary to turn on the lights to undertake kitchen tasks. This has serious implications for energy efficiency and also reduces the flexibility of the space.

An example of a dark new apartment in Pyrmont is shown in the photograph on the right.

For households occupied by older people, attention to lighting is very important. The housing reviewed for this study revealed virtually no sensitivity to issues related to light and ageing, although older people need at least three times as much light in daylight and seven times as much at night as do younger people. They generally need an increased amount of light to see with the same acuity as “normal” sighted younger people. The eyes of older people become increasingly sensitive to glare, making it difficult to distinguish outlines of objects and older eyes take longer to adapt to changes in illumination, creating a special environmental hazard.
Detailed guidelines are available on dwelling lighting to meet social requirements.

Ventilation can be a major problem in high-rise apartments, where cross-ventilation may be compromised by the building design. Often security arrangements are put at risk when residents prop open doors on building landings to create cross-ventilation in hot weather or to air out cooking smells. In Brisbane’s steamy subtropical climate, some units about to be released on the market had no ceiling fans, felt very hot on an early autumn day and were likely to be completely dependent on air-conditioning during summer months, despite the developer’s widely advertised ESD policies.

In Adelaide, a popular way of naturally cooling a dwelling is to keep it tightly closed during the day and open it to cooling breezes at night. Sites on the northern Adelaide plain, however, are likely to be subject to hot north winds which may bring little relief. It is important to optimise opportunities for cross-ventilation in the dwelling design but for older people, every effort should also be made to reduce or control draughts, as older people are particularly susceptible to them.

7.4.14 Heating

In the Adelaide climate, a popular way to manage heating in dwellings is to have one room (the television room) that can be heated with a small heater and easily closed off from other rooms. The popularity of open-plan designs in some of the dwelling units reviewed indicates that this approach would not always be appropriate for Adelaide. Further, in low-income households, economical heating is essential and residents frequently complain that “the heat is going up the stairs” in two-storey units. Where possible, it is advisable to enclose any stairways leading away from the main living room, to ensure that windows are well-fitted to avoid drafts and to provide at least a small foyer area at the entry to block drafts from the front door.

In smaller units, it is important to ensure that heating location does not compromise furniture arrangement. Heating in bathrooms is particularly important for older people, who are susceptible to respiratory infections.

7.4.15 Acoustics

Many factors affect the way sound travels and how it is perceived within a dwelling, including size, location, floor coverings and furnishing of different rooms, the amount of noise penetration from outside, and the type and quality of construction materials. Protecting residents from excessive noise and vibration involves careful site selection, site planning and adequate sound insulation between and within dwellings.

Privacy within and between dwellings is one of the most serious concerns of residents of medium-density housing and can refer to acoustic and visual privacy, as discussed above. A thorough understanding of acoustics leads to the suggestion that walls between units should not be pierced by power points or telephone outlets so that the acoustic properties of the insulation are not disrupted. Residents living in some units built in the 1970s report little sound transmission between units, whereas what appear to be more lenient acoustic standards in recent times often result in unacceptable noise transmission between units.

In a recent UK study (reported in Winkley, 2003:3), the most common privacy problem by far was noise. Residents complained of hearing normal everyday conversations in adjoining units and also experienced a fear of being overheard. Not only can this type of noise pollution affect lifestyle, but there

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*Figure 60: Air conditioner on balcony, NewQuay, Melbourne, 2004 (balcony width approx. 1200mm)*
is also ample research showing that noise can also affect health, mental health, concentration and performance.

7.4.16 Balconies, courtyards and terraces

Exterior public open space is one aspect of medium-density housing that is handled particularly poorly in Australia. In only a few examples were territorial buffers handled well but in almost no cases were adequate balconies provided, except in the most expensive new high-rise units in Sydney.

The subject of balconies and their weaknesses from a social perspective occupied a great deal of the discussion in the expert workshops and is discussed in detail in Cooper Marcus and Sarkissian (1986). Architects and developers generally appeared not to understand the important social function that a balcony provides in higher density housing (particularly in high-rise units) and offered a variety of explanations for the smallness of balconies. One award-winning development in Melbourne had balconies which appeared to be no more than 1200mm deep, with most of the balcony space occupied by an air conditioner enclosed in a timber box (see Figure 60, previous page).

An architect explained that the reason these balconies were so small was that floor area for units is calculated exclusively on the internal area of the dwelling and balconies were simply not counted. The implication was that if this space could not be used as a selling point, there was no reason to provide a functional balcony.

Other participants explained that balconies were, in fact, very expensive to construct (more expensive than internal rooms) and therefore developers did not wish to spend money on what was seen as an unnecessary addition. During discussions about the usability of balconies, when it was explained that narrow balconies that did not permit conversational furniture arrangements were virtually useless except as ventilation devices, some developers explained that the presence of balconies did contribute to the marketability of units, regardless of whether the balcony were usable or not. The social research findings documented in Cooper Marcus and Sarkissian (1986), that balconies off bedrooms are rarely used, was met with a response that, although that was most certainly still the case, balconies off bedrooms help to sell units.

A spirited discussion in Brisbane focused on the “Juliet balcony”, a device used for articulating the façade and providing ventilation. To the social design critique that these were “Clayton’s balconies”, a prominent architect responded that they were an effective way of providing ventilation without compromising privacy. Balcony doors can provide more ventilation than a window. Some participants explained that exterior balconies on upper floors were virtually unusable because of wind speeds. These concerns notwithstanding, some participants reiterated the importance of even a small balcony in high-rise units to provide an escape from the confines of a small dwelling.

A variety of innovative and apparently effective balcony designs was seen in the site visits. The most successful combination in new luxury housing in Pyrmont in Sydney involved a combination of recessed balconies (based on what could be called “the Vancouver balcony model”6) and large open balconies.

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6 The “Vancouver model” of balconies acknowledges the city’s cold, rainy and windy climate. Balconies are typically set within the structure of the building and are virtually enclosed.
For units above seven or eight stories, the recessed balcony is likely to provide better protection from wind than an open balcony.

The common complaint that balcony railings block visual access by a seated person but that transparent balconies contribute to vertigo has been artfully addressed through a combination of masonry balconies topped by clear, tempered glass.

In one development in Melbourne (Uropa) an artful arrangement for shielded bicycle storage was provided, whereby a bicycle could be stored in a niche accessible from one corner of the unit balcony without occupying any balcony space and without being visible from the balcony or the street (see Figure 66).

Because of the importance of balcony design, great care should be taken to ensure that balconies are not only deep enough to facilitate social interaction, but also of appropriate proportions (as close to square is ideal).

Detailed guidelines are available on balcony design and placement.

7.4.17 Landscaping of private outdoor spaces

The issues related to landscaping of open space are discussed above in Sections 7.3.9 and 7.3.10. Landscaping can perform important functions with respect to CPTED, privacy control, climate control and supporting an aesthetic environment. According to Burke (1991:167), it is a key element in emerging medium-density developments in the USA.

Unfortunately, in many housing developments visited, the landscaping budget appeared to have been severely curtailed and in one high-profile new Melbourne high-rise development, there was virtually no landscaping in the central area with the exception of an attractive landscaped area with a barbeque. Even on a rainy day, the outdoor courtyard was extremely glary and it would be very inhospitable on a hot summer day in Melbourne (See Figure 67, next page).

One of the important uses of landscaping is that it can support opportunities for seclusion and shaded sitting along a strolling path. Research has shown that the planting of trees in urban areas can dramatically reduce the ambient air temperature and can convert a hot courtyard into a shaded haven.

For older people in particular, selecting vegetation for seasonal variation is much appreciated, as is selecting non-deciduous plants and those that do not have leaves that will be slippery when they fall onto hard surfaces. Detailed guidelines are available for the landscaping of new medium-density housing sites (see Sarkissian and Stenberg, 2003b; Carstens, 1993).
7.4.18 Healthy housing

Sustainability in urban design is now widely discussed in development circles and one of the important emerging topics for the design of medium-density housing is human health. Healthy housing incorporates living spaces that are sensitive to the needs of human health, both physically and psychologically. A healthy dwelling responds to the human need to reduce and avoid the use of harmful materials. Detailed advice about healthy housing and improvements to indoor air quality in medium-density housing are beyond the scope of this report. Guidelines are available, however, to address the following critical issues associated with healthy housing: natural lighting, natural ventilation, internal wall finishes, paints, wallpaper, internal flooring materials, electrical cabling and fixtures, kitchen materials, composite boards, adhesives and glues, varnishes, polishes and stains.

Consumers are becoming increasingly concerned about the relationship between toxic materials used in house construction and furnishing and persistent chronic illnesses, particularly among children. As there appears to be a relationship between Adelaide’s climate and the susceptibility of adults and children to asthma, these matters should be considered in any architectural brief.

7.4.19 Environmental sustainability

The subject of sustainability is widely canvassed in the research literature and is beyond the scope of this research. However, the sustainability benefits of higher density housing could be highlighted in consumer education campaigns and the marketing of housing developments. There are many benefits that merit highlighting.

Clearly, the smaller ecological footprint of this housing and its appropriate location near public transport, facilities and services can contribute to the perception and the reality that this is an ecologically viable housing form. As noted above, however, detailed design features need to support recycling, composting, natural ventilation, energy-efficient heating and clothes drying so that residents are able to live in sustainable ways. Solar passive design features can have a dramatic impact on resident comfort, as well as reducing dependence on fossil fuels and reducing contributions to CO2 emissions.

Medium- and high-density dwellers use more energy than low-density occupants, largely because of the use of space-saving appliances such as clothes dryers and dishwashers and climate control mechanisms such as air-conditioners and heaters. And according to Brisbane’s Courier Mail (Hefferman, 2003:2), medium- and high-density dwellers still tend to drive as much as people living in suburbs where low-density dwellings represent the typical design style.
7.4.20 Management and maintenance

Because one of the features of higher density housing is, for many households, ease of maintenance, it is important that the planning and design of the development and all ongoing maintenance arrangements continue to offer convenient options for residents. One highly successful medium- and slightly lower density housing development in Melbourne built several years ago by a leading developer and offered as a model of urban development, has confusing territorial definitions and many patches of small, irregular-shaped landscaping and grass, which would be very difficult to maintain.

Clear definitions about which areas are the responsibility of individual residents and which come under the control of the development's body corporate are important, as resident conflicts frequently occur about ambiguous spaces inside buildings and in the outdoor environment. Body Corporate legislation is often very confusing to residents, who cannot understand why (apparently) they are responsible for leaking pipes that are discolouring their ceiling when the problem clearly originated away from their dwelling.

Figure 69: Irregular path system, Beacon Cove, Melbourne, 2004
8.0 Findings and lessons

8.1 Introduction

This section outlines our findings and draws lessons to assist the LMC in future policy development for medium- and higher-density housing.

Findings and lessons below emerge from the following sources:
- The literature review
- Review of leading practice projects
- Site visits
- Expert workshops and
- Our reflections on these processes.

The material is organised under the following categories:
- Market factors
- Profitability
- Marketability
- Supportive factors
- Capacity building and
- General social design factors.

8.2 Findings and lessons for the LMC

8.2.1 Market factors

Finding:

According to some designers, “mature” markets require a different form of analysis, in terms of social design principles, than other markets. Lessons from more mature markets include that large complex sites with appropriate social infrastructure for future and existing residents will yield positive market responses. It is also important to recognise that mature markets convey a sophistication that may not always represent leading-practice examples of the provision of social design requirements.

Some Melbourne participants expressed the view that in Melbourne’s “mature market” for medium-density and high-density housing, most issues had been resolved. In Sydney, participants appeared much more “humble”, expressing the view that there was still a lot to learn about density and housing and that housing forms needed to adapt to changing household formation and other circumstances.

Lesson 1: Balance commercial interests with social concerns.

There is a need for balanced development that encompasses profitability and social sustainability. It is important that the LMC avoid being over-confident of the existing market and understand the potential lessons available through analysis of markets in other states.
8.2.2 Profitability

Finding:

Commercial requirements of higher density developments are directing design outcomes. This means that aspects such as liveability and accessibility (for example, provisions for children’s play, universal design or usable balconies) are likely to be compromised if they are perceived to adversely affect the profitability of the development.

Lesson 2: Social design doesn’t always cost more.

There is an opportunity to design housing that accommodates a balance between profitability and addressing social requirements. It is important for designers to look beyond current design approaches to understand that addressing social design requirements does not necessarily compromise profitability.

Finding:

Where a mature market has developed, it can inform the establishment of an appropriate or “optimum” development model that responds to the planning, design, costing and timing frameworks of development.

Lesson 3: Demonstrate appropriate and adaptable leading practice.

In Adelaide, there is a less mature market and limited development model in terms of medium- to higher density housing. Therefore, there is an opportunity to build a model that encompasses leading practice for building design and provision of on-site social infrastructure. Such a model should be designed to be flexible to adapt to local contexts.

8.2.3 Marketability

Lesson 4: Learn from others’ mistakes and provide leadership in social design.

The lack of design success in medium-density housing from a social perspective creates a protracted negative perception of this housing form within the Australian community. This creates a cycle, driven by market forces and lack of design inspiration in higher density housing, which prevents maturing in the housing field. This situation presents an opportunity for LMC to take a leadership role.

Finding:

There is an oversupply of poorly designed medium- and higher density housing. Most examples seen provide little incentive, in terms of social design, for potential buyers which is creating the conditions for a buyer’s market.

Lesson 5: Poor designs don’t sell!

Conditions which lead to the development of a buyer’s market scenario may, in time, encourage diversification and provide incentives for better design. This may present a challenge to developers. However, in the long term the resurgence of the medium- and higher density housing markets
may result from more emphasis on incorporating the social design needs of residents.

Finding:

Existing residents are often interested in moving to higher density developments located nearby, particularly if their current dwelling is under-utilised and they find their neighbourhood attractive. By down-scaling from a house and land to an apartment or unit, for instance, while remaining in a familiar area, people can feel comfortable about moving and avoid the stress of resettling in an unfamiliar neighbourhood.

Lesson 6: Consult the local experts.

Good community consultation can serve market research and marketing purposes, as well as meeting the ethical requirements of leading practice. Consulting the neighbouring community (and other relevant stakeholders) at an early stage means that the infrastructure requirements of the existing community can be assessed, gaps and over-provisions (if possible) identified and provision of additional community services and facilities for the new development successfully coordinated. When undertaking a new development, community consultation should be undertaken with a wide catchment of neighbours as a preliminary step in identifying existing household types, prevailing design styles, housing forms and densities, as well as building support for the project.

Finding:

Medium-density developments can attract potential investors and ameliorate concerns of the wider community by providing “trade-offs” incentives that clearly differentiate this housing from a house on its own land.

Lesson 7: Find a “sweetener” that is appropriate.

By providing a “sweetener” such as an excellent location, proximity to services, facilities and reliable public transport, shared open space, delightful landscaping and/or on-site facilities, developers can create a more cooperative atmosphere for the integration of their development into the existing community. It is important that an analysis of current open space and community services and facilities be conducted, together with appropriate community consultation, to determine the most appropriate form of incentive to be offered.

Finding:

Some marketing of medium- and higher density housing creates an unrealistic image that portrays a lifestyle that is not necessarily supported by the local demographic data on household types, planning of the site or the design of the buildings.

Lesson 8: Pay attention to communication: be clear, not glossy.

It is important to use good visuals (photographs, perspectives, axonometrics and sketches, not plans) to show potential residents and existing neighbours what the development will really look like. This communicates transparency and genuineness in the process of community engagement and allows opportunity for potential issues to surface and be addressed well prior to commencement of construction.
8.2.4 Supportive factors

Finding:

More financial incentives are required to encourage people to move from lower densities. This can be achieved through the provision of more appropriate affordable higher density housing, possibly with a mix of tenure options.

Lesson 9: Push the boundaries for a good cause.

Governments at all levels should collaborate to create real incentives for developers to provide higher density housing that is affordable, practical and aesthetically integrated into existing communities in convenient, appropriate locations. This may include the reduction or removal of stamp duties and/or reducing the statutory requirements for carparking.

Finding:

The statutory environment which appears to exist in Australian cities may be inadequate for delivering the social design requirements of people living in or considering moving into higher density housing. This is particularly true in terms of Universal Access, provision for children’s play and the requirement for adequate usable shared and private open space.

Lesson 10: Meet or exceed standards.

Community capacity can be generated by a statutory environment that ensures the provision of social requirements associated with higher density developments. Focussing on identifying and removing statutory gaps at all levels of government and strict enforcement of existing codes may create favourable design outcomes for medium- and higher density developments.

Where existing codes have recently been relaxed to permit large private developments in other cities, outcomes have been seriously compromised in social planning and design terms.

Finding:

There is a perceived lack of a master planning approach in identifying the requirements of medium- and higher density housing. This encompasses site location, site size, site planning, specific design features of both the dwelling and open space, social requirements of future occupants and integration of developments into a wider planning framework. This subject caused considerable disagreement in the expert seminars, with voices for and against master planning approaches.

Lesson 11: Coordinate the vision.

Master planning within a regional framework can create an understanding of the density, environmental and social parameters for housing design. This can support awareness and dialogue regarding the differences, advantages and disadvantages of different housing forms at different densities.
While it is important that all sites should have tailor-made plans that meet local conditions and fit the needs of the households expected to live there, high-level coordination is also necessary. The relaxation of master planning principles has sometimes resulted in *ad hoc* outcomes, where sites are poorly coordinated. The quality of the public realm, in particular, often suffers as a result.

### 8.2.5 Community capacity building

**Finding:**

There is a lack of understanding within the general community about the nature of medium- and higher density housing. This is exacerbated by a shortage of examples that adequately provide for the needs of households likely to live in this housing form. Building community and consumer support for medium- and higher density housing requires provision of planning design and marketing input. It also requires sophisticated community engagement strategies.

**Lesson 12: Engage in education and awareness to decrease negative perceptions.**

There is a need for more community education and participation about medium-density housing. Proponents of medium-density housing will need to identify and analyse negative and positive images associated with this housing form and undertake appropriate education to encourage people to understand features of higher densities. Education will need to be balanced with true community engagement, as well as with marketing to build the capacity of the community and widens the focus of designers to accommodate needs of different households.

Achieving high-quality design will require more emphasis on the social aspects of housing in schools of architecture and planning.

### 8.2.6 General social design factors

**A variety of households**

**Finding:**

Housing design at higher densities is largely targeted toward a narrow range of households, whereas wide varieties of households with differing lifestyles are likely to choose to live in this housing form in the future.

**Lesson 13: Stay abreast of new information.**

Reviewing existing research on the social aspects of medium-density housing and conducting new research are important steps in understanding present trends and formulating future predictions. Research will also uncover emerging household forms which have not been catered for in the past but which will require attention in the future.

**Finding:**

The building form can dramatically affect the composition of an area’s population and the types of households that are likely to move into any housing form. Before approaching design, developers need to fully analyse
the local context and the market, including: existing housing styles, resident preferences, emerging trends, unsuccessful housing models and changing household requirements in the neighbouring area. This will assist in future predictions.

Lesson 14: Does it fit?

It is essential that developers assess the potential “fit” of their designs with the needs of predicted households so that they complement and augment what is already provided while meeting existing and predicted demand. This will assist in marketing developments to potential occupants and existing residents.

Finding:

The needs of older people and people’s general requirements as they age in place are not widely considered in site selection, site planning, building and interior design, or in the provision of on-site facilities and amenities.

Lesson 15: Take ageing seriously.

Current household composition and predicted trends toward a larger proportion of older people in the Australian (and Adelaide) population. The inclusion of design principles for people ageing in place is vital to the success of medium- and higher density housing. Housing stock currently available will be inappropriate for much of the “baby boomer” group, who (already) require a different range of design approaches and social infrastructure. It is important to understand the specific social and physical requirements of older people and to accommodate the range of needs associated with different groups within this sector.

Finding:

Much of the higher density housing stock presently available caters toward specific households, e.g., people broadly classified as Double Income with No Kids (DINKs) and Single Income with No Kids (SINKs). A wide range of households are not adequately catered for.

Lesson 16: Know your markets.

There are a range of household types whose needs are not being accommodated by higher density housing, including children, families, new household types, older people, students, share households, single people, single parents, homeworkers, multicultural groups and people with a disability. While developers concentrate on the “here-and-now” aspects of households, the future viability of the higher density housing market will be compromised unless the diversity of potential households is acknowledged.

Location

Finding:

Medium-density housing developments are often located in inappropriate places that do not meet the accessibility and community infrastructure requirements of residents and members of the surrounding community.
Lesson 17: *Build housing close to or with community infrastructure.*

The outcome of this lack of foresight may be a delayed requirement for councils and state governments to provide social and physical infrastructure. Where disadvantage and gaps in service provision already exist within a community, this may be exacerbated by further shortfalls, gaps and delays. Accessibility to transport is of particular concern to people moving to a new location. It should be one of the drawcards for higher density housing.

**Housing adaptability**

**Finding:**

While there are currently State Government policy initiatives supporting adaptable housing in South Australia, there is little evidence of incorporating adaptability into the design of medium- and higher density housing in that state or elsewhere. Most developments are targeted toward a narrow range of household types, ignoring issues of cultural diversity and life-cycle changes. Some of the latest “features” seen in high-price medium- and higher density developments, including shallow bathroom sinks and bathtubs located in the bedroom, are inappropriate for a range of household types.

Lesson 18: *Design for diversity.*

Housing design needs to be adaptable to life-cycle stages, cultural diversity, and diverse household types. It also needs to accommodate the universal, individual and constantly changing behavioural requirements of residents. This major requirement calls for careful attention to changing population and household dynamics. Innovation should be treated with care. It may sometimes be nothing more than a marketing tool, rather than a true improvement in housing design. Design features should be appropriate and adaptable to suit identifiable resident needs. This also means that a diversity of products will be required to accommodate the variety of demographic sectors seeking housing.

**Noise attenuation**

**Finding:**

In many higher density dwellings, noise attenuation is not addressed well. Acoustic problems are seen by people making the transition to higher density living as an important negative characteristic of this form of housing. This diminishes the marketability of higher densities to those currently living in lower density housing.

Lesson 19: *To pay close attention to acoustics.*

The successful design, integration and marketing of higher density housing requires a sophisticated approach to acoustics that addresses noise transmission between units and between rooms and noise from private and shared open spaces into the dwellings.
**Universal Access**

**Finding:**

The provision of Universal Design or access in higher density developments is not evident in nearly all properties examined in this study. The industry appears to be waiting for these requirements to be mandated by regulation rather than showing leadership. One senior architect, explaining the lack of accessibility of new semi-detached housing in Brisbane, explained that there were no regulations requiring accessibility when the housing (still under construction) was designed. However, the firm was addressing these issues in current designs.

**Lesson 20: Take accessibility seriously.**

If well considered at the initial design phase, Universal Access can be integrated into the design with no more than minimal impact on the overall cost. It can also be a marketing feature for the whole development. Incorporating accessibility features at the planning and design stages is, of course, much more economical than including them later in the planning and design stages or as retrofits. Universal Access, by nature, caters for the needs of all users and is likely to create favourable marketing opportunities, as everyone is likely to experience some form of disability or mobility impairment at some time in their life.

**Working from home**

**Finding:**

Most examples reviewed revealed an unsophisticated handling of the requirements of working from home, with little more than a small room allocated as a “home office”.

**Lesson 21: Accommodate predictable homeworking options.**

Global and local political and economic forces that increase the requirement for working beyond traditional retirement age will create trends toward establishing hybrid home/work arrangements and home offices, as well as other facilities for homeworking. These requirements will not necessarily extend the size of dwellings (which are already larger than they were a decade ago) but will require a re-orientation of dwelling spaces to accommodate the particular requirements of home workers and their staff, colleagues and guests.

**Crime Prevention through Environmental Design (CPTED)**

**Finding:**

Incorporation of Crime Prevention through Environmental Design (CPTED) principles in the design of medium- and higher density housing is virtually absent in most examples reviewed, with the exception of providing locked common entries. Our researchers innocently breached the perimeter of one high-security housing development in Brisbane to the horror of security staff.
Lesson 22: *Design in opportunities to reduce crime.*

Understanding the benefits of conducting CPTED or a crime risk analyses at the planning and design phases and incorporating the recommendations of this form of crime prevention complements an understanding of the social and physical design requirements of potential residents. Incorporating CPTED principles and objectives is also a more cost-effective means of preventing criminal activity than retrofitting the design once particular patterns of local criminal or inappropriate behaviour have been identified.

**On-site shared open space and community facilities**

**Finding:**

There is generally poor provision of on-site community facilities in most medium- and higher density developments. This is true for both on-site provision of facilities and for those located within the surrounding community, as many sites are not in locations ideally suited for this type of housing.

Lesson 23: *Support socialising with on-site community space and facilities.*

Identifying and providing appropriate on-site community facilities assist in fostering neighbourliness among residents, the surrounding community and between residents of the development and the surrounding community. Appropriately responding to community and individual household needs may also become a positive marketing aspect of higher density housing, dispelling myths about higher density housing being disadvantaged in comparison to lower density situations.

**Finding:**

Sites for higher density housing are often not large enough to accommodate the shared open space and on-site community facility provisions that may be required, especially if there are gaps in provision in the host neighbourhood.

Lesson 24: *Provide generous on-site shared open space.*

Understanding the requirement for shared open space and facilities that support positive social interaction with other residents, the surrounding community and the natural environment enables the developer to find a match between important social design elements and site density. A high-density site with little or no provision of open space or on-site facilities may lead to future pressure on councils and could unfortunately contribute to feelings of “us-and-them” and potential for social exclusion. Larger sites may be more appropriate in some contexts than smaller sites for these reasons.

**Finding:**

Designs for higher density housing that do not meet the needs of residents are nevertheless sometimes developed because of a lack of appropriately sized sites to accommodate the shared open space and on-site facility requirements. Assembly of large sites is difficult (often due to the land being in separate ownership) or because these sites are in inner city infill locations.
Lesson 25: **Start out as you intend to end up.**

It is important to start out as you intend to end up in introducing higher density models into lower density contexts. Avoiding excessive site densities that do not allow shared open space and facilities requires understanding, from the initiation of the design process, of what the overall site density for the entire site. Progressively increasing density as the site is developed is likely to lead to both negative neighbour and resident reactions and compromise trust that may have been built up through consultation processes.

**Private and shared spaces**

Finding:

The delineation between private and shared outdoor spaces is poorly achieved in most of the developments visited, with the exception of one well-designed development in Melbourne (SY21), as is the siting and design of buildings to achieve solar access. Some south-facing units have high masonry walls that block light into yards or units for most of the day.

Lesson 26: **Orient buildings to maximise solar passive benefits.**

Sophisticated incorporation of design elements that clearly define shared open space from private without the need for high fencing create opportunities for social interaction and a healthy relationship with the outdoor environment. Orientation of buildings to maximise solar access means that all yards are likely to get sun for at least part of the day.

**Children’s play needs**

Finding:

The sites visited revealed an apparent ignorance of the dynamics and requirements of children’s outdoor play. Young children (aged 2 to 5) need to play within sight and calling distance of home and doorstep play is much valued by supervising adults and children alike.

Lesson 27: **Take children’s play needs into account.**

Accommodating the requirements of children in the housing environment encourages potential buyers’ confidence that housing is adaptable to present and future circumstances and that the predictable play behaviour of their and their neighbours’ children will not interfere with residents’ lifestyles or privacy.

**Parking**

Finding:

Designs that locate large car parking garages underground and have a first habitable dwelling or building entryway situated above ground level (accessible only by stairs) to reduce excavation costs of the parking create significant accessibility issues for the majority of sites inspected.
Lesson 28: *Don’t let one solution become another problem.*

This trend exacerbates accessibility problems traditionally associated with some higher density housing. While the location of parking underground allows opportunity for the provision of more shared and private open space (and possibly on-site community facilities) on the ground level, this benefit should not compromise other social requirements of the building design. Universal Access is likely to become a mandated requirement in the future and housing that has inaccessible entries is likely to be more difficult to let or sell, particularly bearing in mind the ageing of the Australian population. The resolution of the contradictions between excavation costs and entry accessibility will be a challenge for designers and developers.

**Tenure mix**

**Finding:**

With the exception of the Kelvin Grove Urban Village in Brisbane and the highly successful Oakden project in Adelaide, very little mixed-use, mixed-tenure and mixed-density development was evident in the sites visited and no developers spoke positively about the benefits of tenure mix. There appeared to be a limited understanding of what could be accomplished by a tenure mix policy or of the various forms of social and community housing now available in Australia, other than public rental housing.

Lesson 29: *Aim for tenure mix to encourage diversity.*

The many benefits of tenure mix in housing and the successful integrating of different types of housing already achieved in sites in Adelaide and elsewhere could be used to market a more diverse range of housing opportunities, which would support a more diverse range of households and combat social exclusion.

**Dwelling design**

**Finding:**

Design elements or fashions borrowed from larger houses located in low-density contexts may not translate well to higher density developments.

Lesson 30: *Horses for courses.*

Design elements must be assessed and selected according to their relevance to the particular density and households to be accommodated. Elements or fashions borrowed from housing of a different density may be completely inappropriate to higher density housing and may, in fact, be detrimental to resident comfort and efficiency.

**Finding:**

Design aspects featuring in promotional materials, advertising or industry literature do not always translate well to the context of smaller units at higher densities.

Lesson 31: *It might be innovative, but does it work?*

Fads and so-called “innovations” should be systematically analysed and tested in relevant contexts before being embraced. Popularity in a design...
magazine does not necessarily translate to practicality in the home environment.

**New technology**

**Finding:**

Some developers are providing technology for dwellings with or without “home offices”. The technology available to designers of housing is rapidly changing. People's perceptions of what is a “basic requirement” of housing will, in time, adjust according to these changes in technology. This is particularly the case with respect to home office technology.

**Lesson 32: Embrace appropriate technology.**

Understanding the state of technological innovation and the ability of particular developments to accommodate these advances will enable designers and developers to present well-articulated designs incorporating up-to-date technology that addresses the aspirational needs of an increasingly sophisticated market. Marketing housing based on its ability to meet the needs of potential occupants and the predictable activities of households (especially homeworkers) will further strengthen the community's positive perceptions of medium- and higher density housing and its ability to meet residents' needs.
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Appendix A

Medium- and High-Density Housing Databases to be Searched and Academic Journals

Databases

These Databases are accessible online and through the University of Queensland, whose library is accessible to us.

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<td>Medium to high-density housing: design guidelines for medium-high-density residential development</td>
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<td>R. Bardsley-Smith and John Smith NSW Department of Planning</td>
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<td>Neighbours’ attitudes to medium-density housing-types: some implications for planning</td>
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## Appendix B

### List of Sites Visited

### Brisbane

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<tr>
<th>Organization/Developer/Architect</th>
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<tr>
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<td>Boundary St Spring Hill</td>
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<td>Abitare Apartments</td>
<td>Robertson St, Fortitude Valley</td>
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<td>Graycor Pty Ltd</td>
<td>Petrie Mansions</td>
<td>242 Petrie Terrace, Brisbane</td>
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<tr>
<td>HPA (Mirvac)</td>
<td>Cutters Landing</td>
<td>New Farm (next to Powerhouse)</td>
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<td>Mirvac</td>
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<td>Gold Coast</td>
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<td>Mondo Architects</td>
<td>Studebaker Apartments</td>
<td>60 Raff Street, Spring Hill</td>
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<td>Multiplex Developments</td>
<td>Ellington</td>
<td>In the Brisbane Urban Renewal Precinct, Teneriffe</td>
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<td>Pradella Developments Pty. Ltd.</td>
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### Adelaide

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<td>Urban Construct</td>
<td>Holdfast Shores</td>
<td>Glenelg Esplanade</td>
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<td>SY21</td>
<td>700, Chapel Street, South Yarra</td>
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<td>Mirvac Victoria</td>
<td>The Melburnian</td>
<td>250 St Kilda Road Melbourne</td>
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<tr>
<td>Nation Fender Katsalidis and Synman Justin Bialek</td>
<td>NewQuay</td>
<td>24 NewQuay Promenade, Docklands</td>
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<td>Piccolo Developments</td>
<td>Cento</td>
<td>100 Queensberry place, Carlton</td>
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<tr>
<td>Nonda Katsalidis</td>
<td>Melbourne Terrace</td>
<td>Corner of Queen and Franklin Streets</td>
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## Sydney

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<td>CPG Developments</td>
<td>Waratah Mills</td>
<td>10-14 Terry Rd, Dulwich Hill</td>
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<td>Encore Elizabeth Bay</td>
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<td>Mirvac Lend Lease Consortium</td>
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## Site Observation List

**LAND MANAGEMENT CORPORATION**

**MEDIUM- AND HIGH-DENSITY HOUSING**

Survey of Sites

**List of Possible Considerations**

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<td>7.</td>
<td>Suburb location and map reference</td>
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<td>8.</td>
<td>Nature of location (inner city, suburban etc)</td>
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<td>9.</td>
<td>Local police station would be:</td>
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<td>10.</td>
<td>Type of site development</td>
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<td>11.</td>
<td>Marketed to (population/resident groups)</td>
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<td>12.</td>
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<td>13.</td>
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<tr>
<td>15.</td>
<td>Numbers of units</td>
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<td>16.</td>
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<td>17.</td>
<td>Numbers bedrooms per units</td>
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<td>18.</td>
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<td>19.</td>
<td>New Urbanist configuration? (back lanes, grid)</td>
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<td>21.</td>
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<td>Parking</td>
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</table>
1. Crime Prevention through Environmental Design (CPTED)
   - Natural surveillance from neighbouring dwellings, roads etc.
   - Wide, unobstructed and clearly defined pathways.
   - Clear delineation between public and private spaces.
   - Multiple routes, particularly exit routes.
   - Appropriate lighting of spaces that use of discourages unsafe routes at nights (in high crime areas).
   - Appropriate landscaping to encourage sightlines while maintaining privacy.
   - Allow mixed uses in public spaces and congregation points along pathways to promote natural surveillance.
   - Greenscreens and wall planting to reduce graffiti.
   - Particular consideration of more vulnerable groups such as women, children and older people.
   - Second-generation CPTED, ie. a stronger sense of community and ownership improves accountability and impetus to act on crime.

2. Landscaping
   - On-site facilities for adults
   - Purpose-built play areas for children

3. Shared open space
   - Easy accessibility and visibility for the general public.
   - Visually complex with prominent and secluded subspaces.
   - Opportunities for community and inter-generational interaction.
   - Incorporate public art.
   - Physiologically comfortable, eg. shaded seating.
   - Accessible to children, older people and people with a disability.
   - Promote safety for all user groups.
   - Easy and economical maintenance.

4. Healthy housing
   - Window orientation and solar shading for natural ventilation and lighting.
   - Window orientation to allow solar gain at certain times
   - Material selection to control this gain.
     - Materials that:
       - avoid dangerous chemicals such as formaldehyde and retardants, which continue to be expelled long after construction.
       - are durable, renewable, natural, and biodegradable and have a low embodied energy.
       - trap elements such as dirt, cigarette smoke and dust mites, eg., carpets.
     - Alternatives to PVC electrical cabling, pipes and ducts that are chlorine-free and behave better in fires.
   - Position powerpoints so that appliances with high EMF are not close to people for long periods.
   - Colour and lighting selection that considers emotional impacts.
   - Acknowledge the need to deal with rubbish, recycling and compost.
   - Provision of communal compost heap and worm farm.
   - Communal recycling.
   - Systems that utilise rainwater and greywater.
5. Working from home
   - Consideration of outside visitors to the office.
   - Natural lighting and ventilation with consideration of glare and strong breezes.
   - Access and/or views to external areas.
   - Loading zones and client parking.
   - Increased requirement for storage space and waste disposal.
   - Consider child surveillance or accessibility of childcare services.

6. Children’s needs in the outdoor residential environment
   - Attractive and diverse play spaces.
   - Incorporate risk, challenge, adventure and excitement while maintaining safety.
   - Comfortable space dimensions.
   - Roads and footpaths designed to provide areas safe from traffic.
   - Encourage inter-generational interaction through congregating areas.
   - Provide areas for supervising adults to rest in the shade.
   - Incorporate natural surveillance from houses, particularly from workspaces.
   - Wheelchair and disabled accessibility.
   - Durability and easy maintenance of equipment.
   - Create inclusive environments, with consideration of gender and cultural issues.

7. Older people’s needs

   Outdoor Residential Environment
   - Wheelchair accessibility.
   - Rest points.
   - Furniture and landscape design.
   - Physiological comfort.
   - Easy legibility and clear signage.
   - Strong orientation points.
   - Promotion of congregation points and opportunities for incidental contact.
   - Safety and security.
   - Access to public transport.

   Dwelling design
   - Increased lighting levels and clear signage to accommodate reduced vision while avoiding glare.
   - Protection from extremes of heat, cold and humidity.
   - Non-skid surfaces, an absence of sharp corners and sturdy grasplable objects.
   - Clear pathways, resting places and wheelchair manoeuvrability.
   - Views to outdoors and variety between rooms to improve orientation.
   - Enable both privacy and social interaction from the home and in semi-public areas.
   - Contemplation of nature and opportunities for a garden.
   - Windows and doors designed for a possible decrease in motor skills.
   - Create a safe and secure environment.
8. Accessibility for people with a disability

**Outdoor residential environment**
- ‘Colour contrast and good signage.
- Clear, wide and even pathways.
- Handrails and larger controls for more complicated terrain.
- Frequent rest opportunities.
- Controls, handles, taps and/or knobs that are easy to operate.
- Ramps and lifts for level changes.
- Height adjustments for ease of reach.
- Extra space for wheelchair manoeuvrability.
- Attention to accessibility in congregational areas to avoid exclusion.
- Strict compliance with minimum standards set out in ADA guidelines.

9. Needs of different cultural groups

- Incorporating the meaning of ‘Home’ into design.
  - Reduce the appearance of density by varying rooflines, fenestration and setbacks, use of warm, ‘domestic’ higher materials, sensitive landscaping and small parking lots.
  - Use cluster housing configurations with care and ensure wherever possible that dwellings are not attached.
  - Avoid the appearance of a large housing ‘estate’ or postmodern housing design.
- Solidity, warmth and comfort
  - Many cultures prefer a solid appearance in housing, which could be considered in conjunction with the existing fabric.
  - Immigrants might be used to different climatic experiences, particularly in relation to degree of enclosure.
  - Avoid avant-garde designs, as they are usually less popular with cultural groups.
- Ownership and control
  - In some cultures, home ownership features prominently in measures of resident satisfaction, with the emphasis being on investment and control.
  - Minimize interference; maximize opportunities for personalisation, modification and control of dwellings.
- Communal spaces
  - Communal kitchens, bathrooms, backyard/balcony space for cultures with communal needs.
- External private and public space
  - Size of yard, balcony, garden, courtyard space to consider cultural preferences for socialising.
  - Privacy and separation between private and public space.
  - Differences in requirements for food production space.
Appendix D

Workshop Participants

Brisbane Workshop (30 April 2004)

Andrea Young Andrea Young Planning Consultants
Juergen Hanisch Brisbane City Council
(P) Helen Kerr Brisbane City Council
Jo Besley Brisbane Housing Company
(P) Eloise Atkinson Deicke Richards Architects
Peter Richards Deicke Richards Architects
Guy Gibson Delfin Lend Lease
David Keir Delfin Lend Lease
Wendy Truer Delfin Lend Lease
Paul Fairweather Fairweather Proberts and Arkhefield
Jim Gall Gall and Medek
Ray McNab Gold Coast City Council
(P) Rita Struthers Gold Coast City Council
Brendan Gleeson Griffith University
Andrew Hammonds Hassell
(P) Varouge Patapan HPA (Mirvac)
Richard Rizzalli HPA (Mirvac)
Jeff Humphreys Humphreys Reynolds Perkins
John Mongard Landscape Architect
(P) Neil Flanagan Logan City Council
(P) Mary Ganis Maroochy Shire Council
Ben Sutton Mirvac
Wayne Petrie Mirvac HPA
Paul Summers Paul Summers Planning Strategies
John Byrne Qld Government Dept of Housing
Danny O'Hare Qld University of Tech.
Stuart McLaughlin Queensland Housing
Melissa Bergin Redland City Council
(P) Elyssa Ludher Sarkissian Associate Planners
(P) Wendy Sarkissian Sarkissian Associate Planners
(P) Steph Walton Sarkissian Associate Planners
Mark Baker Town Planning
Mark Doonar Tract Town Planning
Brian Stewart UDIA Representative
(P) Greg Bamford University of Queensland
Michael Keniger University of Queensland
Paul Memmott University of Queensland
Antony Moulis University of Queensland
Tim Seelig University of Queensland
Cheryl Tiise University of Queensland
Geoffrey Walker Urban Designer
(P) Martin Zaltron Urban Devt Institute of Australia (UDIA)
Adelaide Workshop (3 May 2004)

<table>
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<tr>
<th>Name</th>
<th>Affiliation</th>
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<tr>
<td>Stuart Boyd</td>
<td>Adelaide City Council</td>
</tr>
<tr>
<td>Chris Hannaford</td>
<td>Adelaide City Council</td>
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<tr>
<td>Ann Sharley</td>
<td>Adelaide City Council</td>
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<td>Christine Teichart</td>
<td>Archicentre</td>
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<tr>
<td>Bruce Rippin</td>
<td>AV Jennings</td>
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<tr>
<td>Diep Pham</td>
<td>AV Jennings, Marketing Officer</td>
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<tr>
<td>Michael Kilmartin</td>
<td>AV Jennings, Preplanned Housing Design Manager</td>
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<td>Helen Kerr</td>
<td>Brisbane City Council</td>
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<td>Helen Kerr</td>
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<tr>
<td>Rob Donaldson</td>
<td>City of Holdfast Bay, G.M. Strategy and Development</td>
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<td>David Brown</td>
<td>City of Unley, Strategic and Policy Planner</td>
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<tr>
<td>Stephen Holmes</td>
<td>Connor Holmes (UDIA)</td>
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<td>Chris Banford</td>
<td>Delfin Lendlease</td>
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<td>Flinders University</td>
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<td>Simon Cross</td>
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<td>Greg Barnford</td>
<td>Housing and Social Theory</td>
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<td>Howard Young</td>
<td>Kinsmen</td>
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<td>Colin Kitson</td>
<td>Land Management Corporation</td>
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<td>Meredith Taylor</td>
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<td>Angela Hazebroek</td>
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<td>Andrew Atkinson</td>
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<tr>
<td>Paul Stark</td>
<td>Planning SA CPTED</td>
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<tr>
<td>Wendy Sarkissian</td>
<td>Sarkissian Associate Planners</td>
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<td>Kevin Taylor</td>
<td>Taylor Cullity Lethlean</td>
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<tr>
<td>Tony Kamenjarin</td>
<td>Town Planner, City of Port Adelaide, Public Domain.</td>
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<tr>
<td>Hugh Stretton</td>
<td>University of Adelaide</td>
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<tr>
<td>Donna Ferretti</td>
<td>University of South Australia, Urban and Regional Planning</td>
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<tr>
<td>Sue Crafter</td>
<td>Urban Pacific</td>
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<tr>
<td>Megan</td>
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Melbourne Workshop (5 May 2004)

Maryann Wulff
Australian Housing and Urban Research Institute

Roger Poole
Bares Smart Architects

Jese Alfano
BHA Bruce Henderson Architects

(P) Helen Kerr
Brisbane City Council

Peter Nassau
Building Commission

(P) Bill Chandler
Chandler Consulting Services

Warwick Heine
City of Dandenong

(P) David Pryor
City of Melbourne

Michael Collie
Collie Planning & Development

Rob Milner
Coomes Consulting

(P) Vincent Maher
Coomes Consulting Group

(P) Jan Ryan
Crime Prevention Victoria

Rod Fehring
Delfin Lend Lease

(P) Jill Lim
Delfin Lend Lease

(P) Peter Boyle
Department of Sustainability and Environment

Peter Durkin
Department of Sustainability and Environment

(P) Paul Goldstone
Department of Sustainability and Environment

Simon McPherson
Department of Sustainability and Environment

Sophie Paradiss
Department of Sustainability and Environment

Paul Reed
Department of Sustainability and Environment

(P) John Smout
Department of Sustainability and Environment

Greg Burgess
Gregory Burgess Architects

Paul Katsieris
Hassell Architects

Simon Hubert
Mirvac

(P) Stephanie Knox
PIA social Planner

Claire Scott
Planisphere

Bernadette George
Planning Consultant Member of PIA

(P) Wendy Sarkissian
Sarkissian Associate Planners

(P) Steph Walton
Sarkissian Associate Planners

(P) Alfred deBruyne
SJB Architects

Charles Justin
SJB Architects

Kim Dovey
University of Melbourne

Ian Woodcock
University of Melbourne

David Yencken
University of Melbourne

(P) Kelvin Walsh
Urban Designer Maribyrnong City Council

Brendan Rogers
Urbis

Tim Whitefield
Whitefield McQueen
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Social issues and trends associated with medium- to higher density urban living.
For the Land Management Corporation, South Australia

Workshop Agenda
Brisbane 30 April 2004, Melbourne 5 May, 2004
Sydney 7 May 2004

9am Welcome and introductions
9.15am Session 1 - Brief for this project
9.45am Session 2 – Medium density and higher density housing: the social dimension
10.45am Morning tea
11.15am Session 3 – Experiences with medium density and higher density housing – a discussion among participants
11.50am Session 4 – Key factors for the LMC to focus on in the future
12.30pm Session 5 – Research and site visit advice
12.55pm Final discussion
1pm Close of workshop

We have a questionnaire that we would appreciate participants of this workshop, as well as those interested in medium to higher density housing, completing. Please go to our website and follow the link to share your views and help inform this important research:


Thank you for your participation in this workshop and providing your ideas and comments.
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What is Crime Prevention through Environmental Design?
By Wendy Sarkissian 2002

1.0 General concepts

Crime Prevention through Environmental Design (CPTED) is the design and effective use of the built environment in order to lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life. CPTED involves the design of a physical space so that it enhances the needs of legitimate users of the space. This emphasis on design and use deviates from the traditional ‘target-hardening’ approach to crime prevention.

Owners, managers and community users have a responsibility to report to the police all suspicious activities and criminal occurrences; without this, the effectiveness of CPTED is minimised. Creating and maintaining partnerships with the community and local government will aid in improvement of quality of life issues and make for a safer environment and a more productive community.

For CPTED to be successful, it must be understandable and practicable for the normal users of the space. The normal users know more about what is going on in the environment and they have a vested interest (their own well-being) in ensuring that their immediate environment operates properly.

2.0 The Three-D’s

The ‘Three-D’s’ approach to space assessment provides a simple guide for the normal users in determining the appropriateness of how their space is designed and used. The Three-D concept is based on the three functions or dimensions of human space:

1. All human space has some designated purpose;
2. All human space has social, cultural, legal or physical definitions that prescribe the desired and acceptable behaviours; and
3. All human space is designed to support and encourage the desired behaviours.

CPTED involves the design of the physical space in the context of the legitimate user of the space, the normal and expected use of that space, and the predictable behaviour of the bona fide users and offenders. CPTED emphasises the connection between the functional objective of space utilisation and behaviour management. We must differentiate between designation of the purpose of space, its definition in terms of management and identity and its design as it relates to function and behaviour management.

By using the ‘Three D’s’ as a guide, space may be evaluated by asking the following types of questions:

2.1 Designation

♦ What is the designated purpose of this space?
♦ For what purpose was it originally intended?
♦ How well does the space support its current use or its intended use?
♦ Is there conflict?

2.2 Definition

♦ How is space defined?
♦ Is it clear who owns it?
♦ Where are its borders?
♦ Are there social or cultural definitions that affect how space is used?
Are the legal or administrative rules clearly set out and reinforced in policy?
Are there signs?
Is there conflict or confusion between purpose and definition?

2.3 Design

How well does the physical design support the intended function?
How well does the physical design support the desired or accepted behaviours?
Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?
Is there confusion or conflict in the manner in which physical design is intended to control behaviour?

Once these questions have been asked, the information received may be used as a means of guiding decisions about the use of human space. The proper functions have to be matched with space that can support them.

The design has to assure that the intended activity can function well and it has to directly support the control of behaviour.

3.0 Five key CPTED principles

CPTED is supported by the following five overlapping principles that are applied to specific sites and situations.

3.1 Territoriality

Territoriality is a concept that clearly delineates private space from semi-public and public spaces, and creates a sense of ownership. People usually protect territory that they feel is their own and have a certain respect for the territory of others. Fences, paving, art, signs, good maintenance and landscaping are some physical ways to express ownership. Identifying intruders is much easier in a well-defined space. An area that looks protected gives the impression that greater effort is required to commit a crime. A cared for environment can also reduce fear of crime.

Areas that are run-down and the subject of graffiti and vandalism are generally more intimidating than areas that do not display such characteristics.

Ownership creates an environment where appearance of such strangers and intruders stand out and are more easily identified through:

- The enhanced feeling of legitimate ownership by reinforcing existing natural surveillance and natural access control strategies with additional symbolic or social ones;
- The design of space to allow for its continued use and intended purpose; and
- The use of pavement treatments, landscaping, art, signage, screening and fences define and outline ownership of space.

3.2 Natural surveillance

Natural surveillance is a design concept directed primarily at keeping intruders under observation. Provision of natural surveillance helps to create environments where there is plenty of opportunity for people engaged in their normal behaviour to observe the space around them.

Criminals usually do not want to be seen. Placing physical features, activities and people in ways that maximise the ability to see what is happening discourages crime. For example, placing cafes and kiosks in parks increases natural surveillance by park users, while placing clotheslines near play equipment in a multiple unit development increases natural surveillance of the play area. Barriers such as bushes or sheds can make it difficult to observe activity. Areas can be designed so they are more easily observed through:

- Design and placement of physical features to maximise visibility. This will include building orientation, windows, entrances and exits, carparks, rubbish bins, walkways, landscape
trees and shrubs, use of wrought iron fences or walls, signage and other physical obstructions;
♦ Placement of persons or activities to maximise surveillance possibilities; and
♦ Minimum maintained lighting standards that provide for night-time illumination of carparks, walkways, entrances, exits and related areas to promote a safe environment.

3.3 Access control

Access control is a design concept directed primarily at decreasing criminal accessibility. Provision of natural access control limits access and increases natural surveillance to restrict criminal intrusion, especially into areas where they will not be easily observed. Access can be restricted by physical barriers such as bollards, fences, doorways etc or by security hardware such as locks, chains and alarms. Human measures can also be used, such as security guards. All these methods aim to increase the effort required to commit a crime and therefore, reduce the potential for it to happen.

When present, intruders are more readily recognised through:
♦ Use footpaths, pavement, gates, lighting and landscaping to clearly guide the public to and from entrances and exists; and
♦ Use gates, fences, walls, landscaping and lighting to prevent or discourage public access to or from dark or unmonitored areas.

3.4 Activity support

Activity support is the presence of activity planned for the space. Activity support involves placing activity where the individuals engaged in an activity will become part of the natural surveillance system. Examples include:
♦ Place safe activities in areas that will discourage would be offenders, to increase the natural surveillance of these activities and the perception of safety for normal users, and the perception of risk for offenders;
♦ Place high-risk activities in safer locations to overcome the vulnerability of these activities by using natural surveillance and access control of the safe area;
♦ Locate gathering areas in locations that provide for natural surveillance and access control or in locations away from the view of would-be offenders; and
♦ Improve the scheduling of space to allow for effective use and appropriate intensity of accepted behaviours.

3.5 Maintenance

Proper maintenance of landscaping, lighting treatment and other features can facilitate the principles of CPTED, territorial reinforcement, natural surveillance and natural access control. Functions include:
♦ Proper maintenance of lighting fixtures to prescribed standards;
♦ Landscaping which is maintained at prescribed standards;
♦ Minimising the conflicts between surveillance and landscaping as the ground cover, shrubs and trees mature.

4.0 Crime Risk Assessment: Key design elements

During a crime risk assessment process, specific types of problems can be identified. These include features such as activity generators, edge effects, movement predictors, conflicting user groups, crime “hotspots” and displacement effects. Once identified, CPTED principles can be brought to bear to reduce the impact of these problems. These are summarised below.

4.1 Activity generators

Activity generators are features that tend to create local activity: playgrounds, benches, picnic areas and kiosks. Crime opportunities can be high in such areas if CPTED is not applied. In some circumstances, activity generators can be used to reduce opportunities for crime.
4.2 Edge effects

Edge effects are generated around the actual, or perceived, physical borders of different land uses, such as the edge of a park, the border of a commercial strip or around a shopping mall. Research has shown that high crime rates have been found in such areas. Contemporary CPTED aims to identify, soften or eliminate as many as possible.

4.3 Movement predictors

Movement predictors are predictable or unchangeable routes or paths that offer few choices to pedestrians. Pedestrian bridges, enclosed pathways and staircases are examples. Often alternate routes are unavailable to pedestrians and this becomes a problem, especially if the movement predictor contains entrapment areas where offenders can hide and wait for victims. Movement predictors also determine the awareness spaces that offenders have of neighbourhoods and where targets may be located.

4.4 Conflicting user groups

Urban features designated for one legitimate group can conflict with other groups nearby, such as older people. In addition, different groups using design features for different reasons can often cause conflicts, such as walking trails used by both bicyclists and hikers. Attention must be given to avoid generating opportunities for problems by creating or exacerbating conflicts between user groups.

4.5 Hotspots

Hotspots are existing high-crime locations that can affect a nearby development. These can include areas of high car theft such as certain underground parking lots, pick-pocketing in bus terminals, or specific pubs experiencing fights at closing time. Consideration must be given to the proximity of such locations and how to provide for public safety at the proposed development.

4.6 Displacement

The ‘displacement phenomenon’ occurs when crime is moved away, or drawn into, new developments. Many aspects of a problem or crime can be displaced, including its place, timing, and nature of offence, target and the method. Research has shown that displacement is not always negative. It can be controlled, and even used positively, if proper CPTED planning principles are incorporated.

5.0 Thinking like a criminal when designing to reduce crime: rational choice theory

Criminologists have long known that criminals make rational choices about their targets and generally:

♦ The greater the risk of being seen, challenged or caught, the less likely they are to commit a crime;
♦ The greater the effort required, the less likely they are to commit a crime;
♦ The fewer the reasonable or believable excuses that can be offered, the less likely they are to commit a crime; and
♦ The lesser the actual or perceived reward, the less likely they are to commit a crime.

CPTED principles in planning, design and management of the environment are therefore used to ensure that:

♦ There is more chance of being seen, challenged or caught;
♦ Greater effort is required;
♦ Territorial boundaries make it clear when people are not on public land or in public space;
♦ The actual or perceived rewards are less; and
♦ Opportunities for criminal activity are minimised.
6.0 My approach to CPTED analysis

6.1 A holistic approach by thinking ‘social’

Creating safe communities is a complex matter, which relies on a delicate balance between physical and social interventions. Earlier approaches, relying on target hardening, hardware and ‘defensible space’ have been supplanted by approaches that are more comprehensive. One recent development is ‘Second-generation’ CPTED, developed by G. Saville and G. Cleveland in 1997. It attempts to expand the ‘design thrust’ of CPTED to incorporate social crime prevention strategies for a more holistic approach to reducing crime. An example would be encouraging neighbourhood social events, after access has been controlled and surveillance improved in that neighbourhood. (After all, there is no point in having eyes on the street if those eyes are not willing to do anything about crime.)

6.2 Working at all three scales: micro, meso and macro

Research has already demonstrated convincingly that CPTED is an effective tool in reducing opportunities for crime, fear of crime and nuisance problems. However, CPTED principles must be incorporated into planning and development on a consistent basis to ensure safe development in future years. This should include careful assessment of CPTED principles at micro, meso and macro levels.

Physical design interventions can certainly minimise risk; that can be guaranteed. However, they cannot provide assurances that crime can be prevented. Rather than a prescriptive approach to CPTED, it is necessary to experiment and explore, embracing a range of theoretical approaches which lead to an understanding of how opportunities are created and criminal choices are made. As crime and fear of crime are situational in nature, any guidelines will have to be tailor-made at the local level to meet the needs and priorities of the community.

6.3 The crime risk assessment (CRA) process

A crime risk assessment (CRA) process represents the most systematic way to determine which CPTED strategies apply, based on the context of a specific site. The risk assessment incorporates four elements.

Stage 1: Site visit, including interviews or surveys with local residents and other relevant persons, including preliminary discussions with local police. Photo surveys of the site and the surrounding area by day and night are sometimes conducted. Safety audits can also be used.

Stage 2: Preliminary reviews, including more in-depth discussions and meetings with CPTED-trained police officers, residents, planners, or CPTED consultants. This process can take the form of planning meetings, focus groups, meetings with the public, and so forth.

Stage 3: A crime risk assessment, including crime analysis of available statistics, local demographics, mobility patterns and any available forecasts. On complicated or large projects, specialists use ‘hotspot’ analysis, and other technical techniques.

Stage 4: Design reviews, including architectural design workshops and a CPTED review of existing plans are conducted. Detailed landscaping plans and models, where appropriate, can be used to examine sightlines, movement predictors, entrapment areas and natural surveillance locations. This stage would also pay attention to technical issues such as lighting, target hardening, finishes and detailed landscaping plans.
Notes from Four Expert Workshops

1.0 Medium-density/higher density housing

1.1 Definition
- 25 – 40 dwellings per hectare
- 2 – 4 storeys

1.2 Terminology differences
- There is a tendency to bundle all forms of medium and higher density into the one category.
- Important to get terminology correct – what is medium density.
- Differentiation between low-rise medium-density and high-rise medium-density.
  - Eg. Personalisation is handled very differently between 3 storey and 1 storey housing.
  - We want independent confirmation of density standards
  - M2030’s essence is sustainability and density with no reference to floor space
- Decrease usage of the term ‘higher-density’
- Improve understanding of the positives and negatives associated with medium-density and high-density housing.
- Comes back to defining higher-density among planners and council as well as among the community.

1.3 Housing styles and densities
- High-density, lifted buildings.
- Frog-mouth townhouse style.
- Terrace model
- High-density, public space in front of a row of townhouses.
- Difficult due to site sizes and parking opportunities

1.4 Appropriate land use issues
- Infill sites
  - Are now very precious
  - If the density that a site deserves cannot be met currently, the site should be put aside for a time when appropriate development is possible.
  - Northfield in Adelaide
    - Mental hospital stigma has now gone
    - Water recycling in the last stage.
- Seaford (in Brisbane?) Did not work small lot, at the time, the market wanted only detached houses the market may now have changed
- Care needs to be taken that design assessment does not become too value driven.

1.5 Public perceptions
- LMC has stated that they want the current state of the art application in avoiding negative social issues
- High levels of resistance to medium-density and high-density developments.
  - Opposition is growing against Melbourne 2030 vision’s push for consolidation & due to a fear of rapid change.
  - In early 1990’s it was hard to make high-rise housing working – assumption that inner city housing is the way to go. Now become hotels and serviced apartments.

1.6 Reasons for a negative reactions
- A culture in Australia exists where people are not used to living in higher densities.
  - As we become more accustomed to this people’s tolerances will rise.
    - Europe is a good example where people cope and understand the importance of higher densities.
- Confusion over the terminology and its implications
  - The expectations that are set within the community are important to recognise –
    - What is higher density?
    - When is density high or even too high?
    - Most people refer to height and bulk.
    - Camberwell railway station as example of reaction to terminology.
- Past implicit assumptions that higher densities would not occur.
  - Early 1990’s in Melbourne there was a sense that higher densities would never occur.
  - That this was because higher densities were not appropriate to Melbourne’s perceived culture.
  - Victoria is blessed and cursed with third party right of appeal where people can object to higher density.
- Lack of successful developments
  - So few good examples of higher density around in the 1980’s that you could not blame people for being suspicious of higher density development.
- Concern over the preservation of existing and valued aspects of the urban fabric.
  - Sydney, around the harbour.
  - In Melbourne, where higher-density developments are trying to fit into a lower-density neighbourhood
    - May create a demographic change
    - Site and buildings – not impact on the broader neighbourhood –the demographic change that results.
    - Eg. Footscray how is this achieved, what expectations are created etc?
1.7 Positive attributes of medium-density and high-density housing.
- Sociability, shared resources, less car use, public open space, and accessibility.
- Sell higher density developments along the lines of amenity and accessibility principally.
  - Less maintenance
  - Close to everything
  - Better serviced neighbourhoods.
- More likely to get outside & walk with less reliance on the car.
  - The benefit on a superannuation payout of owning 1 less car.
  - We fail to properly cost the societal cost of cars.
  - If the cost of petrol rose, more people would want to live in the inner city or at least in higher density housing.

1.8 Marketing/selling considerations
- People are moving into units who are used to living in houses.
- Consider a different way of promoting higher density so that it does not seem like a poorer option to low density.
  - Eg. A change in amenity, not a loss of amenity.
- Message to the buyer: ‘this is an opportunity to reinvent yourself.’
- Need to make housing appear as detached or individual as possible.
- Easier to do with row housing but more difficult with multi-storey developments.
- The trend is for people to buy larger houses on small blocks (with smaller families) because this demonstrates that they have made it. People are willing to pay for things they don’t need or use.
- There is a massive mismatch in the outer suburbs between what people currently inhabit and what is really required.
- In Melbourne, there has been a huge cultural change in the last decade.
- Overseas, I’ve seen a resurgence of low-rise higher density.
- Majority of projects have medium-density components. 300-400 medium density sites in all. Next 4-5 years.
- Lots of urban infill - squeezing both private and public domains.
- Higher densities is a minor but growing trend in Adelaide.
- Cities change quickly/rapidly.
- In 2000, there were concerns as to whether people would even purchase units.
- Costs must be addressed including all costs not just purchase price.
- Impact of parking and transport routes.
- Infrastructure premium that is attached to the development must be with expectations.
- Landscaping can provide a level of integrity in the larger scale of development.
- Balcony sizes – small around town because it costs more to construct than it does for floor space in the same way that windows cost more than solid wall.
- Units are sold based on floor size, which does not include balcony – so developers try to get away with smallest balcony understood in terms of the surrounding community ie on a macro level.
- Many infrastructure costs are possibly associated.
- Strength of market (sales prices and purchasability) will determine, to some degree, the ability of the developer to integrate the appearance of the unit (skin, landscaping etc) and the provision of facilities.
- Climatic influences and noise are two real issues to deal with in design and integration.
- Balance of site utilisation and its impact on the perceived open space is an important issue.
- The value equation is vital to get right.
  - The cost of construction is affecting the uptake of apartments.
  - The cost of buying a house and land, if equal or less than the cost of medium and higher density housing will be chosen because this is where the Australian psyche is at.
- Melbourne 2030 no change in planning laws, no tax incentives.
- LMC should explore incentives to support.
  - Explore tax incentives –
  - Explore reductions in stamp duty –
  - Dispensation for parking especially in inner city housing –
  - Use government contacts to achieve this –
  - Poor public housing in Victoria-
  - Mixed housing models.

1.9 Trends and purchase considerations
- The trend is for people to buy larger houses on small blocks (with smaller families) because this demonstrates that they have made it. People are willing to pay for things they don’t need or use.
- Concern over a loss of privacy.
  - Cultural expectations.
- Lack of incentives to move
  - There are no incentives in M2030 for medium to higher density housing – no tax breaks etc.
    - Ringwood site is proposed as a site for medium density housing because it is close to shops; however, it is so expensive that it would make more sense to live a km away.
- New city versus differences from the existing city.
- Urban consolidation brings about demographic & built form changes.
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- The psyche of space and the problem of costs size of apartments.
- People want space.
- Amenities need to be included in buildings themselves.
- Australians want large space marketing is a major problem.
- People want to live in houses – massive mismatch between existing stock and residents.
- I agree with this. Housing for older people – design for them in the context of doing other research to determine who it is that LMC would be designing for in Northfield.
  - We have been undertaking research over past 9 months to determine who it is that Landcom will be designing for in coming years and are finding that we will be designing largely for older people. We need an integrated approach to this.

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• Affordability is also very important. How prepared are the baby boomers for the cost of housing and the density trade-offs.
• Looking at setting affordable housing (co-op?) At the younger ages 20-35 year old singles target group
• Affordable s...housing design competition
• Funded by super funds (aim) some subsidy
• Needs a return to investors
• Unley –big houses on small blocks
• Trying to move to higher densities
• Must remember that higher end of high density living, ie. expensive would be sought by everyone where possible. However, there are many people who don’t feel they have the option in terms of affordability and location.
• Mechanisms in place to ensure that housing stays affordable especially where it is initially marketed this way.
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2.0 Recommendations for Improvement of User Satisfaction and Public Perceptions.

2.1 Eradicate false expectations
• Realistic marketing
  o Letting people know what the existing community is like so that people with unrealistic expectations are not surprised.
  ▪ Eg. Fortitude valley, Brisbane where people moved there for the nightlife but did not want the noise that came with it.
• Expectations must be mitigated by public education.
• Collaboration between councils and developers to create balance between marketing and education.
• Educate - if you want to keep things as they are in your backyard the pressure has to be relieved somewhere else – ie. If you want lower density in one place there needs to be higher density elsewhere.
• Having an urban growth boundary means we need to use urban infill. What is needed to happen?
• Contextual things, expectations we set; poor images – depressing
• People unaccustomed to higher density living don’t understand limitations in terms of etiquette.
• People within higher density don’t always recognise issues that surrounding people will.
• Some of this depends on their level of education as to whether they have the capacity to understand the social dimension and why it is so important.
• In early 1990’s it was hard to make high-rise housing working – assumption that inner city housing is the way to go. Now become hotels and serviced apartments. No market.
• Would it be dangerous to go for lower density and then build it up over time – would people feel duped in that they bought in at lower density?
• Is the community going to demand appropriate development from developers and the LMC? How susceptible is the community to talking about higher densities?
• Standards for higher density aren’t up to scratch in Australia. Design and construction issues.
• Joseph Rowntree foundation report talks about issue of policing response.
• Architects should not try to solve social issues

2.2 Targeted developments
• Set up funds to promote community development in medium to high-density developments.
• Emphasise affordable housing.
  o Eg. Perth
  o In the Australian context affordable housing has always been delivered by the market – poor quality.
• Provide opportunities for socialising with other people in communities.
  o This is where a lot of education and sharing occurs.
  o Common indoor areas (eg craft workshops).
• Consultation with local community and council to identify missing needs in the area.
  o Bottom-up consultation.
• Maybe people don’t want higher densities in Adelaide.
  o The people who choose to live in a particular area may want to live there for a certain reason. This means that the potential success of high rise in say Glenelg may work but this may not translate to Northfield
• They are looking at setting an affordable housing (co-op?) At the younger ages target group (20-35 singles):
• Social issue is quality of construction – not necessarily just a design issue. Brand new apartments built poorly create so many problems
  o Future costs of repair more expensive than doing properly in the first place
  o Stress associated
  o Reduced living standards

2.3 Social interactions
• People today still looking for security, friendship and community – strategies to achieve this are important.
• Community development is important as different to consultation. Special interest groups, newsletters, development programs, physical transition support, leisure learning programs etc.
• At the outset of planning for new housing the need for social interaction needs to be looked at. Affordability also important.
• Important for LMC to find a balance between commercial and social responsibilities.
• LMC is a public entity and needs to look at ways of bringing community together rather than just housing design and market forces in terms of medium to higher density housing.
• In terms of brand and image socially responsible development is very important for LMC.
• For hard-nosed developers it comes down to the dollar – so creating a community where people want to live will sell the housing.
• The new things that I see emerging are a sustainability agenda that people are beginning to take seriously.
• There is a need to get community development right. Big push in the last few years as to how this can be achieved with different communities, identifying common interests among communities. Elements of design that affect the social dimension so much.
• Why people are buying at higher densities “I don’t want do know my neighbours”
• We have undertaken an audit in South bank to understand the importance of social interaction possibilities such as the good design of a mail collection area. Mail areas need to be a mix of private (safety) and public (interaction).
• Community connectedness is very important for community safety. Why aren’t people living in places that support social interaction – some people don’t want that interaction, others do and need it for their own health and growth.
• The way in which sites and the wider landscape is designed must support a variety of requirements.
• Stars – develop higher density housing in ways that encourage healthy behaviour. This may be done through designing attractive stairs that people want to use. Encourage social interaction this way too. Docklands design means that you drive into underground carpark, catch internal lift and never see anyone.
• Potential benefit of higher density housing – interactions – sociability – safety – once people get used to the idea of higher density living they may become more responsible for themselves and consider others more – encouraging this behavioural change is important through education and design.
• Problem with developing community interactions where people are driving into carparks and catching lift up to their apartment. Isolation. Need interaction. Intercom vs. Front door.
• We have not found that some of the perceived anti-social aspects of modern developments aren’t necessarily driven by profit. Good design can happen at the same price if they are incorporated from the beginning. Important for this to be conveyed to designers so they recognise that their return will not decrease and the perception of the design in terms of buyers will be of high quality and supportive.
• Sustainability – social
• It has been shown that the more private space people have, the more socialising they do
• The public spaces and facilities have to be part of the development in compensation for what is lost from the private lower density realm
• A long slow process of building communities around public space
• In Logan most medium to higher is rented out, meaning that quite a mix of people living in the area.

2.4 Provide incentives
• LMC should look at incentives for helping deliver a better form of medium to higher density housing
• Preparation of planning briefs that state minimum number of houses on site,
  o Fast planning permits save money
• Options for reducing stamp duties,
• Dispensations of parking that clearly states maximum numbers of parking spaces provided,
  o Dispensations for building within the CBD for parking
• Planning, financial & design incentives from Europe could be applied here.
• Medium density with a sweetener is important for LMC rather than promoting it as a second-rate option to low-density living.

2.5 Participation and consultation
• This shows if you consult communities you can get very good results
  o Involving communities is crucial
  o LMC wanting to do it well and include stakeholders
• A lot of whether things get done depends on who it is that you are dealing with

2.6 Impact on urban fabric
• Port Adelaide: 3, 4 & 5 story town houses & apartments
• Knowing Adelaide fairly well and having done research there, it seems intuitively the wrong place to be putting 8 to 12 stores in Northfield – 3 storeys would be pushing it out there
• 12 stores in Northfield would really stand out.
• There is no transport support around the potential Northfield development in Adelaide. This is important.

2.7 Alternative medium density - cohousing
• LMC should be encouraged to negotiate with the SA Housing Trust for social innovation encouragement for people involved in co-housing.
• Designing an eco village in Newcastle now coming from a social perspective in the design.
• Landcom to negotiate with the Housing Trust to deal with large developments on site with funding and design etc.
• Trying radical things.
• Co-housing (Sweden)
  o Common indoor areas (eg craft workshops)
  o Self-motivated
• For both women and men there are unmet needs, eg a bloke can’t have his shed.
• How do you provide something that is some sort of equivalent that doesn’t take away from other requirements?
• There is a management issue there as well as construction requirements. Management of activities as well as the built form.
• How it gets divided up is the vital aspect.
• Seen examples overseas with communal facilities where even large-scale projects could happen with private lockable spaces within the facility for storage of special tools etc.
• Also seen an extra room in apartments with doorway access to rooms on either side.
• Need for communal facilities that are accessible and shared.

2.8 Sustainability and environmental concerns
• Larger developers are staying away from energy architecture
• Tension between values and diversifying client base
• The ecovillage doesn’t have front or rear yards
• Back is the street frontage –
  • The "culture walk" is at the front
• Larger developers are staying away from these in droves for larger projects:
  o How do we diversify client base but maintain their principles?
  o How can government help us to get social ESD inclusion?
• An affordable green housing design competition
• Funded by super funds (aim) with some subsidy
• Needs a return to investors
• There needs to be a balance between good design & energy efficient design
• How do you bring it all together? Aware of the complexities.
• The term 'sustainability' is losing its edge. Test your project against all the different sustainability definitions, like longevity.
• I don’t know any housing market (for sale or rent) which is sustainable.
• Need to be all sorts of co-operative arrangements.

3.0 Dwelling Design Issues

3.1 Size
• Size of apartments is generally too small.
• Psyche of ‘space’ that Australians require.
• Accessibility for disabled or elderly
  o Eg. The corridors are wide enough.
• Adaptability
  o Eg. There is room for someone to stay over.
  o People will change and move on, their needs will be different
• Avoid artificiality.
• Do not contrive what the development is about or how people may live in that building(s).
  o Be realistic about style of living, noise issues, open space provisions, parking, security etc.

3.2 Noise
• Developments on the fringe of the city that have 500m lots with huge 4 bedroom houses on them mean that there exists the same noise and privacy issues as unit developments.
• Noise issues – conflict created through new residents in the inner city.
• Rubbish removal noise (exacerbated by privatisation of collection agencies which means that many companies may be working at the one time in one area), building/construction noise.
• Noise issue: City of Melbourne has more guidelines for higher densities

3.3 Balconies
• People use good balconies:
  o Size
  o Solar access
  o Something that starts internally and projects outward with some overhang.
  o If they’re not good enough they won’t be used.
• Balconies seem hard to get right in their design and accommodation of uses. They need to be in effect a replacement for a back yard.
• Balcony sizes – small around town because it costs more to construct than it does for floor space in the same way that windows cost more than solid wall. Also, units are sold based on floor size which does not include balcony – so developers try to get away with smallest balcony understood in terms of the surrounding community ie. On a macro level.
• With regard to balconies the council has not said that there must be a minimum provision because the taller the building, the higher the balcony, the more wind effect there is, and the higher probability that it won’t be used. Better to put funds into providing public open space.
• From my personal experience of living high up in a unit, there is a need to be able to walk out onto balcony for fresh air – don’t want to have to go downstairs from the 30th floor to get air or sun.
• This is predominantly a psychological issue. Just important to people to be able to go outside.
• People can establish a garden planter box in these spaces.
• Balconies off the main bedroom don’t get used but sell properties!
  o How do we get a common goal to go forward?
  o Buyers are happy to spend money for things they don’t need (they have made it)
  o Mainstream people don’t want it and can’t afford it
• Balconies get glassed in to become a room
• Cost-driven house footprints
• Only a limited number of floor plans are available
• We were having these conversations 30 years ago!
• The polarity of the mindless want approach to what is good
  o Great need for child-care
  o Changing gender roles
  o In Halifax, one woman looks after 2 – 4 neighbours’ kids
• What people are getting isn’t too bad for the average house
• The single-family house has met people’s needs
• Council’s require a standard for outdoor space – balconies. Controls mustn’t be in place where it’s not happening properly.
• North Sydney has stricter privacy guidelines than outdoor space guidelines which limits balcony provisions
3.4 Windows
- Clients reporting that it is very important to be able to see out of the window from the bed
- Window cleaning access issues for high rise – access isn’t built in enough

3.5 Bathrooms
- Generally only put bathtub in ensuite in high-end luxury apartments
- Research into apartments showing that ensuite should have main bathroom

3.6 Wall punctures
- Issues with puncturing walls internally especially over living spaces
  - Acoustic separation
  - Privacy
    - Trade-off between cross-ventilation and privacy
- These design elements (holes in walls) are borrowed from larger houses and are being applied to smaller housing where it may be inappropriate

3.7 Adaptability/flexibility/diversity
- Encourage flexibility/adaptability of internal spaces/walls
- Important to support a lifecycle choice in the design such as looking at where older people are situated in a high rise building – close to the ground or high up – need to look at from a social sustainability perspective. The social issues surrounding medium density must be assessed – the general community perception. Do we need this from of housing for this area and for what reasons? What are we trying to solve? This sort of approach will help blend existing and new housing in communities.
- Diversity of people within higher density developments is important. Don't want every family in the development to have children under 5 – this may have noise impacts etc.
- I support m2030. Stronger recognition of diversity within life cycle and expectations of the people.
- Brisbane – not so much concern about noise issues – different expectations...
- Different expectations between rural and urban due to distance.
- This group involved in this discussion is not representative of the diversity of people in the community in terms of age, ethnicity, socio-demographics etc so it becomes difficult to not generalise and gain an understanding of what people require. Important to understand that peoples expectations change and that there is a dynamic in terms of how people view their living spaces and community.

3.8 Architects/designers
- UK research. Once design features reach popularity in a well known magazine the trends spread around the world. The point – architects are just as guilty of using these popular trends in their design.
- Important for architects to have their work published. This translates to the trend of images being published and then incorporated into designs.
- Driving motivation behind impractical public housing is architectural sculpture design not practicality.
- Balance between separation/compartmentalising of house design for different purposes and integration of design and acoustic privacy

4.0 Social Design Issues

4.1 Designing for people
- How to make social aspects of design important enough for developers and public to embrace, considering the simplicity of what this is comprised of?
- Baby boomers affect form of design.
- Approach that I take is to plan for the whole community, proactively planning for an aging population, people with disability.
- Universal design principles need to be incorporated into design for medium to higher density developments.
- Important to understand the social circumstances of the residents of developments so that the site can be designed to suit and accommodate present and future requirements. Understanding this can inform the design of meaningful shared spaces, appropriate car facilities and access, supportive interior design, appropriate crime mitigating measures.
- Ensure social factors are incorporated for particular site and requirements of surrounding community.

4.2 Crime and safety issues
- Examples of community development approach in areas that have solved crime issues. Others were physical design approach that hasn’t changed situation. Maybe looking in the wrong area in terms of what is causing crime.
- Culture in Stockholm generally where people don’t encroach on others space regardless of openness of design.
- Low crime rates. Different culture.
- Differentiation of spaces (public vs. private) is important for creating a sense of safety – people on their own turf.
- Being able to see the front door from bed can create sense of security for older people
- Gated communities in Maroochy, which create opposite situation. No diversity in that community. They exist because of fear. Fear of the other. Not a reality. Diversity of mix is important even if the people around don’t have much in common.
- Rather than calling in police etc it is important to work things out personally and embrace diversity in communities.
- Affordable housing important with diverse social mix to create social cohesion and get away from the “us and them” approach and the “fear of others” which fosters the perceived need for gated communities.

4.3 Housing for disabled
- Disabled access must be looked at closely – plans aren’t accommodating disabled people.
- Problem is that disabled access is not mandated as yet.
- Application of principles of universal design
4.4 Housing for older people

- Research into active older people reveals they want nothing less than 3 bedrooms.
- Baby boomers of this generation have money for housing investment and see it as an important security.
- Our research is showing that only the top quarter will have any sense of housing choice without continuing to work longer without releasing some of the equity in this housing. They are going to downsize (general assumption) probably won’t happen. People will spend as much and possibly more on their future housing than their present.
- Certainly is a need to understand this group.
- It will definitely drive a lot of the market. The bubble will be instrumental in the direction of the housing market.
- Conservative designs are not necessarily appropriate for baby boomers. Need for imagination and creativity in design.
- Imagine you’ve been working with government and take the package in say 50’s and begin consulting from home. You may not need a lot of equipment but will need the basics of working from home such as cabling and spatial requirements. Accessibility and layout are very important to consider in this sense. I don’t want the photocopier repairman in my bedroom for instance. The diffuse requirements of retirement have changed over the years. Important to get away from the general perception of retirement.
- There’s a vast difference between results of a household census and the requirements of people on an individual level. Whole range of issues that affect this such as family relationships, investment decisions, financial position, working status and location etc. Near retirement people will go for the optimal investment not necessarily for the practicalities of the house ie. A couple may invest in a huge house for the financial implications in coming years ie. Appreciation in value rather than spatial requirements.
- Options include a separate dwelling near other family members for elderly people.
- Elderly people are looking at what they can contribute to the community in their retirement. They want interaction.
- There’s a logic that with an aging population higher density is essential to address spatial limitations in our cities. Crime and accessibility issues can be addressed. Older people can mitigate accessibility issues associated with their current dwelling, where they are used to being in an area and don’t want to move, can move into a higher density dwelling in the same area. They gain accessibility, safety, amenity etc.
- Disabled access is not a requirement for class 2 buildings under the building code of Australia (the Building Commission is looking into this).

4.5 Student housing

- Student housing is an increasing issue in Melbourne – usually substandard. Reluctance to provide the communal component that should be there.
- Irony of living in a denser situation where people become more isolated – should not be hard to fix because people are there and generally there is a desire.
- Developers are looking at specifically designed student accommodation (overseas students)
- Bedrooms need to be uniform in size – what happens when it becomes a share household – who get the biggest bedroom
- Springfield is doing student housing

4.6 Empty nesters

- Can’t find housing for people in the 50+ age group (when the kids move out)
- They want an apartment – probably 3 bedrooms
- Secure, coffee shop and promenade
- Don’t want to be cleaning!
- Issue of status/show and what they really need
- They are choosing a home for the rest of their lives (lifts & wheelchairs) apartments don’t provide what they need
- The middle-aged are not moving out in droves. They still want a garden. The young can’t get the housing they want
- Please use a different term for the 50+ age – not retirees!
- They want good design, lighting & spaces
- There is an opportunity for developers alone to lead the way. The developer that people look to for good design
- Diversity in choice – different needs in different stages of life

4.7 Working from home

- Working from home – losing identity for home
- Working from home – what is this? Defined
- Network connections: have apartment building chat room to discuss issues on housing.
- High speed cabling

4.8 Personalisation/home/status/ownership

- Individualization of space. How do you not walk in front of someone’s door?
- Street address – multiple entries for personalisation or shared entranceway which is easier and cheaper and supports modern architecture styles. Separating entranceways and designing with the aesthetic of the entranceway in mind can create a sense of ownership.
- Example in Redfern where people have dug up footpaths to make a garden. Personal responsibility and ownership, sense of individuality.
- Building opportunities for personalisation of interior spaces is very important and often missing from modern developments.
- Split between people who own houses and people who live in them. Split between owners and renters (less owners) (investment off-the-plan sector) – not necessarily building them as a place that looks like home. (use flexibility issues)
- Making it look like a home - choice in housing
- Individualisation of space – multi-storey apartments – balconies/doors
- Concepts of what an Australian home is
- Fear of being exposed as normal
- Fear of how fads/fashions are taken up
- The norm of the bigger the better
- Cultural cringe of smallness
- Is there nothing else to choose other than Tuscan?
• Making it look like a home
• Maybe they don’t need more space
• Increase choice of housing,
  • A house is a showpiece not necessarily a functional space (“I have made it in life!”)
• Personal ownership of landscaping creates diversity, cues of property use, less excuse making etc.
• Greg Seville – people more inclined to vandalise space that doesn’t look cared for or owned.

5.0 Markets and Demographics

5.1 Demographics
• You need to understand the future consumer before making an investment decision.
• Identifying behavioural patterns – predictability
• You can’t just estimate the potential demographic.
  o Need to conduct market research and consultation to determine what out of that process can determine potential demographics.
• Whole range of issues that affect this such as family relationships, investment decisions, financial position, working status and location etc.

5.2 Population trends
• Sydney, Melbourne and Brisbane are potentially in a different market position than Adelaide
  o Growing populations compared to a reducing population.
• Adelaide is now growing though in response to the growing markets on the eastern shore.
• Population issues. Population cap used in Noosa as a means of preventing over-development.
• What is the carrying capacity of a particular region and how should development support the ecological, transport, affordability, accessibility etc. Issues. A vision.
• Developers simply react to market forces rather than particular population and ecological concerns on a wider level.

5.3 Market influence
• Eg. Glenelg development:
  o It is finance/market-driven
    • Pre-sales pressures.
    • Risk averse, conservative status-quo.
• Developers are taking a risk if you want to do something different.
• Av Jennings is going through a restructure
• Looking at market trends/needs for attached housing.
• More focus on multiplex – high rise
• Balance development perspective against community needs - Jennings is
  o How to balance developer with community?
• Looking at market trends/needs– live to learn
• There’s a vast difference between results of a household census and the requirements of people on an individual level.
• Near retirement people will go for the optimal investment not necessarily for the practicalities of the house ie. A couple may invest in a huge house for the financial implications in coming years ie. Appreciation in value rather than spatial requirements.
• It’s almost as though the requirements of households is becoming more normative over the market
• Return to community is occurring globally. What is the housing response to this? Close to the neighbourhood shopping area, bumping into local traders etc. Many implications.
• There’s a whole range of issues that are quite complex and will be exacerbated by the growing number of people, baby boomers, coming into this position.

5.4 Differing markets in capital cities
• Melbourne is a maturing market in terms of design, function & in meeting people’s expectation
• There has been a new focus on the product over the last 5 years.
• Inner CBD living is now well established in Brisbane & Melbourne
• Costs $8-10,000/m² in Melbourne which is way higher than what can be achieved in Sydney

5.5 CBD/ inner city migration
• A huge cultural shift over last 10 years (inner residential shift, supermarkets in CBD)
• Inner city housing boom has created expensive housing close to CBD, which has potential to push lower income people out of inner city.
• In London, lack of affordable housing created professionals and workers to seek housing and employment outside of London (the millennium project)
• Can’t afford to live in inner city and so who does the basic work in the inner city. Need to revitalise the inner city with variety of housing that is affordable and ensures that service people can live in the inner city etc.
• Brisbane CBD developments have expanded rapidly, almost supply-led, but they are selling, contrary to basic understandings of the market. For Adelaide, this means that with political will and developer interest, high rise inner city development could happen, and, if undertaken well, could attract investors/residents

6.0 Masterplan vs. Guidelines

6.1 Master planning
• Important there is a master plan on a regional level to address mixed diversity and other issues involved in building a city. From there, architects can come in and do their design based on these principles.
• Seen a lot of DA appalling applications – too busy looking at the bigger picture to see the detail
• A move away from the Masterplan approach to a design guideline approach (ie. The port Adelaide project is 15 years long)
• Detail – don’t have a master plan, don’t have a model/guide book
• Avoid universal master plan – diverse and fractured society.
o Recognize a highly diversified community – a fractured society
  • Wear a government hat when you do it
  • Use vision early
  • Please do not have a master plan or a model guide book
  • Avoid that universal master plan sic

• We need a master plan
  o Some elements need that sort of guidance & we work within a statutory system

• Must recognize who we are planning for
• Don’t follow a script as we make assumptions when we follow a script
• We need to take a step back from the Masterplan & not deliver a prescriptive approach.
• Commercial advantages of master-planning approach.
• NSW approach is that there is a master-planning approach that accompanies approvals and recommendations.

6.2 Guidelines
• Needs to be more guidelines about what to do, not what not to do.
• Meredith – port Adelaide urban design guidelines

6.3 Master planning and social mix issues
• For 2030 to work in Victoria, the government needs to be able to acquire land and divided it up so that they control
  the way that design affects and integrates with the environment, both existing and planned. That will create a more
  integrated approach.
• The structure of the development industry doesn’t allow for that holistic approach. The form of development that we
  are seeing is complicit with the capitalist system
• Architects should not try to solve social issues
• There are other factors outside of architects’ sphere of influence that make it difficult to adopt appropriate social
  design ideas into their site planning and building design.
• Need something like an urban renewal taskforce that can assess development parameters on a site by site basis to
  ensure social factors are incorporated for particular site and requirements of surrounding community.
• Need master planning approach with community requirements considered.
• Park planning important – hierarchy of spaces considerations.
  o Parks aren’t considered in terms of building social capital to bring community together for a diverse social
    experience.
• Structure planning. Framework for development of the entire area not just specific development sites.
• Integration and overall assessment of community and regional requirements through residential, commercial and
  transport developments.
• Reiterate that from architectural perspective there’s not much more to be learned in terms of individual sites and
  their social needs but the issue is that master planning on a community and regional level is vital.
• Planning of social infrastructure is vital. Planning to understand who’s coming is important as is understanding what
  sort of community facilities will be required – neighbourhood facilities, mentoring programs, bike paths, walking
  tracks, public open space.

6.4 Mixed use and integration
• Integration is very important. How the development fits into the existing community is important and assessing
  developments on their own merits without looking at how they fit into the community is not practical or useful
  for LMC.
• It is important to provide opportunity for future (economic) growth opportunities to arise out of higher density
  housing that will benefit the wider community.
• Kelvin Grove Urban Village achieved this with a master planned approach:- varying parking, shops, open
  space, joint ventures and QUT
• Nambour going downhill due to business closures etc. Must watch trends of areas to determine most
  appropriate form of housing and amenity.
• Watch out for opportunities, 1 councillor suggested putting residential above shops in a declining area
  (Nambour)
• Effective management is important – how to get people into houses and not transformed from original intent of
  area – this is social control though and may not be appropriate in existing culture. Good role for public housing
  in terms of managing public estates but feel that the estates are too large and become unmanageable. Logan
  carries large burden of public housing for the region and this needs to be managed differently.
• Site by site developments don’t build community
• We need some linking theme or principle or master plan for neighbourhoods

6.5 Integration
• Look at surrounding community/infrastructure. Who are the current residents?
• Diversity and choice: different shapes of lives – cultural/facilities.
• LMC – existing community – public space/near park – bring existing community together
• Theme – linking structure and design principles
• 2 or 3 storey row house with garden and space for car. Indoor/outdoor – alfresco lifestyle.
• Link public with public spaces
• Fundamental issue with medium to higher density housing. Need to look at the perception of “site boundary”
  and how the new site will interact with the existing landscape.
• The way M2030 guidelines have been drafted indicates that government wants to see higher density
  development occurring around areas that already support this ie. Areas that have appropriate transport, shops,
  open space, etc. Which support greater degree of choice.
6.6 Neighbourhood character
- Planning – CPTED - developers need to acknowledge these - issue of neighbourhood character.
- Land use/land supply - good housing - higher density/retain character.
- Neighbourhood character is a real puncto point
- Land use is a real puncto point
- Land supply is critical
- How to encourage higher densities but retain local character?
- Unforced social interaction encouraged
- Return to community is occurring globally. What is the housing response to this? Close to the neighbourhood shopping area, bumping into local traders etc. Many implications.

6.7 Services and amenities
- Important to focus on the services and amenities available around higher density areas.
- Not an issue because people have cars in the outer suburbs and there is no problem with driving somewhere.
- Is there a corner store – school in walking distance? 2-3 bikes per household. Do not build in inappropriate locations around existing activity centres;
- Melb. 2030. Related to public transport network; close to facilities and services.
- Wider community needs – is there an expectation that if the density changes in an existing neighbourhood, should the new development meet some of the needs of that community which existed before its creation.
- Can be difficult for developers to meet council’s requirements for an area. Easy to develop a package of facilities for the community associated with higher density development but if council don’t support or assist with its integration into the community then this is difficult.
- What is appropriate location of higher density development? To councils the location of higher density development in areas that support the amenity and accessibility requirements may not marry with the community’s perception of whether higher density is “appropriate” to their area.
- This has implications for not only the housing market but for the provision of services and amenity. We were at Newington yesterday where there was no post office or camera shop, which were the two services we required. All that was there were a supermarket, video store and food stores. Really stingy development with vital aspects missing.
- If you’re going to build housing remotely or somewhere where amenity doesn’t exist, consider whether the new housing will be supported by existed amenity or whether new things need to be built and who will build it, can it happen etc.
- We have become involved in understanding community issues out there recently.
- Planning of social infrastructure is vital. Planning to understand who’s coming is important as is understanding what sort of community facilities will be required – neighbourhood facilities, mentoring programs, bike paths, walking tracks, public open space.
- Facilities without facilitation never reach their full potential.
- Port Melbourne development, Beacon’s Cove – Mirvac development. Integrating a strong retail mix into the residential development. Started out giving people opportunity to live near the city and commute to work in the city.
- Changed to being destination for inner city people to be near the water. Residential development remained throughout. Gentrification of area supported by council to the point where land not paid for until lots sold. Message – if the pocket of land to be developed is large enough, then social needs of community can be addressed in tandem with residential requirements.
- Important for higher density developments to offer some form of goodies – amenity for existing residents and those coming in.

6.8 Impact of lot sizes
- You can’t give the community anything (shops parks, etc) if you redevelop individual lots
- Need large pieces of land to develop niches for the community and cluster housing around these forms of amenity.
- Smaller site developments are okay but must be part of a community focus so that everything is integrated. Ideas include community-wide walkways, parking areas etc.

6.9 Public vs. private space for social interaction
- Interested in detailing front doors and space
- The myth of greater social interaction that allegedly happens when people live closer together. Do they interact at all or are we creating isolation?
- People want private space
- Public space does not replace private space
- Social interaction that allegedly happens when people live at higher densities
- If people have less private space, they don’t necessarily want more public space.
- Front/back confusion – private open space.

7.0 Shared Space, Public Open Space

7.1 Shared space
- Differentiation of spaces (public vs. Private) is important for creating a sense of safety – people on their own turf.
- Important to have private space that is personal but adjoins others space so there can be a sharing of responsibility.
- A good public design of open/shared space will convey the message of what behaviour is required.
- Environment needs to send strong signals so that it is clear what the purpose of the space is.
- Ideas for mail box area:
  - Seating
  - Pick up/drop off area
7.2 Public open space

- The public realm so generously supplied in Falls Creek.
- The connection of parks is absolutely necessary for kids.
- We all need to live at higher densities for the good of society and environment but this isn’t enough for people.
- People need a gracious public realm that accommodates and provides incentive to be social and secure simultaneously for a diversity of people.
- Incentive to move around the community, socialise with local people, visit particular places and venues etc.
- Creating a sense of a shared space.
- People where I live have frequent conversations about the local wildlife.

7.3 Public open space amenity

- Public space and public facilities beyond the site are extremely important for people living in higher density.
- Bike paths, esplanades, parks, gardens etc. Trade-off is private space for public facilities and their accessibility, location, traffic impedances etc.
- Accessibility – is there a shop within walking distance?
- Is there a school within walking distance? Healthy design of the whole neighbourhood is very important. Bicycle use is important to support in design.
- Importance of public space and facilities beyond the site - importance for people living at higher densities.
- Councils sell off small sites for infill development while wanting a large park someplace else. The community remembers this and has significant resentment.
- Maintenance of small urban open spaces is a problem for councils.
- If don’t tackle social issues you will end up with homogenous body of people that won’t function effectively.
- “Somewhere you can go to”. The small local space.

8.0 Transport, Parking Issues

8.1 Transport/accessibility

- Interesting that people will pay for cars but not for higher density where accessibility to amenity is much greater.
- Society doesn’t factor in the real cost of transportation so people don’t have to bear this burden.
- Problem is that Adelaide demographic is so spread out though. Large area.
- Development potential even in the CBD is not being appropriately taken advantage of.
- Good resource that the development is there and this should be taken advantage of. Seafood – could not get small lot development to happen, far from city, would not sell. May now though with improved transport access etc.

8.2 Parking/car issues

- Kelvin Grove development able to reduce parking facilities on site because of the inner northern busway.
- Cars dominate the design outcomes.
- Never get quality medium to higher density developments until car issues and transport are resolved.
- Vehicle issues – moving away from the car dominating the style of development. Car-free developments? Caused by physical inability or by need to restrict car dominance.
- Small developments in Brisbane suburbs mean that if parking requirements of BCC are satisfied this leaves very little space for anything else.
- Need for adequate park space esp. In medium to higher density area. Kelvin Grove is an interesting example.
• Parking needs must be weighed against open space and security issues and also makes it difficult in terms of spatial limitations and meeting the needs of residents both internally and externally.
• Parking placement on site is important and the placement of it on the edges of the development can free up space internally for open space, movement, security etc.
• In Brisbane, the mid-suburb medium density developments are happening on small blocks (~800m²) which makes it difficult to incorporate shared open space requirements and parking needs.
• Cars don’t need to be housed in their own bedrooms, they can be housed at the edge of the site.
• Car parking underground? Car parking station for areas to focus the parking burden? Maroochy is doing this apparently.
• City of Port Phillip has new approach to cars you can now build residential without parking.
• They have a street and public transport network that is suitable to transport blending. If it can’t happen in Adelaide it can’t happen anywhere.
• They still don’t stack up well on car dependency though.
• Supporting extensive bike support and walking tracks etc.
• In terms of differentiating between high rise and row housing it is critical to look at how the car is handled. Most angst among communities is about cars, not wanting streets parked out with cars or which features a row of garages. As density increases this is very important. Examples where people park in the street even where underground parking is provided just so they can see their car.

9.0 Recommendations
• Wear a government hat and exceed the standards
• Increase local government/LMC push to extend the boundaries.
• Public sector leadership to get involved on the edge & to get into risk-taking activity.
• On the edge/ risk taking
  o Don’t wait until the market sees the light.
• If there is not a public supply – market housing for sale and rent (bottom quintile) – co-operative arrangements.
• Melbourne 2030 – targeted urban consolidation / compact city / densification – should we be warning the LMC about inappropriate higher density development?
• If they want to undertake a consolidated development over time it doesn’t all have to happen at once.
• It will need to be staged as Adelaide people won’t accept sudden increases in density.
• Considered to be the “retirement village of Australia”.
• The only people I know in Adelaide are old as everyone younger that I grew up with has moved away.
• Lower densities are why people live in Adelaide.
• Need to have a master plan that reveals future potential use.
• To build a high rise of say 12 storeys would really stand out in Adelaide.
  o The same density could be achieved but at lower heights.
• Can create decent streets at 3 to 4 level higher density with pop-ups of say 6 storeys every now and again.
• Don’t forget about the neighbours.
• Worthwhile going to Cape Cabarita and Breakfast Point. Lived there some time and there has been very little interaction between existing residents and new residents.
  o Us and them created.
  o Three large developments in the one area.
  o Used to be industrial sites. Now squeaky clean, magazine style developments.
  o Very little attention paid to the meshing of old and new housing which creates social friction among residents.
• Do LMC understand transport requirements of new housing. Adelaide is world-leader in understanding traffic management, transport blending, change management, SEPA etc.- social policy. The LMC needs to understand that this is the case and take advantage of this. Huge studies have been undertaken which need to be taken advantage of.

9.1 Adelaide— and the LMC
• LMC Northfield land release – wants to understand and learn.
• LMC needs to work out who is expected to move into housing before looking at design. This means consultation. This is the starting point.
• There was a time when governments had an obligation to deliver medium to higher density housing everywhere. That time is past. Who are they developing for? What is the purpose? Need to work with community primarily before bringing in the designers. Whether its baby boomers, younger or whatever.
• Need to remind LMC that the social aspect of housing design and implementation is vital and that they shouldn’t forget about this. Elderly people are looking at what they can contribute to the community in their retirement. They want interaction.
• Important for LMC to find a balance between commercial and social responsibilities. LMC is a public entity and needs to look at ways of bringing community together rather than just housing design and market forces in terms of medium to higher density housing.
• In terms of brand and image socially responsible development is very important for LMC.
  o LMC need to respond to the social and design requirements of the community.
  o There is a higher expectation in Adelaide for more quality construction.
  o Is the community going to demand appropriate development from developers and the LMC.
• For hard-nosed developers it comes down to the dollar – so creating a community where people want to live will sell the housing.
• The LMC has a history of greenfield developments.
Appendix H

On-line Questionnaire Survey

Some information about you
Name: 
Sex:  ☐ Male  ☐ Female
Age: 
Occupation: 
Title:  ☐ Mr
Organisation: 

What is your main role?
[ ]
if ‘Other’, please specify:

City where you've spent most of your life:
[ ] Adelaide
if ‘Other’, please specify:

Your Contact details:
email: 
phone: 
fax: 
mobile: 

Length of time working in the housing, development, planning, building or associated industries
☐ Less than one year
☐ 1 to 3 years
☐ 4 to 10 years
☐ More than 10 years

Would you like to be kept informed of the results of this research project?
☐ Yes
☐ No

In general, to what extent do you believe current provisions of medium-density housing in your city or region achieve what you believe social objectives related to the following considerations?
☐ Very well
☐ Quite well
☐ Not very well
☐ Poorly

To what extent do you believe that innovations in medium-density and higher density housing in Australia in the past ten years are meeting the social needs of residents?
☐ Very well
☐ Quite well
SOME CONSIDERATIONS ABOUT MEDIUM-DENSITY AND HIGHER DENSITY HOUSING

Access and orientation: unambiguous access and orientation without conflict between different user groups or pedestrians and vehicles.

Easy for people arriving for the first time to find the dwelling’s front door

Achieves objectives

Easy access from resident parking to dwelling’s front door

Achieves objectives

Easy access from visitor parking to dwelling’s front door

Achieves objectives

People able to access units without coming into conflict with vehicles

Achieves objectives

Undercover access from carparking to dwelling entries

Achieves objectives

Safety and security: security for all residents, with special protection for vulnerable residents

Adequate security systems to keep out intruders

Achieves objectives

Natural surveillance of surrounding outdoor areas from activity rooms of dwellings

Achieves objectives

Possibilities for modification to dwelling, fencing or yard if local crime rates or conditions change

Achieves objectives

Design features to dissuade illicit entry to dwellings

Achieves objectives

Residents can see who is at the front door before opening it

Achieves objectives

Sturdy locks and hardware

Achieves objectives

Space: adequate spaces, indoors and outdoors

Indoor working space (in dwelling or elsewhere on the site) for making and repairing items, woodworking, crafts, etc.

Achieves objectives

Adelaide space in yards for drying and airing clothes

Achieves objectives

Adequate private space for socialising in private yards

Achieves objectives

Adequate space for small children’s play in yards

Achieves objectives

Adequate outdoor space for adult socialising and children’s play
Achieves objectives

Adequate indoor space for adult socialising and children’s play

Adequate space for gardening

Secure gardening storage areas

Personalisation: opportunities for identification, personalisation, display

Opportunities to provide territorial markers that make the development your own (outside the dwelling)

Opportunities to change the use of some areas of the whole development, especially landscaping (contribute to the landscaping)

Opportunities to modify or add to the landscaping of the dwelling

Opportunities to modify or add to fencing of the dwelling

Ease of modifying the interior of the dwelling: hanging pictures, putting up shelves, etc.

Privacy: indoors and outdoors

Adequate fencing and landscaping buffers between private and shared or public open space

Clearly demarcated transitional spaces between shared open space and private yards or balconies

No overlooking into neighbouring yards

No overlooking into neighbouring windows

Community facilities situated so that their use is not inhibited by having dwelling windows close by (noise intrusion)

Opportunities for informal contact without commitment: especially for older people and people with a disability

Common letterbox location with seating nearby to facilitate socialising

Presence of community facilities on site for adult use

Location of community facilities on site for adult use

Presence of community facilities on site for children’s use

Location of community facilities on site for children’s use
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of community facilities on site for young people’s use</td>
<td></td>
</tr>
<tr>
<td>Location of community facilities on site for young people’s use</td>
<td></td>
</tr>
<tr>
<td>Flexible spaces for use by different groups</td>
<td></td>
</tr>
<tr>
<td>Play areas for smaller children (up to age 6) which can be supervised easily</td>
<td></td>
</tr>
<tr>
<td>Indoor areas which permit use at different times by adults</td>
<td></td>
</tr>
<tr>
<td>Indoor areas which permit use at different times by children</td>
<td></td>
</tr>
<tr>
<td>Outdoor areas which permit use at different times by adults</td>
<td></td>
</tr>
<tr>
<td>Outdoor areas which permit use at different times by children</td>
<td></td>
</tr>
<tr>
<td>Adequate provision for adult recreation and leisure needs</td>
<td></td>
</tr>
<tr>
<td>Provision of children’s play circuit, as they will play anywhere</td>
<td></td>
</tr>
<tr>
<td>Strolling and sitting opportunities for adults on a pedestrian circuit</td>
<td></td>
</tr>
<tr>
<td>Image, aesthetics, views, etc.</td>
<td></td>
</tr>
<tr>
<td>Creation of a pleasing milieu for the whole development</td>
<td></td>
</tr>
<tr>
<td>Dwellings that looks like conventional houses, even at higher densities</td>
<td></td>
</tr>
<tr>
<td>Dwelling entrances that look like dwelling entrances and not hotel or motel rooms</td>
<td></td>
</tr>
<tr>
<td>Pleasant views out into landscaped spaces from activity rooms</td>
<td></td>
</tr>
<tr>
<td>Carparking buffered from views from dwelling windows</td>
<td></td>
</tr>
<tr>
<td>Manipulation and control of the residential environment</td>
<td></td>
</tr>
<tr>
<td>Common or shared outdoor open space that can change use as households age and new ones move in</td>
<td></td>
</tr>
<tr>
<td>A range of dwelling types and sizes so that neighbourhood stability can be maintained when households outgrow (or are underutilising) their dwellings</td>
<td></td>
</tr>
<tr>
<td>Home office and telecommuting</td>
<td></td>
</tr>
<tr>
<td>Technical requirements of a home office catered for (cabling, etc.)</td>
<td></td>
</tr>
<tr>
<td>Separate entry or home office near front entry</td>
<td></td>
</tr>
</tbody>
</table>
Surveillance of outdoor spaces from home office for security
Achieves objectives

Needs of different cultural groups

Kitchens located to permit barbecuing and other cultural cooking styles
Achieves objectives

Adequate ventilation of kitchens
Achieves objectives

Culturally appropriate design features for different cultural groups
Achieves objectives

Separation of frontstage (more formal realm) and backstage (informal family or household realm) of dwelling
Achieves objectives

Rubbish

Easily accessible exterior rubbish containers
Achieves objectives

Easy-to-clean rubbish containers
Achieves objectives

Recycling easily accommodated
Achieves objectives

Storage

Storage for seasonal items (quilts, heaters, fans, bicycles, etc.) in units or in secure common spaces
Achieves objectives

Indoor storage for vacuums, brooms and cleaning equipment in dwellings
Achieves objectives

Carparking

Within clear view of dwelling windows of activity rooms
Achieves objectives

In safe locations
Achieves objectives

In small carparking lots
Achieves objectives

As close to dwelling entries as possible
Achieves objectives

Protected from theft or burglary
Achieves objectives

Acoustics

Control of noise transmission between dwellings
Achieves objectives

Control of noise transmission within dwellings (e.g., between living areas and bedrooms)
Achieves objectives
Control of noise transmission from shared open space into dwellings
Achieves objectives

Control of noise from sources exterior to the site
Achieves objectives

Human comfort
Climate control incorporated into designs
Achieves objectives

Cross-ventilation within dwellings
Achieves objectives

Living areas able to be closed off for heating (where applicable)
Achieves objectives

Are there any other major social issues we should take into account in the design of medium to higher density housing, in your experience?
☐ Yes ☐ No
If so, could you please list them below

What do you think is the one thing that needs to change to make medium-density and higher density housing in Australia more appropriate for residents’ need?

Any other comments?

Submit Clear form

Thank you for your assistance.
Appendix I

Eco-Village Related Websites

Compiled by Sarah West
(with additions by Yollana Shore)

Eco-Villages

AUSTRALIA
Aldinga Arts EcoVillage, SA  www.aldinga-artsecovillage.com
Crossroads Medieval Ecovillage, Yass, NSW  www.crossroads.org.au
Crystal Waters, Maleny, QLD  www.ecovillages.org/australia/crystalwaters
Jarlanbah, Nimbin, NSW  www.earthwise.org.au
Kookaburra Park, Gin Gin, QLD  http://kookaburra.ecovillage.com.au
Nimbin Eco-village Project, NSW  www.earthwise.org.au/village.html#NimbinEcoVillage
Perth ecovillage initiative, WA  www.quolkids.com
Rivendell Ecovillage, Nimbin, NSW  www.rivendell-ecovillage.com
Rosneath, WA  www.rosneath.com.au

NEW ZEALAND
Awaawaroa  http://pl.net/~simong
Earthsong  www.ecohousing.pl.net
Otamatea  www.converge.org.nz/evcnz/otamatea/html
The Valley Farm  www.ecovillage.co.nz

AMERICA
Earthhaven, North Carolina, USA  www.earthhaven.org
Ecovillage at Ithaca, New York, USA  www.ecovillage.ithaca.ny.us
LA EcoVillage, Los Angeles, USA  www.ic.org/laev
Lama Foundation, New Mexico, USA  http://lamafoundation.org
Sirius, Massachusetts, USA  www.siriuscommunity.org
Twin Oaks, USA  www.twinoaks.org

EUROPE
Dyssekilde, Denmark  www.oekosamfundet.dk
EVA-Lanxmeer, The Netherlands  www.eva-lanxmeer.nl
Findhorn, Scotland  www.findhorn.org
Flintenbreite, Lubeck, Germany  www.otterwasser.de
Gebers, Stockholm, Sweden  www.ekbo.se
Hjortshøj, Denmark  www.andelssamfundet.dk
Hockerton Housing Project, England  www.hockerton.demon.so.uk
Kitezh, Russia  www.ecovillages.org/russia/kitezh
Lebensgarten, Germany  www.lebensgarten-steyerberg.de
Munkesogaard, Copenhagen, Denmark  www.munkesoegaard.dk
Sherwood Energy Village, England  www.sherwoodenergyvillage.co.uk
Sieben Linden, Germany  www.oekodorf7linden.de
Smeden, Jonköping, Sweden  www.crosswinds.net/~ecovillage
Solheimer, Iceland  www.smart.is/solheimar
Svanholm, Denmark  www.ecovillages.org/denmark/svanholm/index.html
Torri Superiore, Italy  www.ecovillages.org/italy/torrisup/index.html

ASIA
Auroville, India  www.auroville.org
Menur Kampung Whole Settlement, Indonesia  www.changemakers.net
Sarvodaya, Sri Lanka  www.sarvodaya.org
EcoVillage Network Organisations
Australia/NZ/Pacific node of Global Ecovillage Network  www.gen-oceania.org
Danish Ecovillage Network  www.ecovillages.org/denmark/network
Dutch Ecovillage Network  www.ecodorp.nl
European node of Global Ecovillage Network  www.gen-europe.org
Global Ecovillage Network  www.gaia.org
Intentional Communities Organisation  www.ic.org

EcoVillage Education and Training and Information
Crystal Water Ecovillage Design course  www.crystalwaterscollege.org.au
Djanbung Gardens Ecovillage Training course, Nimbin  www.earthwise.org.au
Findhorn Ecovillage Training  www.findhorn.org/ecovillage/ecotraining/
Living Routes Educational courses  www.LivingRoutes.org

Motherheart community links  www.motherheart.org/comtext.html
Sarah West's web page  http://sarahwest.cjb.net
Schumacher College, England  www.gn.apc.org/schumachercollege
The Farm Ecovillage Courses, Tennessee, USA  www.thefarm.org