

Mirvac Fini: Burswood Lakes

Working from Home: Literature review and planning and design guidelines



SARKISSIAN ASSOCIATES PLANNERS PTY LTD
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Working from Home: Literature review and planning and design guidelines

**Mirvac Fini
Burswood Lakes**

by Dr Wendy Sarkissian
and Beauford Stenberg with Steph Walton

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Sarkissian Associates Planners Pty Ltd
207 Boundary Street West End Queensland 4101
Phone (07) 3844 9818 Fax (07) 3846 2719
Email: sarkissian@pacific.net.au
Website: <http://www.sarkissian.com.au>

Table of Contents

1.0 INTRODUCTION	3
1.1 STRUCTURE OF THIS WORKING PAPER	4
1.2 WHAT IS HOME WORKING?	5
1.3 DEFINITION OF HOME WORKING	6
1.4 USEFUL DEFINITIONS	7
1.5 A BRIEF HISTORY OF THE OFFICE AND THE RISE OF OFFICE TECHNOLOGY	9
1.6 WHAT KIND OF WORK IS DONE IN THE HOME?	9
1.7 WHERE IS WORK DONE IN THE HOME?	10
1.8 WORKSPACE VS. WORKSPHERE: BUILT VS. NOMADIC MODELS	11
2.0 HOMEWORKING: MODELS AND TYPES	12
2.1 THE HOME WORKER	13
2.2 WORKING FROM HOME	13
2.3 HYBRID AND MISCELLANEOUS WORKING STYLES	13
3.0 WHO WORKS FROM HOME?	13
3.1 GENDER AND HOME WORKING	14
3.2 SOCIOECONOMICS AND HOME WORKING	16
4.0 WHY WORK FROM HOME?	17
4.1 WORKING FROM HOME AND THE INSTITUTION OF FAMILY	17
4.2 ADVANTAGES FROM WORKING FROM HOME	19
4.3 DISADVANTAGES FROM WORKING FROM HOME	20
4.4 HOME, WORK & POSSIBLE FUTURES	21
5.0 GUIDELINES FOR DESIGNING HOMEWORKING SPACES	22
5.1 DESIGN RESPONSES	22
5.2 SPATIAL REQUIREMENTS OF WORKING FROM HOME	23
5.3 GUIDELINES FOR THE DWELLING INTERIOR	24
5.4 GUIDELINES FOR THE DWELLING EXTERIOR	25
5.5 STORAGE	26
5.6 WASTE DISPOSAL	26
5.7 GUIDELINES FOR AMENITY, MATERIALS AND INFRASTRUCTURE	27
5.8 MISCELLANEOUS GUIDELINES	27
6.0 MISCELLANEOUS FACTORS	29
6.1 PRIVACY	29
6.2 PERSONALISATION OF THE WORKSPHERE	29
6.3 MEANINGS OF 'HOME' AND WORKING FROM HOME	30
6.4 HOMEWORKING AND CPTED	30
6.5 NEIGHBOURHOOD SUPPORT, FACILITY AND AMENITY FOR HOME WORKERS	31
6.6 A FINAL NOTE: WORKSPHERES	31
RESOURCES	33

PRINTED SOURCES	33
ELECTRONIC SOURCES	35
RESOURCES AT THE QUEENSLAND UNIVERSITY OF TECHNOLOGY	36

1.0 Introduction

"What becomes apparent after interviewing people who work at home is that many homes are unsuitable workplaces as presently planned. There is no clear division between home and work functions, creating time and space conflicts that interfere with a household's functioning. For homeworkers, the home is not a refuge, but a utilitarian space. Nevertheless, these perceptions also depend on the type of housing unit, neighbourhood, and access to neighbourhood resources" (Gurstein, 2001: 125-126).

"No; the office is one thing, and private life is another. When I go into the office, I leave the Castle behind me, and when I come into the Castle, I leave the office behind me. If it's not in any way disagreeable to you, you'll oblige me by doing the same. I don't wish it professionally spoken about" (Charles Dickens, *Great Expectations*, 1860).

"Heaven is the anywhere, anytime office. Hell is the everywhere, everytime office" (Paul Saffo, cited in Gurstein, 2001: 153).

Twentieth-century cities have been planned for a division between home and work, and in particular, planned to make work-related activities efficient based on their separate location. However, residential planning based on the principle of separate home and work activities may be outdated where they are not appropriately responsive to changing patterns of work and lifestyle and cultural trends.

For many, as Borsche and Ahrentzen point out, home is becoming more like the office and the office is becoming more like the home—which is in direct contrast to the abovementioned Dickensian model. There is a re-blending of boundaries that represents a reversal of the space-segregating trends of the industrial revolution. The implications of this trend has direct impacts upon designers, planners, strategists, futurists and developers to design and plan for both Saffo's 'Heaven' and 'Hell'. Maximising what is appropriate and minimising that which is not. The importance of exploring the impact of home-based work on urban life should not be underestimated. Home-based work challenges existing conceptualizations of work and domestic life, and public and private space, leading to emergent and hybrid interpretations of housing.

This *Working Paper* identifies the impact of telework and home-based work and employment on daily life patterns and the use of homes and neighbourhoods. Through a better understanding of our socio-economic and environmental priorities concerning designed and built residential environments we are able to examine the implications for the planning and design of homes, spaces, communities, facilities and amenities in the context of the Burswood Lakes development.

"Today, where work occurs is often a matter of choice. While savvy offices take on the comforts of home, growing numbers of Australians choose to work at the real thing - about one-fifth of the country's workforce clocks work hours at home each month, and recent studies discovered 11 per cent work there exclusively. And as we continue to work longer hours and juggle the demands of earning a living with raising families and 'having a life', those figures will only rise" (Borschke, 2003: 43).

While there has been a growing trend towards the relocation of the working space to the residential abode, the planning and design of residential communities has seemingly not yet acclimatised to this change. In the Burswood Lakes scenario, how will the practical reality of working from home be incorporated into the dwellings, environments and locality of the development? How can Mirvac Fini best support this emergent phenomenon?

Determining the proportions and requirements of people who work from, or at, home is difficult. Yet, working from home is increasing and the social and spatial impacts of this re-conceptualization of work practices and the nature of home and the subsequent impacts on planning and design impacts are key best-practice growth areas that Mirvac Fini should endeavour to fully explore.

1.1 Structure of this working paper

Section 1 serves as an introduction to the concept of homeworking, including useful definitions and a brief history.

Section 2 discusses a number of home-working models.

Section 3 investigates the specifics of who actually works from home. What role does gender play in determining home-working requirements and how does the relevant socioeconomic situation affect the design of the home for working purposes?

Section 4 details reasons for working from home. In particular, the institution of the family is used to discuss advantages, disadvantages and the possible futures of working from home.

Section 5 details specific design guidelines for the home environment.

Section 6 discusses the requirement of privacy in the home and contrasts this with the potential for isolation, as well as crime prevention and its relationship to working from home.

1.2 What is home working?

"There is an increasing desire for more flexibility between the professional and personal spheres of life. Many people do not want them to be discrete spheres anymore "in the industrial age work was outside, public and male, and home was inside, private and female. We've torn down those boundaries and are redefining family and gender roles. Now we're changing definitions of home and work and creating more fluidity between the two" (Borschke, 2003: 43).

Home working is any professional or other work performed in the home for either an employer, contractor, or by the self-employed. It is work that is financially or otherwise rewarded, salaried, or remunerated. Therefore, some hobbies and domestic engagement within these parameters are to be considered homeworking.

Working from home is not a new phenomenon. The industrial revolution and mechanisation of production have involved a significant change in the processes and spatial environments of work.

Technological innovation, coupled with financial motivators, convenience of locality, energy and resource conservation, transport savings (in resources and time), a growing premium on space in cities and towns, and the importance of maintaining social and familial networks have all contributed to work being conducted in the home. In addition, increasing concerns for home and personal security and the perception that corporate work environments can be somewhat 'sterile' and uninspiring have caused many workers to base all or part of their work operations in the home environment. For many, working at home is convenience.

People who work from home are often categorized homogeneously whereas the group is extremely diverse and covers most of the disciplines and fields in the wider work environment: full-time, part-time, casual, contract, fixed term, consultant, self-employed, employed, technology-based, a 'good job' or a 'poor job'.

Beth Moore Milroy (1991) maintains that planning decisions are often based on a narrow definition of work that elevates the waged form of work, done at particular times of the day and week and in specific locations to a higher status. In this perspective, cities are planned as places of work, and neighbourhoods as residential places. Limiting the conceptualization of work to formal employment ignores the unpaid work done in homes and communities, and the increasing diversity of paid work done at home and in mobile locations. This bias, which defines defining work as separate from domestic activities, is a fundamental organising element of urban structures and is codified by zoning restrictions.

Pateman (1989) argues, as many do, that the public and private spheres are inextricably connected and interdependent. Their interdependence, however, is not mutually complementary but hierarchical, based on a relationship where the public sphere exerts more power in decisions and actions (Moore Milroy and Wismer, 1994). Boris (1994) argues that such dualities as home and work, and private and public, are false dichotomies that impede recognition of home-based working.

1.3 Definition of home working

Homeworking can be defined as paid work conducted in the home or from the home, on either a part- or full-time basis. Some workers, such as employed teleworkers, often have another workplace in the organisation in which they work. Sometimes this work is occasional due to overflow; sometimes it is consistent and expected. Home-based workers can be self-employed, on commission, waged or salaried and they may or may not use telecommunications equipment. The work for those who are homeworking, according to Gurstein, includes most types of work found in the general society (Gurstein, 2001: 22).

There are different kinds and models of homeworking and as yet no standardized definitions and terms of reference. This proves difficult for a number of disciplines, especially for planning and design. A product resulting from inconsistent definitions creates problematic statistics that are ineffective and inherently flawed. One rationale for this state of affairs is possibly due to the 'private' nature of the home. Another is the occupational variability of people conducting work in or from the home. Both these factors contribute to the 'invisibility' of homeworking. Moreover, many home-based workers are part of the informal or underground economy and are often reluctant to reveal that they work at home because they do not want to report their earnings and be audited and prosecuted by the Australian Tax Office or be found in contravention of local government regulations and zoning.

Despite obvious trends towards homeworking, it is apparent that an accurate estimate for the total number of home-based workers is difficult to quantify.

Nevertheless, ABS, Cat. No. 6275.0, June 2000, yielded the following statistics for persons "employed at home in Australia":

- ◆ 1,794,800 persons amounting to 21% of persons at work, worked some hours at home in either their main or second job; and
- ◆ 980,300 persons amounting to 11% of persons at work, were employed at home, including 692,600 persons who only or mainly worked at home and 287,700 employees who, though working less hours at home than elsewhere, had an arrangement with their employer to work at home (see Table 1 below).

	Males	Females	Persons
Employee	303,200	265,200	568,400
Employer	34,100	37,600	71,700
Own account worker	153,700	149,000	302,700
Contributing family worker	12,300	25,100	37,400
Total	503,300	476,900	980,200

Table 1: Working at Home, Australia
Source: ABS, Cat. No. 6275.0, June 2000

1.4 Useful definitions

"Telework (or 'telecommuting' as it is also called in the United States), as distinct from other forms of work based in the home, is defined as work-related substitutions of telecommunications and related information technologies for travel (Huws, Korte, and Robinson 1990). Telecommuting came into prominence in the 1970s as a work option that reduces dependence on transportation (Mokhtarian 1991; Nilles et al. 1976), but it is of interest now to both the private and public sectors because it produces a mobile, flexible labour force and reduces overhead costs (Huws 1991). Neither of these terms always implies working at home, as satellite office or neighbourhood telework centres close to employees' homes, equipped with telecommunications equipment and services, can substitute for the commute to a centralized office" (Gurstein, 2001: 4).

'They represent a shift in the distribution of power in our society toward computer systems and those who control them, and a new version of class polarization - here across the digital divide of technological enfranchisement or disenfranchisement, of working with computers or working for them. They also represent a new form of social control: from a human context of industrial relations to an almost entirely cybernetic context" (Gurstein, 2001: 7).

"The difference is between teleworkers and self-employed homeworkers. While both groups use it for telephone calls, administration, and professional and other services, self-employed homeworkers are more likely to use the home as a mailing address, to store goods and equipment, to have client/customer meetings, and to manufacture goods" (Gurstein, 2001: 126).

The literature reveals the following definitions useful to an understanding of homeworking:

- 1 **Full-time home-based worker:** works all of their time at home;
- 2 **Home-based business operator:** who works from home, part or full time, providing a service or product to a variety of clients or customers;
- 3 **Independent contractor:** works from home, part or full time, on contract to one company such as a contract employee or piece worker;
- 4 **Moonlighter** works from home on a part-time basis as a supplemental job in addition to a primary job;
- 5 **Neighbourhood telework centre/Technology harbour:** an office shared by a number of unrelated businesses located in a convenient location in a neighbourhood;
- 6 **Occasional homeworker:** brings work home after work hours from the workplace on a frequent to occasional basis;
- 7 **Part-time home-based worker:** works four days or less at home and the rest of the time at another work location;
- 8 **Satellite office:** a company's secondary office located close to employees' homes; intended to reduce the commute to the corporate head office;
- 9 **Self-employed consultant:** works from home, part or full time, doing consulting work for more than one company or individual; and
- 10 **Teleworker/homeworker/telecommuter:** works from home, part or full time, as an employee for a private or public organisation.

For Burswood Lakes, we can expect that, of the above categories, the following points should be considered as potential scenarios for some of the future residents of the development: 1, 2, 3, 4, 6, 7, 9 and 10

Determining the percentage of home workers among the total number of residents will be difficult though, given the nature of defining how, and indeed whether, people consider themselves to be home workers.

1.5 A brief history of the office and the rise of office technology

The modern office arose as a by-product of the interlinked processes of industrialisation and mechanisation. Arguably, office design, since the introduction of the typewriter in the early-1900s up until the late-1970s has remained virtually unchanged. Dedicated word processing systems such as WANG, for example, started being used during the mid-1970s. This period saw rapid changes in office technology.

Personal computers that from early-1980s become the main tool for office workers continue to transform offices at an ever-increasing pace. Most changes in the office environment have been driven and continue to be driven by advances in technology. The overwhelming impact of computers on office work has resulted in redesigning the office around, if not for, the computer. In many instances the computer has changed not only the shape of the office and the way office work is done, but it has also affected the lifestyle of office workers.¹ As workplace technology is filtering into the home and informs dwelling design, this impact is being felt in the domestic model and in hybrid arrangements.

The separateness of home and work spaces, with the home often regarded as a refuge from the public world, is being re-examined with the advent of technological, economic and social restructuring. Cities are now being characterized in terms of the interconnections between public and private spheres and between socioeconomic and cultural phenomena (Andrew, 1992; Moore Milroy and Wismer, 1994).

1.6 What kind of work is done in the home?

The use of the home for working is influenced by its appropriateness in terms of design, location, accessibility and amenities. The home is used most frequently to make or receive business calls, to do administrative work, to provide professional and other services, administrative and accounting functions and as a mailing address. It is less frequent for homeworking to accommodate customer meetings, manufacturing, or for processing goods and services. Interestingly, both men and women use the home for work in similar ways (Gurstein, 2001: 126).

Many businesses, whether technologically sophisticated or small cottage industries, originate in environments or places in the home, that were initially designed for another purpose: for instance, a spare bedroom, a garden shed, a garage, or a basement. Despite the lack of equipment or infrastructure of an official 'office' or studio, these spaces often induce creativity and inspiration, perhaps precisely because they are not

¹ Source: <http://www.ccohs.ca/oshanswers/ergonomics/office/modern.html>; accessed: 23/04/03.

conventional office/studio environments. The built home office should seek to include and maximise the positives of such *ad hoc* arrangements.

1.7 Where is work done in the home?

According to a study conducted by Gurstein (2001: 126), close to two-thirds of teleworkers indicated that the primary workspace in their homes was chosen because it was easily convertible for work activities and in a location that minimised the working aspect upon the domestic function of the home. Waged or employed teleworkers tend to use common areas such as main floors and share areas with other functions such as bedrooms.

Gurstein identified that self-employed homeworkers tend to have workspaces located far from other activities, such as isolated rooms. Home-based workers who live in single-family detached houses are more likely to have designated workspaces than those who live in higher-density housing. This is probably related to the size and number of bedrooms in the dwelling and the value of space in high-density arrangements. Interestingly, female home-based workers are less likely to have a designated workspace than their male counterparts. One-fifth of Gurstein's respondents had converted a living room into a workspace, and one-tenth - all single men - used their whole house as an office. These men describe their homes as 'an office that they live in', rather than 'a home where they work'. Every area of their 'office home' has a work-related function attached to it" (Gurstein, 2001: 126).

While most home-based workers have a dedicated workspace, two-thirds of Gurstein's sample reported using other areas of the home to do work. Many read business reports in the living room and bedroom, write on the dining room table, and conduct business telephone conversations almost anywhere. Those who have an office/study or workshop use it most often for work, but they often work in rooms where other activities occur, such as eating, socialising, and sleeping. The rooms with the most overlap of activities are the kitchen/dining room, the living room, and the bedroom. A sizeable minority (varying from 30 to 45 per cent among the three studies) used workspaces that were shared with other activities.

Ahrentzen's 1987 survey of 111 homeworkers found that:

- ◆ 70% had an exclusive workspace;
- ◆ 20% shared with daily activities; and
- ◆ 10% shared a workspace with occasional activities.

Antonoff's 1985 summary of a survey of 373 readers of *Personal Computing* found that:

- ◆ 61% had an exclusive office space;
- ◆ 9% used the dining or living room;
- ◆ 7% used the family room;
- ◆ 5% used the den; and

- ◆ 4% favoured the kitchen (Antonoff, 1985).

Gurstein reports that:

"Interviews by Christensen (1986) with thirteen corporate-employed homeworkers, all women, found that seven had exclusive workspaces, four shared their workspaces with their children, and two shared their workspaces with their husbands. Only five respondents (1 percent) in the Canadian survey have a designated workspace/office in a detached building adjacent to their home. All five are home-based business operators who own their own homes. They find that their workspace arrangement addresses their need to separate their work from their household activities but still allows close contact. Twenty-six other respondents also work in a detached building, but it is also used for other activities.

Most of the respondents who work in a detached building are in manufacturing / processing, with the rest in retail trade/product sales, personal and professional services, agriculture, construction/trades, and wholesale trade. Some home-based workers had their houses built with a home workspace as a priority in the design and layout, while others bought a home because it had a space specifically designated for work. Female home-based workers particularly selected their workspaces so that they could be close to family activities that need monitoring. Other reasons include the need for privacy from the rest of the household and easy access to other areas of the home such as the kitchen" (Gurstein, 2001: 126-127).

1.8 Workspace vs. worksphere: built vs. nomadic models

Classical social planning literature confers a hard split between 'front stage' and 'back stage' (see this *Working Paper* Section 5.2 and *Working Paper 10*). Working at home crosses these boundaries. For a live/work integrated dwelling model entertaining may be considered as front stage. While the appropriate trappings of work may also be considered as front stage, the logistics of a workspace (storage, work in progress, materials and potential creative clutter) may be considered 'backstage'. The built home office model says Peter Clark of the Sydney firm Clark Pearse Architects "...should be like Toad's caravan in *The Wind in the Willows* - everything has a place and is there when needed..." (Borschke, 2003: 43).

Conversely, the nomadic model, which may or may not be employed in conjunction with the built home office model, has to take into account the incompatibility between

different countries, different methods of working (such as the effects of siesta on working hours) and the problems associated with the logistics and economies of space and workflow in order to work efficiently.

The combination of 'mixed use' and 'home work' should at their best offer the ability to work in a variety of settings not only at home but in:

- offices away from home but still mixed in with dwellings;
- workplaces in neighbourhood centres; and
- in the large adjacent employment areas such as the university and technology park.

All of these findings have immense implications for dwelling design and neighbourhood planning. As the Museum of Modern Art proclaims:

"Workspaces become extensions of private spaces, figments of 'home', and are increasingly casual and subjective. Needless to say, the majority of work personalisation, privatisation, and subjectification take place within knowledge and culture industries such as magazines, design, programming, art direction, photography, fashion, consultation, and new media. Personalized workspaces and processes are less common in much of corporate life, where performance evaluations, time clocks, and office communalism are still the rule" (from MoMA website).²

2.0 Homeworking: models and types

There are as many types of models of homeworking as there are individuals working from home. Despite this, it is still useful to provide models of home-working as each of these models entails implications for dwelling design. Possible models generated by spatial usage may include:

- ◆ Design where work dominates;
- ◆ Design where work/home blends;
- ◆ Design where work/home separated;
- ◆ Design where workspace is separate but shared;
- ◆ Design where workspace is localised but detached from home;
- ◆ 'Flexiplace' and 'nomadic workstations';
- ◆ Future dwellings designed for telecommunications;
- ◆ 'Ideal' environment;
- ◆ Live/Work spaces;
- ◆ Neighbourhood telework centres or technology kiosk;
- ◆ Satellite offices; and
- ◆ Virtual workspaces.

² Source: <http://www.moma.org/exhibitions/2001/worksppheres/index.html> accessed 9/3/3.

2.1 *The home worker*

For this *Working Paper*, a definition of 'home worker' is someone who earns a wage or is salaried from an employer. This work is often technology and/or information based and often termed 'teleworker', 'homeworker', or 'telecommuter'. For this definition though, it is all work performed at home but financed through the auspice of another. This includes full-time, part-time, fixed-term, some contract work, and casual. This includes the occasional home-worker who brings work home after work hours on a frequent to occasional basis.

2.2 *Working from home*

For this *Working Paper*, a definition of 'working from home' when used specifically refers to those who generate an income and are not directly employed and on the payroll of a company, institution or corporation. This covers home-based business operators and provision of goods and services out of a residence, independent contractors and those who are self-employed. This work may be full-time, part-time, fixed-term, contract work in general (without a direct employment contract) and casual or occasional. Generally this work is full-time or part-time depending upon whether or not it is the primary financial impetus for a family or household group.

2.3 *Hybrid and miscellaneous working styles*

For this *Working Paper* a definition of 'moonlighter' is someone who works from home on a part-time basis as a supplemental job in addition to a primary job. The nature of the financial return for this work will determine whether it is to be considered 'home worker' or 'working from home' as defined above.

Moreover, neighbourhood telework centres and satellite offices should be mentioned in this section as they impact on both definitions and the ways in which 'home workers' and people 'working from home' as defined above will use this amenity and facility.

3.0 *Who works from home?*

A significant portion of home-based workers are in professions that have long required some work to be conducted from home such as sales, insurance, real-estate, or teaching (Gurstein, 2001: 23). These are likely to be represented among the residents of Burswood Lakes. Due to the perception of women as the household manager and their role in the caring of children, the number of women engaged in some form of home-working is proportionally larger than their representation in statistics relating to other forms of work practice that require travel and time away from home.

According to the ABS Cat. No. 6275.0, June 2000, the percentages of the groups listed below were higher among persons employed at home than among all persons employed:

- ◆ Women;
- ◆ Workers aged 35 and over;
- ◆ Parents of children aged less than 15; and
- ◆ Self-employed people.

3.1 Gender and home working

Gurstein in her study found that men and women are likely to use the homeworking environment for similar kinds of work and in similar ways.

With the redefinition of women's and men's roles, as is presently occurring with the dual-career household and multiple definitions of family, approaches to planning practice have to be cognizant of this variety of roles and of the fact that these roles are socially constructed and constantly changing. By considering the needs and preferences of diverse groups, planning can more significantly address their concerns.

The most common "occupation groups" for Australian males working at home were:

1. Managers and administrators;
2. Professionals;
3. Associate professionals;
4. Tradespersons and related workers;
5. Intermediate clerical, sales and service workers; and
6. Labourers and related workers.³

The most common "occupation groups" for Australian females working at home were:

1. Professionals;
2. Advanced clerical and service workers;
3. Intermediate clerical, sales and service workers;
4. Managers and administrators;
5. Associate Professionals; and
6. Labourers and related workers.⁴

The most common "industry groups" for Australian males working at home were:

1. Agriculture, forestry and fishing;
2. Property and business services;
3. Manufacturing;
4. Education;
5. Wholesale trade; and

³ ABS, *Locations of work*, Cat. No. 6275.0, June 2000.

⁴ ABS, *Locations of work*, Cat. No. 6275.0, June 2000.

6. Personal and other services.⁵

The most common "industry groups" for Australian females working at home were:

1. Agriculture, forestry and fishing;
2. Property and business services;
3. Education;
4. Construction;
5. Health and community services; and
6. Manufacturing.⁶

Other characteristics of persons employed at home:

- ◆ 51 percent of persons working at home had worked in that job at home for 5 years or more;
- ◆ The main reason given for working at home was to operate own or family business, followed by catching up on work; and
- ◆ 64 percent of persons employed at home used IT at home in that job; IT usage was slightly higher for females than males, however Internet usage was higher for males than females.⁷

Appropriate services and amenity located on site may not necessarily detract from the current business centre or the proposed function of the future development of the Burswood Lakes site.

A range of gender issues should be addressed in considering matters of urban form and structure for the Burswood Lakes development, including:

- ◆ The creation of environments which increase women's access to wider urban functions and services, both through locational features and increasing women's mobility;
- ◆ Neighbourhoods which encourage the expansion of women's activities by providing local services and by diversifying functions at the local level (including the provision of employment activities, commercial facilities and cultural activities);
- ◆ Encouraging more compact neighbourhoods to encourage greater use of local facilities; and
- ◆ Flexibility in accommodating the balance between women's-travel-to-work needs and travel associated with women's responsibilities for child care.

American research has shown that while the needs of some groups can be met by creating "small towns within suburbia", new groups of women suburbanites do not particularly benefit from this approach. Among those who do not appear to benefit are

⁵ ABS, *Locations of work*, Cat. No. 6275.0, June 2000.

⁶ ABS, *Locations of work*, Cat. No. 6275.0, June 2000

⁷ ABS, *Locations of work*, Cat. No. 6275.0, June 2000

women who work away from the home for pay, single women and women with strong ethnic or other cultural ties. They report that they do much of their socialising outside their neighbourhoods, living in relative isolation from their immediate neighbours and seeking friendships and group participation via non-spatial routes (Rothblatt and Garr, 1986:29).

"Female at-home workers recognize the importance of an organized and maintained workspace with clear boundaries. One woman described the problem succinctly: 'Home-based work takes over the house.' Physical changes that they have incorporated include locking doors to their workspace, better lighting, and electrical extensions. Others have added more storage. Several find that their present working arrangements totally unsatisfactory and are planning to move to a larger home or build a workshop in a separate building" (Gurstein, 2001: 128).

"Male home-based workers have similar problems, such as messy, disorganized workspaces and difficulty keeping their families out of their workspaces when they are working. They have resolved some of these problems by building more storage, adding a business-only telephone line, and improving their lighting and technical equipment. Several are planning major renovations of their home to make it more suitable for work" (Gurstein, 2001: 128).

3.2 Socioeconomics and home working

There is a bifurcation of the labour force into a small number of 'good jobs' (i.e. secure, long-term, well-paying, unionised jobs) and a much larger number of 'poor jobs' (e.g., part-time, part-year, low-paying jobs without benefits and unionisation) (Duffy, Pupay and Glenday, 1997). This state is exasperated further by the isolation and relative invisibility of homeworking.

"Excessively optimistic predictions of home-based work do not reveal, however, the millions compelled to work at home by socioeconomic necessity and technological redundancy. For them home-based work is a survival strategy and a form of resistance to societal forces beyond their control. Bringing work home affects every aspect of their daily lives, blurring boundaries between work and home life, workplace and home, public and private space and male and female roles. There is a tremendous amount of hyperbole about the promise of the 'information highway' and its impact on daily life and work patterns. Telework and home-based employment offer millions of people liberation from unwanted commutes, more flexibility and control over time and resources, and fostering more cohesive communities. This promise, however, must be tempered by the reality of the day-to-day lives of people working in homes and communities often irreconcilable with this vision of the future.

The flexible, isolated work site or the mobile workplace has implications for the future of work and societal relations. Telework and home-based employment are work practices

related to changes in technology and family life, precipitated by the current global economic restructuring, which has local consequences for the reshaping of spatial forms and social dynamics. The rising number of information-based and service-related occupations and jobs, increasing contract work and part-time employment, widespread use of computers and telecommunications, corporate restructuring, and workers' desire to balance family and work are all factors reinforcing an increase in flexible work patterns (Gurstein, 2001: 8).

4.0 Why work from home?

For some working from home is a workplace innovation while for others it is an invasion. Many perceive it as an innovation because flexibility increases productivity for those who are motivated. Working from home is a work-life balance solution if handled sensitively. If not, its destructive quality could be exponential. It is a strategy for achieving prosperity in an uncertain and complex world. Home working is definitely a work in progress and it is our belief that success stems not from knowing the future, but in remaining open to its possibilities. What matters is not what's next, but how we respond responsibly to new influences. How do we sustain people, business and the environment in equal measure?⁸

The flexibility provided by working at home is complex: it benefits mobile, high-skilled workers in technology and information-based professions. We expect that this group will be well represented in the resident population of Burswood Lakes. Conversely, 'flexibility' is employed to marginalise the low-skilled workers to benefit the company. This can result in potential job losses and reductions in wages and working conditions. The notion of the separate spheres of home and work should be questioned. A new inclusive paradigm of the home, the neighbourhood and the city that supports, rather than restricts, the experience and activities of people working from home is needed. This has significant implications for Burswood Lakes.

4.1 *Working from home and the institution of family*

"Currently, homeworkers are living and working in spaces traditionally meant for home activities. The activities of telework and home-based employment often dominate the home environment both spatially and temporally, changing the nature of the home and home life. Rather than integrating home and work life, home-based work is causing conflicts in the use of the home and in the way that the homeworker interacts with the rest of his or her household and community. An understanding of these conflicts has implications for the planning and design of homes" (Gurstein, 2001: 125).

⁸ <http://www.future-at-work.org/exhibit/indexE.html> accessed 10/3/3.

Gurstein, who has studied and researched homeworkers and working at home matters in depth, outlines a number of reservations and positive impacts on working from home and the institution of family. The home as the seat of the family is associated with nurture, comfort and leisure. Current research trends embrace the institution of family as a dynamic community and no longer analyses the family as an unchanging institution. This theme in research acknowledges that families have differed historically, having constantly evolved and undergone changes. Discovery of the family's ability to adapt to change has led to speculation that the family itself may have acted as an agent of change, preparing members for new ways of life. Gurstein forwards that, "The family has never been a utopian retreat from the world; rather, it has been diverse and flexible, and has varied in accordance with social and economic needs" (Gurstein, 2001: 17-18).

Antonelli, of the *The Workspheres* exhibition, and the book of the same name, sharply pinpoints that: "Plenty of families are run like corporations from a technology bench in the kitchen, where parents keep watch over the kids while finishing reports and paying bills. Still others escape to home offices to 'work' on computer solitaire strategies or surf web pages, a kind of virtual pottering in a latter-day shed. 'You call it a work office but it's really the reference centre for the whole house.'

In Borschke's article, Antonelli is quoted as saying that: 'Certainly the mass adoption of personal computers and their myriad uses is one of the primary motivations for creating home offices. It's the personal computer's desktop metaphor come back to life. More people will have the choice to work at home, so the home will become more multifunctional. Smart 'closet office' design is a case in point: not only can doors close on work and its attendant clutter, but an opaque glass screen can divide the living space for greater privacy, or can even create a guest room. 'What becomes important is how to create pockets of work space within a normal home environment,' says Antonelli (Borschke, 2003: 43).

Gurstein puts it this way:

"The home is becoming the nexus for a whole range of activities, making for an increasingly home-based society. A retreat to the home is occurring in the areas of work, socializing, entertainment, and education. This retreat is fuelled by fear and uncertainty about the outside world and by the convenience of technological fixes. Home-based activities that transform the home into a sphere for both production and consumption have the potential to decentralize resources and provide flexibility and control over both work and home life. At the same time, such activities could atomize and isolate homeworkers from interactions in the larger society. The societal consequences of a solitary work life need careful consideration" (Gurstein, 2001: 9).

4.2 Advantages from working from home

"Feminist researchers see certain advantages to telework for those in the population, such as mothers of young children, the elderly, and the physically challenged, who need or want to stay at home" (Christensen, 1986, cited in Gurstein, 2001: 16).

The home office is certainly not a universal panacea (Ahrentzen, 1989).

The home as haven need not be undermined by working from home if buffered by appropriate and thoughtful planning and design. Due to its physiological, psycho-social and familial support and resource networking, the home can provide a working environment that will assist to maximise productivity, time, output and creativity. This is because it is a known and controllable environment (people are able to freely design their own physical environment and placement of required equipment) where people tend to feel secure, comfortable and happy.

A number of benefits of working from home have been pinpointed:

- ◆ Resource and energy efficient;
- ◆ Save on commuting and parking costs;
- ◆ Convenient;
- ◆ Conserve valuable space;
- ◆ Safety and security;
- ◆ Design their physical environment to maximise their personal practices;
- ◆ Close to friend and family networks and home resources;
- ◆ Environmental 'ownership' and sense of belonging;
- ◆ Tax benefits and advantages;
- ◆ Potential family benefits; and
- ◆ Parents are present for their children and necessary supervision.

As Gurstein notes,

"While home-based work does have negative effects, at the same time it offers important opportunities to reorganize our homes and communities. Integrating opportunities for work such as telework centres into residential neighbourhoods is a way of revitalizing single-use areas and reducing the enormous energy and transportation inputs required to maintain North American lifestyles. While replanning residential communities with work in mind will not alleviate all the problems of our increasingly complex environment, it will go far toward creating more sustainable, humane communities" (Gurstein, 2001: 10).

There are obvious advantages in mixed use and home offices and other enterprises. With more people working at home and higher density living, it may be cost-effective, with technological support, for example, to provide a wider range of goods and services by home delivery. However, serious problems can occur for people working from home, especially women who may feel isolated from normal social contact (Ahrentzen, 1989).

4.3 *Disadvantages from working from home*

Specific negative issues that have been raised regarding telework include financial exploitation of homeworkers, poor conditions of employment, lack of union representation, restrictive residential zoning, and reluctance by management to relinquish control over employees. There are problems also of spatial constraints and conflicts for people who live in small houses or apartments that are quite unsuitable for home-work and its storage requirements. Further issues include waste generation and required disposal, increased electromagnetic radiation in the household, isolation and a sense of entrapment and access to community amenity and resources.

"But by giving work so much time and space, do we endanger the home's status as a sanctuary? Do we risk becoming all work, no play? "Hence we feel as if work follows us; that we're always working. We need more flexibility between spheres, but we can't live boundary-less existences as important parts of human experience become lost in the shuffle" (Borschke, 2003: 43).

The home for teleworkers is no longer a place of refuge, since work related stresses become associated with the home. Interestingly, a comprehensive recent American study (Ahrentzen, 1989) has revealed that, while homeworkers greatly value working at home, a significant proportion report that they experience isolation and a sense of entrapment.

Gurstein further comments:

"Some of the major problems with working at home include lack of storage for materials and products, and intrusions from family, neighbours, and friends. Other complaints include workspaces that are too small, unsuitable layout for working, poor lighting, electrical wiring, and ventilation, inadequate number of telephone lines, and noise disturbances from outside the workspace. Home-based workers with the smallest floor areas in their homes generally had the most problems with their at-home workspaces. They especially lacked adequate storage space and found their workspaces too small" (Gurstein, 2001: 127-128).

Further, she notes:

"Fifteen percent find that some of their work-related activities were incompatible with their home environment. These activities include frequent work-related telephone calls and small-scale manufacturing that produced noxious vapours. Other problems are inconvenient access to workspace through a living space, a home layout unsuitable for home-based work, and an unprofessional workspace inappropriate for receiving clients. Problems outside the home include lack of space for loading/unloading/delivery of materials/finished products, inadequate employee/visitor/client parking, storage of hazardous work-related materials, opposition from neighbours to work activities, and complaints from municipal agencies regarding zoning infractions, incompatible uses, and so on" (Gurstein, 2001: 128).

4.4 Home, work & possible futures

"Technology, now so often an enemy of family time, may eventually become its saviour, not only by enabling employees to do more work from home but also by eliminating some offices altogether and permanently altering the way business gets done. "I do think we are at a turning point," says Ellen Gabriel, a partner at Deloitte Touche who is leading a companywide effort to retain and advance women. "Work has to change for parents to raise healthy kids and to be healthy, contributing employees" (Morris *et al.*, 1997).

Dixon believes that these satellite offices represent a fundamental shift in the dynamic between workers and the workplace. In the past, workers were expected to migrate to the workplace, taking trains and (later on) cars into the city, because that's where the jobs were. Now the workplace is following the workers to the suburbs, where they want to be. As Morris and colleagues explain,

*"In the wired world of ubiquitous communication the model worker is the one who can best feed the beast. The demands of this new economy wreak havoc on family routines that are the bulwark of childhood. One parent--or both--may vanish for days with little warning, because travel has become a critical component of even mundane jobs. The family dinner has disappeared in many homes as parents work long past the time little tummies start to growl; bedtime slippage follows to give Mom and Dad time--which may or may not be 'quality time'--with the kids. The long, unpredictable hours lead to kaleidoscopic child care arrangements. Many households have not one but several babysitters; parents need a flow chart to keep it all straight. Never mind the debate over day care. Today's parents are even more worried about how kids will be affected by the stress and crammed-to-bursting schedules in their own house" (Morris *et al.*, 1997).*

Our professional opinion is espoused by Future@Work: "We believe the answer lies in creating an integrated framework for action, a balanced yet dynamic system whose interdependent components - people, nature, technology and tools - yield the power to confront change, and the wisdom to take advantage of it."⁹ This model is one of integration; it is a hybrid model with a mix of personal; styles and functionality.

5.0 Guidelines for designing homeworking spaces

"The specifications for an appropriate home workspace depend on individuals' work behaviour: what tasks they do what equipment they need to accomplish the tasks, and how they screen people and conditions that tend to interrupt the flow of work" (Gurstein, 2001: 144).

As currently designed, most dwellings need to be adapted for homework. This adaptation, like the retrofitting for accessibility, may be considerably expensive. Mirvac Fini has the opportunity to plan and design at best, a percentage of dwellings within the Burswood Lakes development for particular homeworking possibilities and requirements and at minimum include generic design and planning qualities and criteria to provide an environment favourable to the possibility of homework. "The most appropriate design solution for a particular homeworker depends on his or her particular work, household structure, housing situation, and financial capabilities (among other criteria)." (Gurstein, 2001: 144).

5.1 Design responses

"Design responses should accommodate new possibilities within our lifestyles while being compatible with the traditional options of being comfortable and cosy at home," says Antonelli" (Borschke, 2003: 43).

"So we've begun to alter the geography of home and carve out new spaces for work. Hence spare rooms are converted into offices, desks disappear into walls, live/work developments surface in inner cities while work retreats pop up in back gardens. Design is responding to changing ideas about work and home, and striving to help us strike a balance between the two" (Borschke, 2003: 43).

Environments that are going to share 'domestic' and 'working' spaces should be sensitively and thoughtfully designed. This planning and design process should be sensitive to the nature of home as domestic and private refuge, while catering for the public and professional nature of most working situations. This includes designing for

⁹ <http://www.future-at-work.org/exhibit/indexE.html> accessed 10/3/3.

increased human and vehicular traffic, and an inflow and outflow of a variety of goods and services. Amenity, facility and resources, if not a part of the development directly, should be spatially and temporally convenient and accessible. Design should be aimed to accommodate for as broad a range of human needs, requirements and wants. The design responses will reside within the context of the style of the development, the requirements of the municipality it resides within and the high-rise, high-density aspect of the development.

5.2 Spatial requirements of working from home

"Working from home is increasingly mythologized as the new frontier - an individual's ultimate expression of autonomy, freedom, and control - made possible by telecommunications and information technologies. While there is a long and global tradition of home-based workers, the use of computers, modems, and faxes to work at home or close to home variously known as 'the electronic cottage', 'electronic homework', 'telework', 'telecommuting', 'networking', 'distance work' and 'flexiplace' takes on significance in predictions about the future of work that it is difficult to escape the suspicion that this trend has acquired a symbolic stature beyond its actual prevalence" (Gurstein, 2001: 8).

Social design argument calls for the ideal of discrete 'frontstage' and 'backstage' realms, defined by the activities conducted within the space. For many, it is important that the home office be hidden and only discoverable if required, so it doesn't impact on a sense of home. Further, a more hybrid model is often required that builds upon this hard 'frontstage', 'backstage' split to provide for diversity and to enhance the positive elements of the work and domestic spheres. As Penny Gurstein wisely notes,

"Even those who have been able to control the spread of their work through the home find that they don't have enough room in their workspaces for filing, desk, and shelf space. Inappropriate space was a prevalent complaint for homeworkers, most of whom had little choice of workspace. Often people's choice of a workspace was dictated by their need to find one designated room in their home that they could write off as a workspace for income tax purposes. Besides size, home spaces that are converted to workspaces are not adapted to office requirements" (Gurstein, 2001: 125).

"What becomes apparent after interviewing people who work at home is that many homes are unsuitable workplaces as presently planned. There is no clear division between home and work functions, creating time and space conflicts that interfere with a household's functioning" (Gurstein, 2001: 125-126).

Mirvac Fini has the opportunity to design a percentage of its Burswood Lakes dwellings to accommodate the different kinds of home-working models that exist. The frequency of these accommodations must be responsive to the variety of models of homeworking that will be catered for and the percentage they reflect out of the total diverse product of the development as a whole. This planned model counters the possibility of a wave of retrofitting in the future and the associated costs and expense of retrofitting. Studio/workspace/home office retrofitting may not be as financially consuming as retrofitting for accessibility, but it may potentially be considerable. Planning for different types of homeworking models increases Mirvac Fini's potential to access another market niche.

5.3 *Guidelines for the dwelling interior*

Technology

Workers in home offices often communicate that there are never enough power points and that they are often in inconvenient locations. The same applies to telephone points and now networking and broadband cabling points used for accessing the Internet. Often these technologies are converging to form hybrids and technological solutions for particular environments that are themselves constantly evolving. With modern, information technology, these requirements are now intertwined. Therefore, consider:

- ◆ Using specialist advice regarding the IT requirements of home offices;
- ◆ Locating some power points well above floor level (say 450mm) to avoid bending down and dangling cords;
- ◆ Providing a television antennae point in the built office environment;
- ◆ Ensuring that part of one light-coloured wall is available to double as a projection screen.

In addition:

- ◆ Computer cabling for ADSL/broadband to facilitate high-speed communication of information and multimedia;
- ◆ Numerous telephone lines and points;
- ◆ A number of computer plugs;
- ◆ Office machines may emit toxic fumes and electromagnetic radiation. This consideration impacts upon their location in home offices;
- ◆ An abundance of power-points to maximise layout and furnishability, reducing extension cords and power-boards;

Built space

- ◆ Spatial location of the built office, study or home working space suitable in internal dwelling positioning;
- ◆ Optimise functional associations and linkages of rooms according to type of home-working and home-working model to be implemented;
- ◆ Office visitors do not have to pass through more intimate parts of dwelling to use toilet or bathroom;

- ◆ Electromagnetic radiation (EMF) of office equipment should be planned and designed for in the built office environment models;
- ◆ The work-space should be easily accessible by front door / rear entry but so that the work area can still be partitioned from the rest of the house;
- ◆ Window(s) of activity room(s) overlook front door (see who is there before opening it);
- ◆ Windows(s) of activity room(s) overlook front yard and shared open space;
- ◆ Windows of activity rooms overlook the street;
- ◆ Ventilation is important for dedicated work space and built office environment, dual access to fresh air as well as healthy air-conditioning units;
- ◆ Window height should be consistent with standard desk heights so that desks can fit under window sills and views out are possible (see *Working Paper 10*);
- ◆ Skylights should be used, where appropriate, to introduce natural light and conserve energy usage;
- ◆ Lighting should be appropriate to the size and position of each room and its intended purpose;
- ◆ Appropriate artificial lighting for different types of models and types of homeworking tasks;
- ◆ Enable direct sunlight to be moderated and minimise subsequent glare in areas where computer screens are likely be utilized;
- ◆ Ensure that glare is controllable for areas where there are going to be computer terminals;
- ◆ Provision of suitable electronic hardware;
- ◆ Provision of adequate benchtop space including opportunities for adjustment and, where appropriate, adopt 'fold-away' characteristics;
- ◆ Sound proofing;
- ◆ Noisy machines should not conflict with personal spaces in the dwelling that require quiet;
- ◆ High-quality washable wall paint as some office machines emit fumes that leave a deposit on walls that must be regularly washed. Specify washable paints that can withstand frequent washing; and
- ◆ Additional storage and workable space;

'Nomadic' space

- ◆ Proved with suitable electronic hardware; and
- ◆ Designed for hybrid, occasional and variable working placement throughout dwelling and potentially the exterior grounds.

5.4 Guidelines for the dwelling exterior

- ◆ Transportation logistics: Loading Zones, client parking;
- ◆ Landscaped 'breakout' or courtyard garden areas off workspaces rather than bedrooms;
- ◆ Smoking amenity and appropriate disposal;

- ◆ Possible working in public and shared spaces; and
- ◆ Guest parking.

5.5 Storage

- ◆ Storage space adaptability, visibility and accessibility are imperative and are one of the major design challenges for the different built home office environment models – storage solutions are very context-specific; and
- ◆ As freestanding storage items tend to minimise potential space, where possible, built modular storage is preferable.

Thus, ample built-in storage should be provided for:

- ◆ Paper and general stationary items;
- ◆ Toner, cartridges and other consumables;
- ◆ Excess hardware peripherals;
- ◆ Cables, electrical and telephone components;
- ◆ Spare computer parts;
- ◆ Storage disks, zips and CDs; and
- ◆ Hand-tools and other similar items for non-technology and hobby workers.

5.6 Waste disposal

Waste disposal is an issue that the developer must confront if a significant proportion of dwellings are to accommodate home office use. "Since they have started working at home, the respondents find that, except for garbage, their households have not generated more noise, sewage, traffic, odours, or chemical waste. This is because few people are engaged in work of a hazardous nature. Nevertheless, a few at-home workers encountered problems with the licensing requirements of their municipality. Some were refused a business licence, and after negotiation now operate under stringent rules, such as no advertising, no posted hours, and no signage. Others are not allowed to have customers in their homes" (Gurstein, 2001: 128).

While some offices generate little extra parking or traffic, one area where they do have an impact is waste disposal. If this issue is fully considered in the planning stages, residents will not be tempted to dispose of waste thoughtlessly. Consider the following:

- ◆ Dedicated paper recycling (such as services provided by Visy) to encourage office users to recycle paper rather than put it out in the rubbish;
- ◆ Convenient recycling locations near dwelling entries (or back doors, as appropriate);
- ◆ Opportunities to environmentally sort other recyclables; and
- ◆ Convenient disposal of waste that cannot be recycled.

5.7 Guidelines for amenity, materials and infrastructure

- ◆ Two doorways into dwelling if possible for certain uses: one purely as work frontstage and the other as general home frontstage and backstage;
- ◆ For certain home working models, separate the business from the leisure aspects of the dwellings;
- ◆ Carpets that can be easily vacuumed or cleaned;
- ◆ Toilet, bathroom and kitchen and waste facilities should be easily accessible to the working areas;
- ◆ A separate work and kitchenette model for some homeworking models might be appropriate;
- ◆ Technology kiosks are a means of generating industry and simultaneously supporting those working from home;
- ◆ Internet facilities, and industrial copier and printing services at cafes, technology kiosk etc;
- ◆ Secure mailboxes with enough capacity for a significant inflow of mail, couriers etc.;
- ◆ Legible signage and directional cues; and
- ◆ Possible reception area for Burswood Lakes as a focal point where packages, parcels and courier goods can be delivered and signed for in the absence of the home worker.

5.8 Miscellaneous guidelines

- ◆ The relationship between children and home working depends on age and development of children and type of home working and model;
- ◆ Childcare facilities need to be located near dwelling;
- ◆ For home working models where clients are going to access the dwelling, the frontage should be clearly legible and separated from the main part of the dwelling;
- ◆ Privacy should be planned for, shielding other dwellings in cluster from the effects of home working: potential increase in number of visitor/client/delivery rate;
- ◆ Increased demand on parking and access and egress;
- ◆ Frontstage and backstage principles should still be adhered to in all home/work models;
- ◆ The built office is 'frontstage' colleagues/clients but not confused with parlour or other domestic areas for 'show';
- ◆ No rooms of irregular shape, office furniture (and equipment with cabling and leads) cannot 'float in space' and needs to fit neatly along walls. All corners should be right-angled. No curved walls;

- ◆ Specify that window hardware has wide sills to maximise space and displayability of personalising and/or professionalising elements;
- ◆ Picture rails are important to facilitate display and merchandising without damaging walls;
- ◆ Offices often need to display items on walls in a temporary or project capacity: whiteboards, pinboards, diplomas, charts, certificates etc.;
- ◆ Natural light: for workers spending long hours in a home office, the quality of natural light is of critical importance. Where possible, all rooms intended as home offices should have light from two sides. Care should be taken to control summer sun into these rooms and to reduce glare, which plays havoc both with computer users and older eyes. Prudent selection and location of deciduous trees near these windows for lower storey dwellings can contribute to the quality of work spaces, for example. It is critical that blinds need not be closed and lighted turned on to handle glare problems;
- ◆ A sense of entry: even in small spaces designated as home offices, the reception and welcoming of clients and colleagues should be considered. The 'first impression' of a visitor is important here. A small space or alcove where clients can sit before meeting will be much appreciated and will protect the privacy of other workers in the space. This space could possibly be incorporated as part of a bay or feature window or break-out-space;
- ◆ Reinforced ceilings designed to support the weight of hanging plants, to reduce the impacts of electromagnetic radiation and to condition the air and process environmental toxicity;
- ◆ Feature or Bay windows with a window seat that allow for visual respite and stress relief. Promoting view and access to natural environments is imperative for people engaged for long periods in constructed/artificial environments;
- ◆ As the function of the room used for the office may change as household demands change, and requirements of occupants change, anything that contributes to the mutability and adaptability of the built environment is at a premium; and
- ◆ For 'frontstage' home office environments, displaying and showcasing visual paraphernalia, awards and marketing information and/or making the environment conducive to clients for home practitioners are at a premium.

6.0 Miscellaneous factors

6.1 Privacy

Please see *Working Paper 10*. Penny Gurstein advises that:

"Of crucial importance for planning workspaces in the home is the concept of privacy. The need for psychological, acoustical, and visual privacy varies among individuals and cultures. While privacy refers to the ability to carry on activities free from intervention or observation, isolation is created when a person is denied social opportunities when desired. The difference between privacy and isolation depends on the degree of control that a homemaker has over his or her environment and the homemaker's freedom to relinquish privacy at will. Home-based workers have difficulty separating themselves psychologically from work if there are not clear boundaries between their home and work spaces. In turn, household members can easily interrupt homeworkers if they can be seen and heard from spaces used by the rest of the household. Privacy can be achieved in a number of ways - through physical barriers, spatial organization, scheduling, and codes of behaviours" (Gurstein, 2001: 145).

Privacy of some form is a necessary consideration for all residents of Burswood Lakes. For home workers there are design specifics that directly impact their ability to carry out their business endeavours at home. These include:

- ◆ **Psychological privacy:** often the feeling of adequate space is quite different to the actuality of how space is utilised;
- ◆ **Acoustic privacy:** noise from equipment and work that occurs during what are usually considered sleeping or rest times;
- ◆ **Visual privacy:** for many home-workers it is important to maintain a distinction between business and private spaces;
- ◆ **Spatial privacy:** adequate space to pursue multiple interests;
- ◆ **Corporate information privacy:** including technological kiosks versus private access, storage requirements and security measures; and
- ◆ **Family privacy:** separation of spaces, duties and interactions.

While privacy is important it must be clear that measures to protect privacy should not accentuate the isolation often created by design instruments of this nature.

6.2 Personalisation of the worksphere

Arguably, we are what we do with our time—our sense of community is often defined by our daily life path, networks and associations. Increased empowerment, functionality and choices promote increased idiosyncrasy and individuality. Many people telework from home or on the go, telecommuting in blue jeans or pyjamas. Meetings are at the office, but the office may be in living rooms, gardens, bedrooms, hotels, technology

harbours, cafes, libraries, hired meeting or function rooms, restaurants, or in multi-use/hybrid spaces or public shared or open space. Work may be conducted on the Internet, in videoconference, teleconference, at nightclubs, dinner parties, or spontaneously in lifts, down the street or whilst collecting the mail.

6.3 Meanings of 'home' and working from home

Gurstein is concerned about the identity of home in the homeworking model. She notes:

"Clusters of meaning can be associated with the definition of home. A common concept of home is a physically defined structure that people sometimes inhabit. Home is also seen as a replaceable commodity that is bought, sold, and occupied. Home is associated with territory where occupants have a sense of intimacy and control; it is a series of territorial boundaries starting with the most private spaces, such as those where one sleeps, and moving outward to include those areas where there is a feeling of familiarity and belonging, such as the neighbourhood and home town. Home can also be conceptualized as a locus in space, a central point of reference in a person's daily life, where a person starts and to which he or she returns. Home can symbolise the essence of self and self-identity, expressions of myth, and idealized memories. It is a pivotal point around which human activities revolve and significant experiences occur. As an archetypal image, it embodies permanence and strength. Home can also mean a social and cultural unit that the family or community depends on for physical and psychological support, as well as a setting for socialization and acculturation" (Gurstein, 2001: 147).

These matters need further investigation.

6.4 Homeworking and CPTED

From a crime prevention perspective, unfortunately, home working does not confer on the neighbourhood all of the advantages of 'eyes on the street,' as could have been expected. Home-workers tend to have their eyes on their computer terminals and on various work related tasks, rather than on the street and are often located in spare rooms at the back of dwellings without opportunities for natural surveillance.

There are implications for building envelopes and dwelling design. To encourage "eyes on the street", dwellings need to face streets and lanes and have activity rooms located to overlook them. As homeworkers greatly value separate entries and some sense of separation (especially if they have meetings at home), the planners and designers could consider developing designs specifically for these residents, with the expectation that

these larger dwellings could work very well in other situations: for households with teenage children, older parents, boarders, sharing households; and extended families.

6.5 Neighbourhood support, facility and amenity for home workers

Homeworkers greatly value 'ambient neighbourhood qualities including peace and quiet, pleasant views, privacy, unobtrusive neighbours, and quiet walking conditions. This means that urban design and landscaping issues, as well as care in the mix of community and commercial facilities in the Burswood Lakes development, will be very important to homeworkers. They will help to combat isolation and agoraphobia.

The range of services that need to be provided locally to meet the precise needs of homeworkers needs particular attention. The current literature needs to inform the planning and design of the Burswood Lakes development to see whether the same requirements could be expected: photocopy centre, post office, office supply store (stationer or newsagent) and library. In view of the shortage of local libraries and post offices in most Australian suburbs, it may be necessary to look at post office 'agency' arrangements to meet the needs of homeworkers.

It is also important to give consideration to distribution of information and communication centres to service both functional work-related needs and the cultural/entertainment and information needs of the community as a whole.

6.6 A final note: Workspheres

The Museum of Modern Art (MoMA) in New York City held 'Workspheres' (the virtual exhibition can be viewed at:

<http://www.moma.org/exhibitions/2001/workspheres/index.html>). Some selections follow:

"An exhibition examining design's role in creating contemporary work environments. More than a third of the show was devoted to domestic design. "

"The home office is a reality and that's where the real potential is [for design],' explains Paola Antonelli the MoMA curator who mounted the 2001 exhibition that included everything from furniture to accessories like staplers and wastebaskets."

"Information technology stole the show as the tools that free people from the office are catapulted from high tech to high fashion. Apple's iMacs and PowerBooks are design objects that the fussiest aesthete is happy to integrate into personal environments. Stylist lust after Aeron chairs and sleek desktop accessories are *de rigueur* gifts. It's a trend that reveals as much about our attitudes to work—something many now consider

an integral part of their identities —as it do our changing work habits. No wonder we're willing to take work home."

Nomadic labour is also made possible by technology that is multifunctional and now essential to many parts of life. The Internet allows us not only to respond to memos at 3am but also to correspond with friends or indulge eccentric interests. Mobile phones may extend the work day but they also permit us to wait for business calls while buying groceries before shops close.

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<http://australia.gov.au>

<http://www.workplace.gov.au>

N.B.: Search under "Ergonomics" and "Home Office Design"

Resources at the Queensland University of Technology

NB: 'home-labour' on the catalogue at QUT was broken into seven additional subject headings:

- ◆ Artisans
- ◆ Cottage industries
- ◆ Industry history
- ◆ Manufactures
- ◆ Sweating system
- ◆ Telecommuting
- ◆ Women employment

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