PRESERVING OUR NEIGHBOURHOODS: SENSITIVE INFILL HOUSING AS
A DEVELOPMENT OPTION

By

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ABSTRACT

Current residential zoning by-laws often discourage alternative housing forms, by strictly regulating development in single family areas. Despite the social, demographic and economic changes over the last two decades, our cities have not experienced a similar level of physical change. In the Vancouver region, the amount of residential land zoned for single family use is not indicative of present household formation. For many, the single-family zone reduces access to people and activities.

Significant pressures are emerging for change in the pattern of urban residential development and urban land use in general. Continued low density fringe development is costly and inefficient, for both the individual and society. Yet, increasing residential densities in already developed areas presents serious regulatory and political problems, particularly in single-family areas. Higher residential densities contravene many existing building codes, zoning by-laws and official plans, and are often resisted by local residents.

This thesis explores some of the opportunities and constraints for infill housing, using the City of Vancouver as a case study. While various forms of infill are discussed, encompassing a range of scale and meaning, the focus of the study is on small scale infill development that encourages retention of existing houses and is capable of being built by small builders. The evolution of infill as a retention strategy in Vancouver's inner city conversion areas is closely examined, as is the growing pressure to intensify in Vancouver's single-family neighbourhoods. The potential of using infill to encourage
housing and streetscape retention in other zones, including single-family districts, is also 
explained.

Pressures to intensify in single family areas are likely to increase, because of high land 
costs and because they are convenient to downtown workplaces and activities. Each year, 
over 1000 single-family houses are demolished in Vancouver and replaced with larger 
homes. Most cities, including Vancouver, have regulatory environments that favour new 
construction over preservation. Retention opportunities by way of additions and infill are 
achievable if some consideration is given to a review of zoning by-law constraints, with 
a view to modifying them to the extent necessary to encourage these activities, while at 
the same time maintaining adequate standards of safety, service and access. Because of 
the special difficulties of rehabilitation and infill, a successful solution is more likely to 
be of finer grain, more responsive and proper to a particular place.

Much of the anticipated demand for ground-oriented housing could also be created 
through intensification activities such as conversion and infill. The incremental nature of 
these activities is often viewed as the least disruptive form of neighbourhood change 
because it can result in a scale of building which is smaller and more in keeping with a 
single-family neighbourhood, while still increasing density in a sensitive manner.

Alternative housing forms such as infill may be expected to encounter opposition. It may 
take the form of local opposition or inflexibility on the part of administrative authorities.
By definition, innovative projects do not operate within the existing boundaries of administrative or political control, and are thus vulnerable to opportunistic attack. If there is to be innovation, then politicians and bureaucrats will have to eliminate many existing hurdles, and acquire a sense of experimentation themselves. Effective approaches to urban infill can help unlock land located near working areas that are already fully serviced, and may provide lower priced ground-oriented housing in a market that is currently beyond the financial reach of many households.

The variety of household forms that are emerging will require a variety of solutions. Alternative housing must be affordable, accessible, and provide opportunities for sharing and support. A more flexible zoning policy may help alleviate current housing pressures, create a more interesting urban form, and promote equality of opportunity and service.
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1.0 Introduction

There is a growing awareness and concern in Vancouver about housing shortages in general, and particularly the availability of appropriate and affordable housing. The nature of families and households has changed dramatically over the last two decades, with many households requiring smaller and more affordable accommodation.

Resolution of these issues is becoming more difficult and complex. An effective response will have to encompass a range of housing initiatives. One of the options that is gaining importance in this regard is residential (or housing) intensification, which refers to the process of increasing the number of units within a community by making better use of land and the existing housing stock. Intensification can be accomplished through the concept of homesharing, the addition of accessory apartments by way of conversion, or through the processes of infill, subdivision or redevelopment.

The variety of housing produced through intensification initiatives may help people of different ages and incomes live and stay in their neighbourhoods as their age and lifestyle changes. However, many residents are apprehensive about housing intensification, fearing that neighbourhoods will undergo dramatic and adverse change. In some neighbourhoods and in some instances, these fears will be valid. At the same time, there is considerable evidence demonstrating that housing intensification can be successfully integrated within existing communities.
1.1 Problem Statement

As Vancouver heads into the 21st century, it is becoming apparent that significant pressures are emerging for change in urban residential development and urban land use in general. Current housing practices do not make efficient use of land or resources and create a host of secondary environmental problems.

Future residential growth must be accommodated in more energy efficient land use patterns. Infill housing may be a partial solution to the housing problem presented by Vancouver's growing population. In a 1981 study done for the Canadian government on urban infill, it was revealed that infill housing could accommodate up to fifty percent of the housing needs in municipalities, and that residents of infill projects could save up to thirty percent of living costs due to decreases in transportation expenditures. Municipalities reap economic benefits as well, not only through an increased tax base, but through the use of schools and other services which are already in place.¹

This study explores some of the opportunities and constraints for infill housing, using the City of Vancouver as a case study. While various forms of infill are discussed, encompassing a range of scale and meaning, the focus of the study is on small scale infill development that encourages retention of existing houses and is capable of being built by small builders. The evolution of infill as a retention strategy in Vancouver's inner city conversion areas is closely examined, as is the growing pressure to intensify in

Vancouver's single-family neighbourhoods. The potential of using infill to encourage housing and streetscape retention in other zones, including single-family districts, is also explored.

1.2 Objectives of Study

The primary objectives of this study are:

a. to gain a better understanding of the occurrence of infill housing and the arguments for and against it;

b. to examine individual aspects of infill housing in a broader context, using the City of Vancouver as a case study; and

c. to identify opportunities for and constraints upon the creation of infill housing in Vancouver's single-family neighbourhoods.

1.3 Problem Context

Vancouver is part of a region that is expected to grow by 1.2 million people and 700,000 jobs over the next thirty years. Most of the region's growth will take place outside of Vancouver, but the City's population is expected to grow by 160,000 people by the year 2021. In that period, Vancouver will need to add about 100,000 housing units, an increase of 50 percent over that available in 1991. While two-thirds of this housing growth will be accommodated in high-density projects that the City has already approved, the Greater Vancouver Regional District (GVRD) believes that Vancouver will need to

2. City of Vancouver Planning Department, Making Choices. 1994.
provide additional ground-oriented housing to meet the varying needs of the region's growing population.

Much of this future ground-oriented housing could be created through intensification activities such as conversion and infill. The incremental nature of these activities is viewed as the least disruptive form of neighbourhood change because it can result in a scale of building which is smaller and more in keeping with a single-family neighbourhood, while still increasing density in a sensitive manner. Approximately 70 percent of Vancouver's urban land area is zoned for single-family housing, an unusually high percentage for a city its size. Pressures to intensify in the single family districts are likely to increase, because of high land costs and because they are convenient to downtown workplaces and activities.

1.4 Scope

As Vancouver is the only municipality in the Lower Mainland that has zoning that allows for secondary infill dwellings on single lots, the study will be restricted to the city itself. New housing in the remainder of the Lower Mainland tends to be concentrated in medium to high-density developments around regional town centres, and in new single-family subdivisions.

The study will be from a design and environmental perspective, with the primary focus on housing retention. Housing affordability is only looked at in relative terms. In
general, infill activity in Vancouver does not lead to low-cost housing and in some cases is more expensive. Although existing services are in place, high land costs in the city prohibit affordability. Infill offers home-ownership opportunities to moderate-income households, but does not address the problems of lower income groups. The opportunity for home ownership will continue to be beyond the grasp of a large segment of the population. Affordable housing in Vancouver must come through government subsidies, and through other means of intensification, such as the creation of new rental units from the existing housing stock through conversion.

1.5 Organization

Chapter 2 examines literature on the subject of infill, with emphasis on initiatives outside of the Vancouver area. Some attention is paid to exclusionary zoning and housing retention in general. Much of the American literature pertains to infill as a renewal strategy in inner city neighbourhoods. In the Canadian literature, infill is examined at a smaller scale, with an emphasis on detached secondary units, such as rear-lot infill. The two major constraints on infill housing, neighbourhood resistance and the regulatory environment, will be briefly discussed.

Chapter 3 examines infill in the context of Vancouver's growth, by reviewing some of the historical, demographic and economic factors that have shaped the city. Comprehensive intensification plans which proposed infill as one of a variety of housing alternatives will also be examined.
Chapter 4 looks at some of the current zoning provisions for infill in Vancouver. The evolution of infill as a retention strategy will be examined. The emphasis is on small-scale infill, where a detached secondary dwelling is added to the side or rear portion of a lot already containing an existing dwelling. The potential of using infill to encourage housing and streetscape retention in other zones, including single-family districts, is also explored. A current rezoning application in a single-family neighbourhood, in which five infill dwellings are proposed to be added to a large west side estate, will be used as a case study. It will look at plans that have been introduced, the public planning process and the general response towards this proposal.

Finally, Chapter 5 will summarize the major findings, and conclude with observations from the case study. The future of the single-family zone in Vancouver is also discussed.
2.0 Infill Housing: A Literature Review

2.1 Introduction

Much of the literature pertaining to infill focusses on residential intensification as a whole. Infill and secondary suites are the two forms receiving the most attention. Although these two forms of development are different in nature, many of the opportunities and constraints upon them are similar.

While the focus of this study is on small scale infill development such as rear lot infill, the regulatory environment in most cities prohibits this form of development. Most of the Canadian literature on infill focusses on making more intensive and efficient use of vacant land, especially on sites that were by-passed in the course of normal development. American literature on infill tends to emphasize neighbourhood revitalization, particularly in older, inner-city neighbourhoods. In this context, infill is a process of filling in the gaps left by the selective demolition caused by urban renewal, or by abandonment. While this chapter will briefly examine other forms of infill, the emphasis will be on small scale development where detached dwellings are added to sites already containing housing.

2.2 Definitions of Infill Housing

Infill is a form of residential (or housing) intensification, which refers to the process of increasing the number of housing units within a community by making better use of the existing housing stock, and by making more efficient and effective use of the existing
urban infrastructure. Other types of intensification include the concept of homesharing, the addition of accessory apartments by way of conversion, or the processes of subdivision and redevelopment.

Definitions of infill are varied, representing a range of scale and meaning. The size of an infill project can vary from large mixed-use developments covering several city blocks, to attached accessory units added to an existing dwelling. At an infill seminar held at the University of Winnipeg in 1982, infill housing was characterized as being "found anywhere there is new construction and that new construction neither alters, neither detracts, nor adds to the infrastructure that is already there".¹ The Real Estate Research Corporation (RERC) defines infill as the process of developing "vacant, skipped-over parcels of land in otherwise built up areas".²

The Metropolitan Toronto Planning Department defines infill as the construction of small scale new housing within existing residential areas on sites usually less than 2.0 hectares (5.0 acres), using vacant or underutilized land in a form which is physically integrated into the neighbourhood. It can include building on vacant parcels of land, building additional dwellings on lots which already contain housing, and replacement of existing ground related buildings with residential structures (four storeys or less) in a manner

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compatible with surrounding development.\(^3\)

Although conventional construction on vacant sites comes within many definitions of infill, developments that tend to dominate their immediate surroundings or create an internal environment separate from the neighbourhood are a form of redevelopment, but not really infill. Infill is distinguished from other forms of development by the emphasis placed on relating the design to its surrounding context.

The term "infill" has emerged as part of the preservation vocabulary, as it is linked directly to the revitalization of urban neighbourhoods. Small scale, sensitive infill encourages owners to maintain existing properties and helps neighbourhoods adapt to change. Sensitive infill development respects the physical character of a neighbourhood and is compatible with its social, economic, historical and cultural context.\(^4\) Peter Barnard Associates defined sensitive infill as "low rise development on small scale sites requiring little or no demolition of residential units and capable of being built by small builders. Such development conforms in all other respects to the existing scale and character of the neighbourhood."\(^5\)

Infill housing is sometimes viewed as a process of urban renewal. Rehabilitation of

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structures that can still be salvaged and infill development on vacant or underutilized sites can help revitalize inner cities experiencing urban decay and population decline. In this context, infill housing is the opposite of slum clearance and displacement. It represents the integration of buildings, and their residents, into the existing social fabric, not their separation and exclusion.\(^6\)

Regardless of scale, new infill housing occurs in a context of existing buildings, whether they are on the development site itself or nearby. There is no major visual impact or detriment to the neighbourhood, and demolition of buildings is kept to a minimum. The scale of infill development may vary from the addition of attached accessory units or detached secondary dwellings in the side or rear yards of lots containing an existing dwelling, to new housing on vacant or underutilized sites that were by-passed in the course of normal development, or abandoned in a period of urban decline. In all cases, an intensification of use, of population and of buildings is involved.

2.3 The Exclusive Single Family Zone

Zoning enjoys wide popular support, mainly because it has always been an effective means of discouraging change. To no one's surprise, zoning is perhaps most popular with those who live in single-family detached houses, the land use that zoning protects most fiercely. And for this reason, zoning is politically important as well. Local public officials know that voters look to zoning as a key means of protecting the value of their

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homes and the closely guarded character of their communities.\(^7\)

Under typical zoning ordinances, local elected officials exercise a great deal of power in determining the direction and magnitude of changes in land use in their jurisdictions. They thus have a stake in continuing the traditional model, which offers many opportunities for legislation manipulation and negotiation. Zoning is also popular with the courts, which have repeatedly reviewed and accepted the rationale for controlling land development by this method.

Because zoning was often predicated on providing for the apex of the land use pyramid, the single-family house, it often fails to accommodate new demands for more varied housing types. Other housing types are often consigned to "commercial" districts and their designs given short shrift in regulatory provisions. Although many types of apartment units, townhouses and other attached forms of housing gained a large share of the housing market during the 1960's and 1970's, the need for more creative site planning, flexible lot standards and shared ownership of open space presented problems for traditional zoning.\(^8\) The conventional conception of zoning as a prescriptive, static mechanism fails to cope with the ever-changing world of development.

Most communities employ various forms of exclusionary zoning, either deliberately or

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not, including requirements for large lot sizes, lengthy approval processes that raise the cost of development, or simply a lack of land zoned for higher-density uses. The effect in many jurisdictions is to deny access to all but the affluent.\(^9\)

Exclusionary zoning has fostered a torrent of legal activity. State courts, which once tended to uphold zoning as a legitimate means for retaining the character of a community, have shown less tolerance for patently exclusionary practices. New Jersey's Supreme Court, in the Mount Laurel decisions, has ruled that all developing areas in that state must accept a reasonable share of their surrounding regions housing needs. Pennsylvania's Supreme Court has mandated a similar requirement.\(^10\)

In another response to exclusionary concerns, some cities and suburbs have enacted so-called "inclusionary" zoning provisions that require some proportion of lower-cost dwelling units in new residential developments. Although these programs have produced some lower-cost units, some critics charge that the programs avoid the real problem of exclusionary zoning practices. For example, William Fischel argues that inclusionary zoning can be viewed as a device for fending off legal attacks for exclusionary actions.\(^11\)

Apart from the criticisms of how zoning unduly restricts the use of a particular site are


\(^10\) Ibid, p. 9.

concerns for the development patterns and individual buildings that such ordinances have produced. At the community scale, critics have charged that overly restrictive zoning is largely responsible for suburban sprawl. Overly stringent density controls in close-in suburbs, they argue, drive up the cost for close-in land, thereby making cheaper, more distant land more attractive for development. The savings in land costs on more remote sites outweigh their locational disadvantages or lack of infrastructure, and the result is a "leap-frog" pattern of growth. Restrictive zoning also tends to frustrate attempts to redevelop sites in already built-up areas.\textsuperscript{12} In many cities, available lots for infill may be subject to constrained physical circumstances that make it difficult for the builder or designer to meet municipal standards.\textsuperscript{13}

The basic weakness, therefore, of traditional zoning, is its inability to accommodate changes in household formation and market demands. Because of this, many planners and communities are looking towards more flexible zoning systems. The hallmark of flexible zoning is the employment of performance standards to determine appropriate uses and development designs for parcels of land. Flexible zoning ordinances incorporate performance standards for land uses, site design, and building characteristics and provide administrative mechanisms that minimize discretionary actions by public officials. A fundamental goal of flexible zoning systems is to reduce the financial burden posed to the public sector by new development. This goal can take the form of encouraging a land use-

\textsuperscript{12} Porter, Phillips and Lassar, p. 10.

pattern that will use existing and future infrastructure systems most efficiently, encouraging uses that contribute to the tax base while requiring relatively small amounts of public services, or shifting some infrastructure costs to the private sector.¹⁴

A more flexible zoning system could lead to more effective approaches to urban infill, by unlocking land located near working areas that is already fully serviced. Infill development not only makes more efficient use of land and the existing infrastructure, but has secondary benefits such as reduced energy and fuel consumption, and a reduction in commuter related car exhaust. However, despite the changing social and economic conditions and the various benefits to be derived, many intensification initiatives have not gained wide acceptance or popularity. It is a sensitive matter in many single-family neighbourhoods because residents often fear that too much change will occur and that the quality of life will therefore deteriorate.

Despite these concerns, changes to single-family zoning appear inevitable. In Ontario, the Inclusive Neighbourhoods Campaign (INC), is advocating changes to the Ontario Planning Act that would allow secondary suites in every municipality across the Province, as long as they meet building and safety standards. The INC does not feel proposed changes to the Planning Act go far enough to rectify discrimination in zoning. That is, municipal zoning practices have resulted in neighbourhoods of single family dwellings that effectively exclude individuals who cannot buy or rent a home in these areas. The

INC defines such zoning practices as exclusionary and a violation of rights under the Canadian Charter of Rights and Freedom and the Ontario Human Rights Code.\textsuperscript{15}

The central concept of inclusionary zoning is the legislation or means introduced to ensure that affordable housing is available in all areas of a city. Inclusionary housing evolved in the United States in the 1970's and 1980's as a direct response to increasingly poor housing conditions, poverty and racial segregation which pervaded extensive urban areas. Inclusionary programs are currently in place in many communities in the United States, but are most prevalent in California and New Jersey. Inclusionary zoning for affordable housing is a land development control measure, enacted by way of municipal by-law, which generally requires that a certain portion of units within any new multiple-unit residential development project to be set aside for low and moderate income households at below market prices or rents. Some programs mandate developer participation as a condition of development or rezoning approval while others encourage developers to participate on a voluntary basis through density bonuses and other development incentives.\textsuperscript{16}

The City of Toronto is studying the adoption of mandatory inclusionary zoning program as part of its official plan review process, and as part of the city's commitment to the Provincial Policy Statement on Land Use Planning for Housing which mandates the


\textsuperscript{16} City of Toronto. \textit{Inclusionary Zoning Study for Housing in the City of Toronto}. City of Toronto Planning and Development Department, 1991, p. 1.
creation of affordable housing. The Policy Statement has three fundamental objectives:

i) to provide a range and mix of housing types in new residential development;

ii) to require municipalities and planning boards to establish appropriate planning policies and standards which will enable at least 25 percent of residential units resulting from new residential development and residential intensification through conversion of non-residential structures, infill and redevelopment to be affordable housing; and

iii) to increase the supply of housing through residential intensification to make better use of resources, buildings or serviced sites as well as meet changing demographic trends and housing demands, and to require municipalities to adopt a strategy to make use of those opportunities.

In California, the Mello bill passed in 1981 sets guidelines for local government regulation of secondary units in all residential zoning districts of California, including exclusive single-family districts. Under this law, a local jurisdiction cannot prohibit secondary unit conversions in single-family zones unless it can present sufficient evidence to show that conversions would endanger the public health, safety or welfare of residents in the community. If such evidence cannot be presented, the bill stipulates that a local jurisdiction must adopt zoning regulations and procedures for approving applications by property owners who wish to install secondary units in their homes.

2.4 The Need for Preservation

According to Michael Kluckner, a prominent Vancouver heritage advocate, the politics and economics in Vancouver over the past decade have "accelerated the pace of re-

17. Ibid.
development in a manner that is threatening our ability to see the city's roots and to preserve the physical evidence of our collective past - the buildings and streetscapes of the old parts of the city ... Most attempts by citizens to save and restore buildings and trees have been thwarted by the laissez-faire attitudes of the civic and provincial governments.19

Speculation in real estate has always been part of Vancouver's history, which perhaps is the reason buildings have been a secondary concern among it's citizens, and are often treated as disposable commodities. The conventional wisdom has always been that because the city has such a glorious and dramatic natural setting, buildings are a secondary concern.20

Existing housing can be preserved, if there are incentives or options to do so. The retention of existing houses has several obvious advantages. Resources are conserved by reuse, although it is not always true that money costs are minimized. Given efficiencies of scale and current construction practices, it may be cheaper to clear a site, discard old buildings and rebuild anew. However, these financial calculations take no account of resource depletion, social loss, personal anguish or political resistance. Reuse in a settled neighbourhood is supported by a web of services already in place, not only of urban infrastructure and public facilities but the network of human relations and activities whose


20. Ibid., p.11.
disruption is such a serious cost in any new settlement. When a neighbourhood is ravaged by demolitions, any sense of continuity is lost.

The conception of neighbourhood is seen to possess social and psychological features in addition to its physical qualities. The social/psychological features include symbolic and cultural aspects of the neighbourhood; shared activities and experiences resulting in social groupings, common values and loyalties, and activities engaged in by neighbours termed "neighbouring". In this light, neighbourhoods are more than the basis upon which local services and facilities are delivered - they come shared situations within which residents have a role to play and a set of responsibilities to fill.

In many ways, neighbourhoods are an extension of the home. In combination, homes provide shelter and services as well as social and psychological function for their residents. In the words of Kurt Finsterbusch, "Both home and neighbourhood are the setting for many memories and the objects for emotional attachments. With time, they give a sense of rootedness, belonging and security."

The social issue of heritage often becomes an argument about gentrification, because it is often fuelled by powerful class and economic motives. Some criticize the preservation

21. Ibid. p. 347.
movement on three related counts: first, that it too often displaces the people who live in these areas to be restored; second, that it conveys a false, purified and static view of history, and third, that the values on which the criteria of preservation are based are narrow and specialist.24

Despite these criticisms, the benefits of restoration transcend class boundaries. Inner-city neighbourhoods previously on the path to disinvestment and abandonment get restored to good use. Expensive physical resources that would otherwise be wasted get reused. Old buildings frequently provide affordable rental housing and restoration usually pushes the rent out of the reach of the former tenants. But without government intervention in the real-estate market, the poor will remain dependent on the status quo, whether buildings are restored or demolished. When old buildings become decrepit, as is the case with much of the "affordable" accommodation within the city, there are two options: either they will be demolished or they will be saved. Neither option offers the tenant any hope, and there is no guarantee that accommodation in a renovated old building will be any less affordable than accommodation in a new rental building.25

It is clear that from an environmental and heritage perspective that the preservation and re-use of heritage buildings in their original location is optimal. From the heritage viewpoint, this preserves the building on it's original site and from the environmental

25. Kluckner, p. 15.
viewpoint, resources and energy are preserved through re-use. Energy savings are realized not only by eliminating the need to manufacture and transport new materials but also by eliminating the costs and energy required for demolition. In addition, when historic properties are re-used, they are normally upgraded to current energy efficiency and environmental standards.

Unfortunately, many cities, including Vancouver, have regulatory environments, particularly in single-family zones, that favour new construction over preservation. It is generally much easier to get permits to build new houses than to renovate. Kluckner states the following in his book "Vanishing Vancouver":

> Our willingness to allow developers and property owners to ride roughshod over the city's old neighbourhoods, and to haul its perfectly usable houses, topsoil and mature shrubs and trees in huge trucks to the dump, casts doubts on our collective ability to preserve wilderness, to manage resources, or to reduce pollution in a way that will sustain the environment into the future. What of recycling, when we do not recycle our buildings?26

Retention opportunities by way of additions and infill are achievable if some consideration is given to a review of zoning by-law constraints, with a view to modifying them to the extent necessary to encourage these activities, while at the same time maintaining adequate standards of safety, service and access. Because of the special difficulties of rehabilitation and infill, a successful solution is more likely to be of finer grain, more responsive and proper to a particular place.

2.5 Inner City Revitalization

Unlike many American cities, the growth of Canadian suburbs generally has not led to the widespread departure of inner city taxpayers or the outright abandonment of residential housing. As a result, the centres of most Canadian urban areas have stayed economically, physically and socially viable. In many, the inner city often contains the most expensive and desirable housing, although this was not always the case. In contrast, American development has seen the inner cities of many major urban centres decline and become ghettos for low-income households, minorities, the unemployed, and the homeless.

The inner city represents the central core of an urban area. Since it is ordinarily the first part of a community to be settled, it contains the oldest housing stock. It is a dense, congested area into which the central district expands, and often functions as the point of initial settlement for new groups of immigrants and migrants. Typically, in comparison to the wider metropolitan area, declining inner cities are marked by these characteristics:\textsuperscript{27}

- a smaller proportion of young people and over-representation of the elderly;
- lower average household income;
- smaller average household size;
- higher proportion of people with little education;
- higher unemployment rate;
- larger proportion of the population foreign-born;  
- lower proportion of single family homes; and 
- lower average number of rooms per dwelling, as well as lower average gross rent.

In areas of physical decline, the threats of abandonment and transition to non-residential land uses discourage maintenance and improvement of buildings. Those residents who

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are able to achieve some economic mobility are apt to leave. Among the remainder of the population, major social problems are evident.

From the late 1940's until the early 1970's, many people were displaced from their homes as a result of Urban Renewal programs, in both the U.S. and Canada. In many cases, this meant mass clearance and reconstruction of physically deteriorating areas. The attempts to clear slums and relocate residents into modern public housing projects for the most part ended in failure. The assumption of many of the planners, architects and other professionals was that slum dwellers would prefer newer housing to older buildings and disorganized neighbourhoods. What was not understood was the importance of the informal organizations that flourished in those physically deteriorating neighbourhoods. Furthermore, the likelihood of such organizations emerging in new, socially integrated housing developments was often overestimated. To residents who valued local community over modern housing, the new developments were worse to live in that the slums they left behind.28

By the late 1960's and early 1970's, community dissatisfaction with the physical and social changes caused by urban renewal led to fundamental policy changes. Communities became more reluctant to accept solutions imposed by planners and politicians. Many cities started looking for new solutions to revitalize their inner cities. To preserve the desirable aspects of these areas, plans and policies were developed to encourage the

retention of existing buildings. It was this environment which served as a catalyst for the development of infill housing. Infill offered the opportunity to provide socially responsive housing, affordable to the poor, which would insert itself into the gaps left by the selective demolition caused by Urban Renewal, and later, by abandonment. Infill housing, in this context, defines a building process which seeks to replace missing "teeth" in the fabric of the city. The scale can range from individual buildings and blocks, to whole sections of neighbourhoods.

If there is one commonality to the various infill strategies that have emerged throughout North America, it would be the declining inner city. The form of infill that has emerged in Vancouver evolved in response to widespread decline and redevelopment pressures in the inner-city conversion areas of Kitsilano, Mount Pleasant, Fairview Slopes and Grandview-Woodlands. This will be discussed further in Chapter 4.

2.6 Public Sector Initiatives

The Canadian Government has initiated many housing programs over the years, usually to stimulate the housing market during economic recessions. Housing problems were treated as temporary aberrations, rather than long term problems, and Canadian housing policy focussed on providing incentives, mainly to the private sector, during these periods. These were in the form of direct expenditures, in which the government gave direct cash subsidies, or indirect expenditures, such as subsidies through the tax system.
With the government focus on deficit reduction, the federal government is now less involved in stimulating housing construction, and has turned over most of its housing programs to the provincial governments. The focus of the Canada Mortgage and Housing Corporation (CMHC), a federal agency, is now more oriented towards policy, research and development, and the provision of housing information. However, the CMHC is still involved in areas such as mortgage insurance and mortgage-backed securities, and programs such as the Residential Rehabilitation Assistance Program (RRAP), in which low-interest loans are made for the repair of substandard housing, have recently been extended.

Authority for urban planning issues in Canada resides in the municipalities under the constitutional guide of the provinces. The federal government rarely embarks on national programs that directly relate to municipal planning. However, there are numerous indirect ways in which the federal government affects municipal government and planning in Canada: regional grant programs, transfer payments, taxation policies and research programs are examples of such direct influences of the federal government. In this regard, the CMHC continues to participate in research and grant programs that affect Canadian municipal planning and housing. Ultimately, however, it is up to local government officials to formulate policies and programs deemed appropriate to the needs of their communities.

2.61 The Mark VIII Infill Housing Project

In the decade that followed World War II, Canada experienced an "urban explosion". While most metropolitan centres in Canada were growing at an unprecedented rate, Winnipeg was slowing down and crawling to a stand-still. As Winnipeg lost economic ground to other western cities such as Vancouver, its role was reduced to being a regional centre to a reduced hinterland area - mainly Manitoba. As in many cities, residents left the urban core for the outer suburbs, but economic decline also led to net out-migration to other provinces. By the 1970's, Winnipeg's inner city was in a serious state of urban decline.

In 1972, the Institute of Urban Studies examined the feasibility of injecting an infill housing system into an older residential district.\(^{30}\) First proposed by a homebuilders association, the "Mark VIII Infill Housing Project" was an experiment sanctioned and supported by the Housing and Urban Development Association of Canada (HUDAC). The concept, as approved by HUDAC, called for eight to twelve housing units, preferably in two buildings, to be built in the core area, with the objective of providing homeownership opportunities to low-income households. An area slated for urban renewal was chosen, because a number of residents would be displaced by a highway overpass.

Initially, the feasibility of constructing rowhouses on double vacant lots was studied, with

the rowhouses running perpendicular to the street. Eventually, this was discontinued in favour of utilizing only single vacant lots as more of an experimental approach in unit design. This approach avoided the demolition of existing houses and the further displacement of residents.

The goal of the project was to develop a flexible system of housing which could exist on a single lot of any variation, and could be expanded to any number of lots. A range of alternative accommodation types would be provided within the system. Most of the lots within the study area were small, ranging in size from 10 by 22 m (33 by 78 ft.) without lane access, to 8.5 by 40.2 m (28 by 132 ft.) with lane access. Despite the small lot sizes, various configurations were designed in which three to four modular units would be arranged on a single lot. A decision was made to develop a basic unit which would adapt to either of the major lot types without having to change the design.

As a result, an "L" shaped, two and one half storey unit was designed and accepted by the Mark VIII Committee and a self-help group as a viable solution. Density at three to four units per lot were felt to be too high; two units, generally detached at the front and rear of the lot, were felt to offer more privacy and yard space. To most of the residents, their image of a "new house" was the single-family detached house on a suburban lot. Residents expressed concern with attached units, as some designs would have blank sidewalls and windows at either end, as well as units with only one window wall. Two-unit configurations were felt to be in scale with larger homes in the area, and maintained
front yard setbacks in keeping with existing houses.

Figure 2.1  Mark VIII Infill Housing Project

<table>
<thead>
<tr>
<th>Site 1: 2 lots, 37' x 78', no lane.</th>
<th>Site 2: 1 lot, 33' x 78', no lane.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1: Unit sitting: 2 detached units on each lot, one unit at the front of the lot, one at the rear with a space between. Two variations on the &quot;court&quot; concept were used.</td>
<td>Site 2: Unit sitting: 2 semi-detached units placed back-to-back: one facing the street, one the rear of the lot.</td>
</tr>
<tr>
<td>Site 3: 1 lot, 27' x 112', lane</td>
<td>Site 3: 1 lot, 27' x 112', lane</td>
</tr>
<tr>
<td>Site 3: Unit sitting: 2 detached units, one at the front of the site facing the street, one at the rear of the lot, facing the front unit.</td>
<td>Site 3: Unit sitting: 2 detached units, one at the front of the site facing the street, one at the rear of the lot, facing the front unit.</td>
</tr>
</tbody>
</table>

At public hearings on the zoning variations required, a number of residents opposed the infill schemes. Many felt that the projects would adversely affect them, and people had difficulty visualizing two detached units on a small city lot. Concerns were also expressed about where children would play - that they might play in neighbour's yards or in the public lane, which would be dangerous. There was also a generalized fear that "Indians" or other low-income residents would move to the area, leading to overcrowding,
The Mark VIII project offered many insights into a variety of technical and procedural matters in evolving new approaches to urban development. Participants had to overcome design and siting problems associated with a new form of housing development, as well as learn the legalities of housing, financing and the complexities of land acquisition. Educating politicians, bureaucrats and the general public proved to be the biggest hurdle. The Mark VIII project may have also been an influence on the form of infill development that evolved in Vancouver. This is discussed further in Chapter 4.

2.62 Garden Suites

Also known as granny flats, garden suites are a form of back-lot infill, designed to provide alternative and affordable housing for seniors. The suites are small self-contained houses that are placed on the same lot as the home of close family members, thereby allowing adult children and close family members to exchange support. The suites are not intended as permanent additions to the lots and are designed so that they are easily movable. The garden suite was first developed in Australia, where it has proved to be popular in both rural and urban areas. In the United States, they are commonly referred to as ECHO (Elderly Cottage Housing Opportunity) units. At their best, garden suites offer privacy with proximity.

Following a national demonstration program and survey, CMHC modified four housing assistance programs to enable a limited number of garden suites to be provided on a pilot basis. Ontario, Alberta and Quebec have also staged demonstration projects to evaluate the merits of the garden suite concept. Approximately forty garden suites have now been built in six provinces.

Figure 2.2  Garden Suites


Municipal zoning in most Canadian cities prohibit extra living quarters on a single-family
lot. For example, Section 78 of the Alberta Planning Act generally restricts the number of dwelling units on a lot to one. Exemptions to the operation of this Section may be granted to any person or land by the Alberta Planning Board. Where garden suites are not permitted, it may be possible to obtain an exemption from existing regulations through mechanisms such as temporary occupancy permits. Ontario and Alberta have produced a model temporary use by-law to be implemented by local governments, which would allow additional units on specific lots for renewable three year periods. Proposed changes to the Ontario planning legislation could soon normalize the use of garden suites in that province.

Some problems that have been encountered with garden suites include:

1. *Legal Concerns*: Concerns about limiting the suites to specific age groups, which may be considered discriminatory and a violation of the Canadian Charter or Rights.

2. *High Costs*: Suites have turned out to be more expensive to build than anticipated due to modifications for Canada's harsh climate. Subsidies may be required to keep the suites affordable.

3. *Questionable Popularity*: The Ontario government found that the elderly were often less enthusiastic about the suites than the homeowners. One elderly person equated the suites to living "in a dog's kennel in their kids back yard".

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2.63 **Affordability and Choice Today (ACT)**

The CMHC has been involved in a national program to encourage residential intensification in Canadian metropolitan areas. This program, which was just renewed, is called Affordability and Choice Today (ACT), indicating affordable housing as a field of priority. ACT is an initiative of the Canada Homebuilders Association (CHBA), the Canadian Housing and Renewal Association (CHRA), the Federation of Canadian Municipalities (FCM), and the CMHC, which provides financial support to the program.

ACT is designed to stimulate regulatory reform action in residential construction, particularly in residential intensification. The areas that ACT targets for regulatory reform action include: land development standards, the land development approval process, and residential renovation. ACT provides grants to municipalities, the building community, and non-profit housing associations to work together on regulatory reform demonstration projects, and projects that streamline the residential development approval process. Case studies of existing regulatory reform initiatives are also undertaken.34

Many of the demonstration projects that have received funding involved infill housing. A project team that included representatives from the City of Victoria's Advisory Design Panel, the B.C. Homebuilders Association and the Urban Development Institute received funding to develop three to five small-lot, infill houses. The purpose of the project was to demonstrate that under the appropriate set of design and planning guidelines, and

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zoning amendments, small-lot residential projects could blend in well with existing neighbourhoods. Victoria, which has a shortage of affordable housing and sites for single-family development, has had a successful small-lot housing policy since 1982. Houses as small as 3.0 m (10.0 ft) wide have been built on narrow lots. The main obstacle to this policy has been neighbourhood opposition.

The project was divided into two stages. The ACT grant provided funding for Stage 1, which involved researching and analyzing pertinent issues, streamlining the development approval process, and preparing design guidelines and zoning amendments. The focus was on the provision of development tools for those interested in constructing this type of housing, and integrating community concerns into the design of small-lot infill houses. In the second stage, selected sites were rezoned and infill housing constructed on small lots, demonstrating the viability and practicality of the design guidelines and the amended zoning. Small-lot infill housing is less expensive to build, and promotes efficient site planning.

The city of Charlottetown, Prince Edward Island, was also awarded an ACT grant to promote small-lot infill development. Given a limited land base, and faced with declining residential, commercial and industrial activity, the City was looking for innovative ways to accommodate future housing needs while providing more affordable housing for its residents. The major obstacle to infill development was the current zoning

by-law, which had been in effect since 1979.

The project had several components, including identification of areas suitable for higher density development and lower density infill housing, and preparation of design guidelines. Regulatory areas explored in the development of small-lot infill housing included density, height restrictions, services, site development guidelines, parking requirements, and architectural considerations such as privacy, light, and compatibility with the streetscape.

2.64 Sustainable Infill Housing

CMHC devised a design competition in 1991 to demonstrate that it is possible to design houses for the Canadian climate which are in keeping with the principles of sustainability, offer occupants a healthy indoor environment, and are affordable.36 Housing professionals from across Canada were invited to submit concepts in one of three categories: a newly constructed suburban detached home, an older home retrofit or an urban infill home. Designs were to be generic, rather than site specific, with elements usable in a variety of houses, sites and regions in Canada. Technical requirements were divided into five areas, including occupant health, energy efficiency, resource efficiency, environmental responsibility, and economic viability.

The winning entries were from Vancouver and Toronto, both in the urban infill category.

Both were designed to be built off laneways in the rear yards of existing homes, both were designed for non-conventional families such as seniors and single-parents, and both would need or prompt changes to building codes and zoning regulations.

Figure 2.3 Healthy Housing Design Competition: Vancouver Entry

The Vancouver entry was comprised of a two-storey, one-bedroom frame house, designed to consume half the energy of an R-2000 home and provide a high level of indoor quality. The 85 m² (918 ft²) house was designed to fit at the rear of a 10 by 37 m (33 by 122 ft) lot, typical of many residential areas of Vancouver. By incorporating the upgrading of
the existing house as part of the overall plan, the collective environmental impact of the two units would be equal to, or less than, that of the original house. A site was found in the Commercial Drive area of Vancouver, and was constructed in 1993.

The Toronto entry, named the CODICILE, is designed to occupy the space of two garages off a 6 metre lane, and is envisioned as just one of a whole community of such dwellings along the lane. The 79 m² (850 ft²) house is essentially a six-metre cube, with two

Figure 2.4 Healthy Housing Design Competition: Toronto's CODICILE

bedrooms and a rooftop greenhouse. The house is entirely self-sufficient, making no use of the urban energy grid or the municipal infrastructure for sewage, storm water, potable water or waste disposal. Electricity is provided by a photovoltaic array and a thermopile which converts heat from the woodstove into electricity. Estimated annual energy costs are $80, representing the cost of 1/3 cord of wood. Rainwater is purified by reverse osmosis and held in storage. Food wastes and toilet discharges are composted. A site was found and planning approval obtained in 1993.

Despite the ecological advantages of these two designs, rear-lot infill requires careful planning. As higher site density means that each person will have less outdoor space, the remaining space must be planned efficiently, to address issues such as privacy and access to sunlight. The space efficiency of both designs results in a house that is suitable for a couple, single-parent or elderly person. Each house provides a different type of housing than the principal unit on the site, reflecting the different housing needs of today.

2.7 Advantages and Disadvantages of Infill Housing

In the early part of the 1980's, a number of Canadian studies were initiated to address the feasibility of meeting future housing needs through more intensified residential growth. Several factors precipitated this concern:37

- the need for more and smaller rental and housing units in response to population growth and an overall decline in household size and increase in household types;

the recognition of the relationship between energy conservation and housing density;

the recognition that affordability was becoming a major problem, particularly in large urban areas, and that intensified housing land use lowered per unit costs;

the recognition of the enormous capital investment that went into the existing housing stock which could be intensified through conversion of single-family houses into multiple-unit houses;

the prospect of prolonged fiscal austerity on the parts of all levels of government, and the concomitant reduction in government assisted housing, and;

the increasing political, social and economic difficulties of providing new housing through large scale development or renewal.

Continuing urban sprawl is contributing to the loss of human vitality, intimacy and neighbourliness of the urban region, which is compounded by the lack of mixing between houses, shops and other vital urban activities. Forms of intensification such as infill have the potential to meet the following social, economic and environmental objectives, at both the urban and regional level:

**Social Objectives:** Different types of housing created in the community through infill, secondary suites or redevelopment results in a wider selection of housing for the public and provides much needed rental accommodation. By reducing per-unit housing costs, intensification may significantly contribute toward affordable housing. It may also allow a more equitable and efficient use of existing human services such as community based health and social services and schools. A greater variety of housing can help maintain the neighbourhood population base, by providing alternatives to the elderly, young

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families and single persons to remain in the neighbourhood. Neighbourhood commercial areas also benefit from a larger population, attracting new and varied retail outlets to the neighbourhood.\textsuperscript{39} Intensified housing also helps reduce commuting pressures and increases access to those without automobiles.

\textit{Economic Objectives:} Housing intensification helps reduce the lower infrastructure costs per new housing unit and makes more efficient use of land and services. Residents of infill projects save up to thirty percent of living costs due to decreases in transportation expenditures. Municipalities reap economic benefits through an increased tax base and through the use of schools and other services which are already in place.\textsuperscript{40}

\textit{Environmental Objectives:} Housing intensification may contribute to a substantial reduction of gasoline emissions by reducing automobile dependence and conserve energy used for home heating and cooling by reducing per capita space. In addition, housing is a major consumer of Canada's natural resources. The construction and operation of our homes and communities places a heavy burden on our forests, water, petroleum and land resources. At virtually every stage of the design and construction process, inefficiencies in the use of materials can be identified. In many cases these inefficiencies are justified by the perception of Canada's seemingly plentiful natural resources. Yet every time resources are extracted, processed and manufactured, a burden is placed on the


\textsuperscript{40} Mary Jane Copps, "Economic Benefits Reaped from Infill", \textit{Canadian Building}. October, 1986, p.16.
environment, and our resource base is diminished. A more efficient use of resources offers the potential to improve affordability of our housing, to decrease energy consumption associated with extraction and processing, and minimize the environmental impact of resource use.41

**Constraints on Infill Housing**

The two most important constraints facing any form of housing intensification are neighbourhood opposition and the regulatory environment.

*Neighbourhood Opposition:* Many residents are sensitive to the possible changes that might be introduced into local neighbourhoods through intensification activities. Communities have been reluctant to endorse the concept of intensification due to the perceived negative concepts of the activity itself coupled with the need to consider broader changes to the current planning regulations.

There are many genuine concerns regarding the potential impact of infill and conversions on existing communities. The most prevalent fears relate to property values, crowding of neighbourhood facilities, traffic and parking problems, and property maintenance. Residents often envision worst-case scenarios, but evidence suggests that intensified housing can be successfully integrated within a community, usually without any adverse effects.

Residential intensification through conversion and infill could lead to a decrease in personal privacy as population density is increased. The increased number of residents in a neighbourhood increases competition for street parking and creates greater volumes of traffic on local streets.\textsuperscript{42} Although a legitimate concern, a single family could conceivably own more cars than a number of smaller households, as elderly persons and students generally own fewer cars than average. The Ontario Ministry of Housing conducted a study in seven areas of Toronto exhibiting various degrees of intensification, to examine the impacts of intensification on parking and traffic congestion. The study found that on an area-wide basis, the level of intensification was not the most significant factor influencing local demand for parking. The study found that access to transit directly affected the number of vehicles per unit, although other factors such as household income were also important. It also examined the perception amongst survey respondents that there was shortage of parking spaces. It was found that very few residents were forced to park illegally, regardless of whether the areas had a high or low degree of intensification.\textsuperscript{43} However, additional parking requirements on-site do decrease the available open space, and increase the amount of paved or impermeable surface.

\textit{Neighbourhood Crowding:} With declining household sizes, few people recognize that many neighbourhoods in Vancouver are less populated than they were 20 to 25 years ago. The majority of Vancouver's recent population growth is being accommodated in the

\textsuperscript{42} Klein and Sears, Vol. 7, p. 4.

\textsuperscript{43} Metropolitan Toronto Planning Department, \textit{Housing Intensification Resource Kit}. 1989, p. 10.
downtown core, and in industrial areas that have been rezoned to residential use. Although approximately 40 percent of single-family areas have been rezoned to allow secondary suites, this essentially serves to legitimize an activity that was already prevalent in those areas. The secondary suite rezonings have the potential to add many rental suites to the housing supply, but some developers continue to build single-family homes in these areas.

*Lower Property Values:* Although there are no studies on how the form of infill occurring in Vancouver affects property values, several studies have been done on the effect of conversions on property values. In a study prepared for the Ontario Ministry of Housing, researchers found no evidence to suggest that conversions affect property values of adjacent dwellings as, on average, prices in the control and conversion group were within three percent of one another. In fact, housing prices in the conversion group increased more than those in the control group although the difference was not statistically significant.⁴⁴

**Regulatory Constraints**

The form, location and cost of developments such as infill are affected by municipalities. While the City of Vancouver has been allowing detached infill dwellings in some residential zones for over a decade, it is the only municipality in the GVRD to do so.

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The primary constraint on this type of infill may be based on the definition of "lot" found in many municipal zoning by-laws. In a residential intensification study done in 1982 for the Ontario Ministry of Municipal Affairs and Housing, most zoning by-laws of case study municipalities contained some sort of constraint based upon the notion that a "lot", as defined, would be permitted to have one dwelling house situated on it. This incorporates traditional performance criteria such as minimum lot size and frontage which are a most effective constraint to utilize in the maintenance of single family residence areas, particularly in the suburban context.\(^{45}\) For example, Burnaby's Zoning and Development By-law specifies that:

6.1(1) No residential use building shall be located on the same lot as any other residential use building, except as otherwise provided for in this By-law.

The one dwelling per lot provisions would mean that rear lot or side lot infill could only proceed when a new lot could be created through subdivision to accommodate the infill dwelling proposal. Telephone conversations with zoning staff in the cities of Burnaby, New Westminster, Surrey, Richmond and West Vancouver confirmed that this would be the case in those municipalities. Secondary detached dwellings on a single lot could not be considered even to encourage retention of a heritage building. In Ontario, the prohibition against detached secondary dwellings is usually coupled with a prohibition "against the erection or use of residential buildings where the lot upon which the building is erected does not abut a public highway or street assumed for public highway purposes

\(^{45}\) Klein and Sears, Vol. 8, p. 18.
or improved street”.46

The above constraints effectively discourage detached infill dwellings, except for in the most limited circumstances where a new lot could be created that met municipal frontage and size requirements and which fronted onto a public street. Large or double fronting lots that qualify for subdivision normally involve demolition of the existing dwelling, either because the house encroaches over the new property line, or does not maintain the required setbacks specified in the zoning by-law following subdivision.

2.8 Summary

To compete with other forms of housing, infill must demonstrate its advantages over comparable dwellings. Infill housing has been used to create innovative forms of low-rise, medium-density, and ground related housing that offer enhanced liveability and increased individual identity.47

Infill is also a renewal strategy. By adding population and amenity to an area, and improving the use of existing services without adding to public costs, it serves a social purpose. It also influences a neighbourhood's environment by responding in its design or location to elements in the neighbourhood, and contributing in turn to the neighbourhood's continuity, scale and character.


Alternative housing forms such as infill may be expected to encounter opposition. It may take the form of local opposition or inflexibility on the part of administrative authorities. By definition, innovative projects do not operate within the existing boundaries of administrative or political control, and are thus vulnerable to opportunistic attack. If there is to be innovation, then politicians and bureaucrats will have to eliminate many existing hurdles, and acquire a sense of experimentation themselves. Effective approaches to urban infill can help unlock land located near working areas that are already fully serviced, and may provide lower priced ground-oriented housing in a market that is currently beyond the financial reach of many home buyers.
3.0 Sensitive Infill Housing in the Context of Vancouver's Growth

3.1 Changing Urban Circumstances

Infill housing and other forms of intensification are not new. They have been occurring in urban centres throughout Canada for many decades. Intensification is basically a new name for an old process whereby communities incrementally add to or alter the built environment to accommodate new uses that reflect changing social and economic realities. Although infill housing is a new addition to Vancouver's zoning by-law, there are historic examples of rear-lot infill in neighbourhoods such as Strathcona that predate the zoning by-law.

Intensification emerged among city planning and policy professionals in the 1970's and 1980's in reaction to the detrimental consequences of urban sprawl: traffic congestion, declining transit ridership, increasing infrastructure costs, environmental deterioration, disappearance of prime agricultural land, declining quality of life in low-density neighbourhoods, and so on. These concerns about urban sprawl are neither new nor restricted to Canada. Since the 1930's, and particularly in the post-war era, urban sprawl has been a major concern in Europe, North America and Australia.\(^1\)

This section briefly examines some of the geographic, demographic and economic changes that have occurred in the Vancouver area over the past few decades. These trends are key

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to understanding the reasons behind the renewed interest in coping with urban sprawl. Several municipal initiatives to introduce infill housing as part of a greater intensification scheme will also be examined. Most intensification efforts throughout the region have focussed on high density development, leaving single-family neighbourhoods for the most part untouched. However, throughout Canada and indeed much of the western world there is a strong preference for single-detached housing that is ground related and has private outdoor space.

3.11 Geographic Trends

In the post-war years, car ownership became an expression of increased affluence in North America. Increased mobility and wealth enabled people to live farther from cities, on more spacious lots, leading to reduced housing densities. Changes in technology and management led to increased numbers of office jobs and the shift of employment to the service sector, with most growth occurring in the central areas of cities. This led to increased demands for more roads, more downtown parking and an increased demand for peak hour public transit. The increased geographical spread of cities extended the range required of the public transportation network while at the same time the growth in the use of cars for off-peak trips reduced the patronage of public transit during most of the day. With increased mobility, suburban locations for employment and shopping became more attractive: many industries moved from their old cramped premises in the centre to new sites on the suburban road network, only to be replaced by office workers at a higher
density at the centre. As central area functions became more widely dispersed, a grid of
high capacity roads serving low density development resulted. Public transport is
expensive and inefficient in such circumstances, and is generally weak or absent
altogether.

Despite its inherent liabilities, the single-family detached house remains the mainstay in
North America, accounting for half or more of annual housing starts. Single family
homes have many advantages: they receive adequate light and air from four sides and
provide room for gardening, play, parking and outdoor uses. They enjoy direct access to
the street and their own private grounds, which can be shielded from noise and view.
They can be built, maintained, remodelled, bought and sold independently. They can be
constructed at reasonable cost, using light frame materials, although they are not the least
expensive type of housing. In many parts of the world, it is considered the ideal house,
for it symbolizes the ideal family. In the Vancouver region, there is still a strong
demand for this form of housing, despite the worst affordability crisis in recent memory.

The current rigidity of the municipal planning environment has resulted in a lack of
alternatives to the single-family home. The presumed liabilities of single-family housing
have not deterred home buyers, but the steady rise in land and servicing costs may spur

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a search for detached housing forms that can be built at higher densities while using less land. Approaches include rowhouses, small lot subdivisions, zero-lot line housing, or hybrid solutions such as rear lot infill. If municipalities are to reverse the trend of urban sprawl, they will have to do a better job at providing alternative forms of ground-oriented housing.

3.12 Demographic Trends

Vancouver was the second fastest growing metropolitan area in Canada between 1986 and 1991, with a growth rate of 16.1 percent, or 3.0 percent per year. The city itself grew by 1.8 percent a year over the period, twice as fast as between 1981 and 1986. In terms of number of people, Vancouver grew by just over 40,000 people, about the same amount in a five-year period as the city grew in the entire 1960's. Part of this growth, however, can be attributed to the inclusion of non-permanent residents in the 1991 census, which were not counted in previous censuses. This represents approximately 2.4 percent of the city's total population, or about 11,000 people.

One of the reasons for the higher growth rates is the recent increase in the number of births, associated with the baby-boom generation. The number of births has been increasing since the early 1980's, while the number of deaths has remained relatively stable. As a result, the city's population has been growing by an average of 1,300 people a year through natural increase, comparable to the levels of the mid-1960's.
Despite the increase in births, the main component of population change is the net migration from the rest of Canada and from overseas. Net international and interprovincial migration climbed to record levels between 1986 and 1991. Historically, metropolitan Vancouver has been the destination for the majority of immigrants to British Columbia. In the last decade, the proportion of B.C. immigrants destined for Vancouver has increased from 67 percent in 1981 to about 82 percent in 1991.4

The size and nature of today's households help to define the kind of housing which is both affordable and desirable for the future. Several of the factors that contribute to the demand for additional housing include:

Growing number of households: In most municipalities, it is not a rapidly expanding population that is increasing the demand for housing, but an increase in the number of households. As shown in Figure 3.2, from 1971 to 1981, Vancouver's population actually declined by 2.8 percent, yet the number of private households increased by 12.8 percent. There are now 46,000 more households in Vancouver than in 1971, an increase of 30 percent over 1991. Vancouver's population increased by only eleven percent in the same period. This trend is expected to continue. The GVRD projects that Vancouver's population will increase by 35 percent between 1991 and 2021, while the number of households
will rise by 50 percent in the same period.\textsuperscript{5}

b. \textit{Smaller household sizes:} As shown in Figure 3.3, the average number of persons per household continues to gradually decrease. The number of persons per Vancouver household has declined from 2.7 in 1971 to 2.3 in 1991, a 15 percent decrease. This may be attributed to low fertility rates in the 1970's, and the rising number of small, non-traditional households, such as one-person and non-family households. Another factor may be empty-nester households, the generation of parents who spawned the baby boom from about 1946 to 1962 and are now

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.3}
\caption{Average Household Size}
\end{figure}

thought to be living alone in the same dwellings in which they raised their families.⁶

c. **An increase in non-family households:** Figure 3.4 shows that non-family households as a proportion of total households has been increasing over the last 20 years while family-households have been decreasing. Between 1971 and 1991, family households increased by 7.3 percent while non-family households increased by over 74 percent. Non-family households grew in proportion from 1/3 of Vancouver’s households in 1971 to over 45 percent in 1991.

**Figure 3.4  Family and Non-Family Households**

d. *More people are living alone:* The single-person household continues to be the fastest growing portion of the population, as shown in Figure 3.5. This could be in part from an increased tendency for non-married (single, widowed, divorced) individuals to live in one-person households as opposed to other living arrangements. One and two person households comprised almost 68 percent of Vancouver's households in 1991. Single-person households tend to live closer to

**Figure 3.5  Size of Household**

![Size of Household](image)

Source: Census of Canada, 1971 and 1991

the central core, as opposed to the suburbs. In 1991, only 21 percent of the population of the Vancouver CMA (census metropolitan area), excluding the City, lived in single-person households, which is comparable to Canada as a whole.

f. *Aging population:* By 2021, it is estimated that people aged 60 and over will constitute 23 percent of Vancouver's population. In 1991, people aged sixty and over constituted 18.3 percent of Vancouver's population, which is a decline of over two percent from 1981, when 20.5 percent of the population was in that age group. This trend is not typical: a corresponding increase in this age group occurred in both the metropolitan Vancouver area and British Columbia over the same period.

**Figure 3.6  Age Distribution in the City of Vancouver**
3.13 Housing Affordability

In 1991, 59 percent of Vancouver households rented their homes. The continued movement of people into the Lower Mainland, coupled with high home ownership costs, have increased the demand for rental apartments. A complex set of economic factors contribute to the shortage of adequate and affordable housing in Vancouver:

a. *Decline in Apartment Production:* Relatively few market rental units are now being built, compared to the late 1970's and early 1980's when various government assisted rental programs spurred construction. In 1991, just under 500 market rental units were completed in the city, and fewer than 150 units in 1990. The number of non-market units also continues to decline. In 1986, there were over 1,000 co-op and non-profit units completed in the city. By 1990, this had fallen to 303 units, and 238 units were completed in 1991.\(^7\)

Most new multiple dwellings in the city are now built as condominiums. Condominium completions accounted for 68 percent of all the apartment and row housing units completed in 1991, and 73 percent in 1990. Although condominium units are built for individual ownership, about half of the condominium units in the city are rented out. Consequently, the large number of condominium completions does provide additional rental housing to city residents, although of a more transitory and expensive nature than typical rental housing. The cost of

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renting, however, relative to the rise in household income, actually decreased between 1986 and 1991. In addition, the number of tenant occupied households paying more than 30 percent of their household income for rent declined from 46 percent of tenant households in 1986 to 34 percent in 1991. This is probably attributed to the high unemployment rates of the mid-1980's. In 1985, the unemployment rate in Metropolitan Vancouver was 13.2 percent; this declined to 7.1 percent in 1990.

b. *Sustained low vacancy rates:* High demand and little new construction has caused the vacancy rate in privately-initiated apartments to decline. Vacancy rates remain

**Figure 3.7 Apartment Vacancy Rates**

![Apartment Vacancy Rates](image)
at or near one percent in the Vancouver area, which means there is only one vacancy for every 100 apartment units. As shown in Figure 3.7, the vacancy rate has seldom risen above two percent over the last fifteen years. A vacancy rate of three percent is considered a healthy balance of supply and demand for the Vancouver area.

c. *Declining affordability in home-ownership markets:* As shown in Figure 3.8, the median price of a single-detached house in Vancouver tripled between 1987 and 1994. In Vancouver's west side, the median cost of a house climbed from $156,500 in 1983 to $635,000 in mid-1994.

**Figure 3.8 Median Housing Prices - City of Vancouver**

![Median SFD and Condo Prices](image-url)
In summary, demographic changes in Vancouver closely reflect trends that have been
documented nation wide. The most relevant of these changes for housing policy are
declining household size, an increasing number of household types, and the aging of the
population. In addition, housing prices are at an all-time high. These trends suggest that
there will be increased demand for smaller and more affordable forms of housing.

3.2 Comprehensive Intensification Plans

Vancouver's population is expected to grow by 160,000 people by the year 2021. In that
period, Vancouver will need to add about 100,000 housing units, an increase of 50 percent
over that available in 1991.8 While two-thirds of this housing growth will be
accommodated in projects that the City has already approved, the Greater Vancouver
Regional District (GVRD) believes that Vancouver will need more ground-oriented
housing to meet the needs of the region's growing population.

For a major city, Vancouver is unique in that it resembles a single-family suburb, with
approximately 70 percent of the City's urban land area zoned for single family housing,
although about 40 percent of single-family areas have recently been rezoned to allow
secondary suites. This differs from the historical development of the inner cities of
Toronto and San Francisco, which are much older and have been developed in a much
denser pattern. These cities have more multi-family zoned neighbourhoods close to the
downtown employment core, which are characterized by attached, medium or high density

housing. Because of this, intensification activities in those cities are more likely to occur in suburban single-family districts. The pressures of intensifying in the urban single family districts of Vancouver are likely to increase, because of high land costs and because they are convenient to downtown workplaces and activities.

Despite the rapid growth occurring in the Lower Mainland, the City of Vancouver currently does not have an official plan. The lack of a city-wide plan has contributed to the difficulties inherent in neighbourhood planning. In particular, neighbourhoods have not had the opportunity to debate their role in the context of the city as a whole. Those who do participate in the planning process are often distrustful and suspicious of any development proposal. Predictably, the result is conflict and delays in the development or redevelopment of land for housing, neighbourhood intensification and residential infill.9

In the 1980's both Vancouver and Burnaby developed strategies for dealing with growth, in the form of comprehensive intensification plans. Rather than identifying precise nodes or sites for higher densities, intensification was presented as a policy goal, to express a desired vision for the city. Vancouver is currently in the process of such an exercise, in which the public will play a role in determining which intensification strategy, if any, will be used to accommodate future growth.

3.21 Burnaby's Compaction Plan

In the early 1980's, Burnaby undertook a comprehensive planning exercise called the Residential Neighbourhood Environment Study. The objective was to promote the development of more compact housing and the intensification of the existing housing stock, as well as find ways to preserve and enhance existing neighbourhoods. The study formed the basis for the Burnaby Compaction Plan.

The rationale behind the plan was that the existing single-family housing stock was designed for an earlier generation, and did not reflect the demographic and lifestyle changes of the 1980's. The Compaction Plan focussed on identifying opportunities and potential for adding more people and housing to Burnaby's lower-density residential neighbourhoods. Multiple-family housing areas were not affected by any proposals in the study.

The Compaction Plan left very few single-family neighbourhoods untouched. New zoning categories were proposed to encourage a variety of housing options, including secondary suites, small lot subdivisions, fourplex conversions and small infill development, in which three to eight units would be built on vacant sites. Urban medium densities would be encouraged at the periphery of commercial and higher-density residential areas, to act as a transition between densities.  

In August, 1984, Burnaby Council axed the study following widespread public opposition. A survey undertaken by municipal staff found that 94.7 percent of the 3,650 residents polled were opposed to the plan that would have increased density in many single-family neighbourhoods. Changes discussed in the Compaction Plan were intended to occur slowly and incrementally; however, this message was not effectively conveyed to local residents. The very word "compaction" was probably ill-chosen; one resident felt that "it seems to imply that one can simply compact people into the least space possible, like sardines into a can."\(^{11}\)

### 3.22 The Vancouver Plan

In the early 1980's, the Vancouver Planning Department developed the Coreplan, which identified policies to address the effects of employment growth on housing, transportation and other urban issues affecting the downtown and surrounding inner city. As many of the issues had consequences for all of Vancouver, the scope of the Coreplan was later broadened to address the entire city, and renamed the Vancouver Plan.

The Vancouver Plan recommended the gradual intensification of densities in the city to provide more housing opportunities. Some single-family areas would be rezoned for medium-density, ground-oriented housing such as townhouses, patio-homes, conversions and small-scale infill development. It was felt that the regions population future indicated a demand for this kind of housing, rather than higher density alternatives, which were

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\(^{11}\) *Burnaby Now*, November 19, 1984, p.1.
likely to be saturated by high density developments already being planned for. Areas of existing low-density had more potential to achieve a net increase in potential dwelling units, without going to extraordinarily high densities. Redevelopment in single-family or adjacent non-residential areas also would involve less demolition of affordable housing.

In selecting areas for greater housing potential, the city examined areas where the cost of providing municipal services to new developments could be minimized. Identified areas had surplus physical infrastructure (such as sewer capacity), surplus community services (such as schools, community centres and parks), and good transit access to employment.

Obviously, increased housing potential will have to be introduced very sensitively, so that the act of sharing Vancouver among more residents does not make it less worth sharing. The city will consult with existing residents before recommending increased potential in their neighbourhoods. More housing units should only be introduced into city neighbourhoods with a minimum disruption of the present quality of life.12

Vancouver City Council never adopted the Vancouver Plan, although portions of the plan were reintroduced and later adopted by Council, such as rezoning declining industrial lands to residential use. Other portions, such as the Neighbourhood Housing Centres Program, in which the City would rezone commercial and residential areas to permit more housing near shopping centres, along transit routes and near public open spaces, potentially adding 22,000 apartment units, were also rejected by Council. Long-time Councillor George Puil said of the Neighbourhood Housing Centres idea, "if we went to

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the community with something like that, we'd be shot."\textsuperscript{13} This response is consistent with Council's previous ones when faced with proposals to increase housing density in single-family areas or adjacent to them.\textsuperscript{14}

### 3.23 Vancouver's CityPlan

CityPlan is Vancouver's latest attempt to develop a comprehensive strategy for dealing with growth. Unlike the previously described initiatives in Burnaby and Vancouver, in which the public's input was restricted to reviewing the planner's conclusions, CityPlan has attempted to involve the public in the preparation of those plans. CityPlan is meant to present a broad vision for the future of the City. While ways and means should be outlined, CityPlan will not be a detailed policy document, or even a strategic land use plan.\textsuperscript{15}

The first two steps of CityPlan involved the collection and discussion of ideas. At present, the CityPlan process is at the third step, called "Making Choices." Ideas have been grouped into twelve themes, and participants are encouraged to make their choices for each of the twelve themes, many of which relate to housing, transportation and environmental issues. Four alternative "Futures" have been presented, some of which bear a striking resemblance to those in the Vancouver Plan:

\begin{itemize}
\item \textsuperscript{13} Vancouver Sun, January 13, 1990.
\item \textsuperscript{14} Stanbury and Todd, p. 170.
\item \textsuperscript{15} Riera, Fletcher and McAfee, p. 17.
\end{itemize}
1. *City of Neighbourhood Centres*: Population growth is directed to neighbourhood centres throughout the city which provide a range of housing, jobs, shops and community services. Some single-family housing in each neighbourhood has been redeveloped to higher density (rowhouses, infill, conversions) to create these centres.

2. *City of Mixed Residential and Main Street Neighbourhoods*: Rowhouses and apartments, attractive to families with children, are dispersed throughout neighbourhoods, replacing many single-family houses. Some of these new units are also attractive to older people who want a smaller home in their own neighbourhood. Neighbourhood decision making gives local residents a say about this form of development, as well as about other local issues and services.

3. *The Central City*: New high density communities are created on former industrial lands close to the city centre. These new communities are attractive primarily to singles and couples, rather than families with children. People living here, near the centre of the city, are close to jobs and can easily walk or take transit to work. Single-family areas are largely protected from redevelopment to higher density.

4. *The Traditional City*: Population growth has been limited to projects planned in the early 1990's. This means new housing has been built mainly downtown and above shops on commercial streets throughout the city ... The physical appearance
of most of the city has not changed. But there are important changes to the activities in the city and who lives and works here. There are more pressures on the rest of the region to accept and manage growth, particularly to provide more family housing.

Although a draft plan has not yet been developed for Council's consideration, some would argue that the four futures, as presented, are arranged in order of the Planning Department's preference. Jamie Lamb, a columnist for the Vancouver Sun, agrees that Future One is best able to fulfill the goals that the city and the public deem important: livability, jobs, mix of housing, lifestyle, local transit and so on. However, he feels that however unintentional, the travelling CityPlan exhibit offers a "textbook example of how a bureaucracy seems to offer choice while working towards a particular outcome." Despite such criticism, CityPlan will have served a useful purpose if it succeeds in getting people thinking about accommodating future growth, in both the city and in the Lower Mainland.

The first 1,000 responses to the futures questionnaire have been tabulated thus far. The responses to the land use topics show that 84 percent of respondents have selected a new future that adds new housing, jobs and services in existing single-family areas near local shopping; either through neighbourhood centres (62 %) or through scattered redevelopment (22 %). Eight percent support a future which continues to redevelop

industrial land for housing. Surprisingly, only eight percent voted to limit growth.\textsuperscript{17}

3.3 Summary

Significant pressures are emerging for change in the pattern of urban residential development and urban land use in general. Continued low density fringe development is costly and inefficient, for both the individual and society. Yet, increasing residential densities in already developed areas presents serious regulatory and political problems. Increased residential densities, particularly in single-family areas, contravene many existing building codes, zoning by-laws and official plans, and are often resisted by local residents. The direction of the necessary change is clear: towards a more effective and efficient use of existing residential infrastructure, and of the existing housing stock.\textsuperscript{18}

Land use patterns, especially where people live and work, are important at the regional and neighbourhood level. At the regional, or "macro" level, land use can be controlled by reallocating the regions growth among the municipalities to form a more compact, less sprawling region. Population and jobs can be clustered near regional centres and sited along transportation corridors. A better balance between work force and jobs can be created in each municipality, giving people more opportunities to live close to work. This is the objective of the GVRD's "Livable Region Plan".

\textsuperscript{17} City of Vancouver. \textit{Planning at a Glance, Volume 2}. City of Vancouver Planning Department, 2nd Quarter, 1994.

\textsuperscript{18} Hulchanski, p. 2.
At the neighbourhood, or "micro" level, municipalities can create neighbourhoods where non-drivers are less disadvantaged or where a car is actually not required. By creating small-town or village street patterns in suburban areas, routine neighbourhood trips can be made by foot or bicycle. Traffic can be calmed to slow down traffic and create better pedestrian environments. Intensified housing in residential areas, such as rowhouses and infill, may provide additional ground-oriented housing not common in the region today, while encouraging a healthier lifestyle, in which walking and bicycling become viable transportation alternatives.

The GVRD's Livable Region Plan, Burnaby's Compaction Plan, the Vancouver Plan and CityPlan demonstrate that planners are in favour of intensification and have tried to promote it. However, attempts to introduce change into single-family neighbourhoods have generally ended in failure, because of a lack of public support and political will. This is contrary to demographic and economic trends, which indicate more and smaller households, requiring smaller and more affordable accommodation.
4.0 Infill Housing Potential in Vancouver

4.1 Zoning Provisions for Infill Housing

Secondary infill dwellings, sometimes referred to as granny cottages or coach houses, have been a growing trend in Vancouver since the late 1970's. Although occasionally permitted on large estates in the city, going back to the turn of the century, their primary function then was as servants quarters or guest houses. The infill houses being produced today provide an additional source of ground-oriented housing, although mainly for moderate to high-income households at this time.

Still, infill may prove to be a partial solution to the housing problems presented by Vancouver's growing population. Infill can be a cost-effective way to preserve older neighbourhoods, to subsidize expensive renovations and provide more affordable detached housing (in relative terms) in the heart of the city. The increased burden on city services is more manageable than the demands made by high-density housing. Although the majority of Vancouver's infill housing has been built in older inner city neighbourhoods, infill could potentially be used in Vancouver's single-family neighbourhoods, to deter demolition and increase the supply of ground-oriented housing.

Infill, as defined in Vancouver's Zoning and Development By-law, is restricted to infill one-family dwellings, infill two-family dwellings, and infill multiple dwellings. In all cases, infill means an additional building on a site already containing one or more existing
buildings, some or all of which are retained. Vancouver is the only municipality in the GVRD that includes infill as a defined dwelling use in its zoning by-law.

The addition of infill housing as a permitted use in some residential zones was not primarily motivated by a concern to provide affordable housing, but to provide some incentive for preserving character houses and streetscapes. Market forces, particularly in west side neighbourhoods, have driven prices well out of the affordable range. However, the occurrence of infill in some east side neighbourhoods does not appear to be as linked to character preservation, and do offer more affordable home-ownership opportunities. Infill is a conditional approval use in First Shaughnessy and some areas of Kitsilano, Southlands, Fairview Slopes, West Mount Pleasant, Strathcona, Grandview-Woodlands and Riverside (SE Marine Drive area). It is an outright approval use in the West End.

4.2 The Evolution of Infill as a Retention Strategy

The majority of Vancouver's infill activity is occurring in its inner-city conversion areas. In neighbourhoods such as Kitsilano, Mount Pleasant and Grandview-Woodlands, one can find much evidence of Vancouver's first suburbs, built between 1905 and 1915.\(^1\) Although the large single-family homes suited the tastes and requirements of the day, by the late 1920's the City was receiving innumerable requests to convert these large homes to apartments. The City Council of the day agreed to the requests and the first of Vancouver's multiple conversion dwellings were created.

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Strathcona: In the 1950's and 1960's, when urban renewal was considered the solution to the problems of older residential areas, the conversion areas were thought to be candidates for wholesale clearance and redevelopment. In 1957, the City of Vancouver embarked upon a twenty year urban renewal plan, with Strathcona being the first neighbourhood selected for renewal. A major focus of this program was the "comprehensive redevelopment" of Strathcona, the clearance of all existing homes and replacement with public housing, high rises and row housing. Union Street was to be the south border of the new Strathcona as the blocks of homes below it were to be demolished for a major freeway system. The rationale for urban renewal was that Strathcona, in addition to having old and run-down housing, was in a strategic location, being adjacent to the
Downtown, Waterfront and False Creek areas. Commencing in 1958, the City placed a freeze upon the entire area. Property values were frozen, no major redevelopment and home improvement permits were allowed and public works maintenance was stopped.  

In 1958, despite the protests of 300 residents, 28 acres were expropriated and redeveloped, and approximately 1600 people were displaced. The first phase of urban renewal began in 1959 with the construction of 159 units of public housing at MacLean Park. An entire block of homes were demolished as a replacement park. Ten acres of land and homes were then cleared in preparation of the 376 unit Raymur Place Housing Project at Campbell Avenue. In 1963, 29 acres of housing were demolished, resulting in the displacement of 1730 people. In 1964, changes to the federal urban renewal program allowed municipalities to include street and service improvements. This led to a proposal to connect downtown Vancouver with Highway 1 on the city's eastern boundary, by driving a freeway through the heart of Strathcona and Chinatown.

Acquisition and clearance for Scheme II Urban renewal began in 1965 with the expropriation of and clearance of homes in five blocks for an extension to MacLean Park, senior citizens housing and an extension to Strathcona School. The urban renewal schemes met strong opposition from Strathcona residents and Chinatown leaders. It was pointed out that the urban renewal would destroy the community and threaten the livelihood of Chinatown. The expropriation of homes for $6,000 to $8,000 was argued

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unfair and discriminatory.  

The protests were of no avail as the City continued with its urban renewal. In August, 1968, the City prepared Scheme III, the final and complete bulldozing of the entire neighbourhood. Fortunately, this scheme was never implemented as the federal government reassessed its urban renewal involvement across Canada. The third and final proposal had also sparked a last ditch effort to stop the bulldozing of their neighbourhood. In December, 1968, six hundred persons attended the founding of the Strathcona Property Owners and Tenants Association (SPOTA). The purpose of this new organization was to ensure that people who lived in the area would be fully informed and their interests and community will be protected. In briefs to City Hall, SPOTA argued for a revised renewal scheme which favoured rehabilitation and preservation.

In the Fall of 1969, SPOTA was asked by the senior governments to join in a four level committee to investigate rehabilitation for Strathcona. In 1971, a $4.9 million Rehabilitation scheme was approved for Strathcona, with $2 million going towards public works and $2 million going towards housing rehabilitation assistance. In 1973, SPOTA initiated plans for non-profit housing on infill lots throughout the neighbourhood. These lots, which had been acquired by the City under urban renewal, were sold to the Provincial government at SPOTA’s request. The Province was to lease the land for non-profit housing. SPOTA began its Infill Housing project with a seven-unit cooperative on

five vacant lots at 730 Union Street, constructed in 1974. In the Fall of 1975, SPOTA began Phase Two of its Infill Housing project by building three units of housing on double lots at eight different Strathcona locations. Financing came under the Provincial government's non-profit housing program. The third and final phase involved the construction of single units on 16 small vacant lots in 1976.

There is nothing that mobilizes a community quite like a perceived threat. While residents were initially unable to convince Council to abandon urban renewal, the freeway issue galvanized public opinion, and Strathcona grew into a solid, cohesive community. By the early 1970's, community dissatisfaction with the physical and social changes caused by urban renewal led to fundamental changes in local politics. Communities no longer accepted "imposed" solutions. Citizen activists began running and were elected to Council. The freeway was stopped, a new civic party emerged, and the focus of planning in Vancouver was changed.4 The policy focus shifted toward neighbourhood protection and improvement, which meant dramatic changes for planning practice. Community participation was encouraged and local area planning, with citizen planning committees, became a major component of the Planning Department's work. During this period, the diversity of conversion areas came to be more appreciated: they were seen to provide a supply of moderate-cost and ground-oriented rental accommodation, a diversity of buildings and residents, and a transition between densities. To preserve the desirable aspects of these areas, plans and policies were developed to encourage the retention of

existing buildings, and to make the conversion of these buildings easier. The intention was to keep social diversity by keeping physical diversity.\(^5\)

Today, Strathcona still contains a large number and variety of buildings from the neighbourhoods first settlement. There is a mixture of Classic Frame, Pioneer and Queen Anne homes, as well as row houses and apartment blocks. As of June 1992, there were 283 structures in the area listed on the Vancouver Heritage Inventory.\(^6\) SPOTA's Infill Housing project offered the opportunity to provide socially responsive housing, inserted into the gaps left by the selective demolition caused by Urban Renewal. Infill housing, in this context, defines a building process which seeks to replace missing "teeth" in the fabric of the city. However, Strathcona probably contains Vancouver's earliest examples of rear lot infill as well.

Most of the area is characterized by narrow 7.6 m by 37.2 m (25 by 120 ft.) lots. Many of the existing infill dwellings predate Vancouver's zoning by-law. Landowners would sometimes build a new, larger house at the front of their lots and move the original dwelling to the rear of their lot, or to another lot. Most of these rear lot dwellings are now "grandfathered" as legal non-conformities under current zoning. However, infill became a permitted conditional use in the Strathcona area as of 1992, to provide incentives for the retention of existing buildings. Although there are historic examples

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5. Ibid.

of infill on 7.6 m (25 ft) wide lots, the standard approach to infill used in other areas is difficult to apply to narrow parcels, mainly because of siting and parking requirements. Therefore, new infill development is expected to be contained on two lots, with one infill dwelling constructed at the rear of the consolidated lots.

Figure 4.2  Historic Infill in Strathcona

*Fairview Slopes:* In the 1970's, changes in market demands and land values had noticeable impacts on conversion areas, primarily those on the west side of the city. In the mid-1950's, parts of Fairview Slopes were rezoned for light industrial use, which quickened the pace of housing destruction. In 1972, city council began the False Creek development, and changed Fairview from an industrial zone to housing and commercial.
Land values soared, due to the central location, views, and proximity to the south shore of False Creek. Houses continued to be demolished, and many residents were evicted from their homes. In 1974, a consulting firm was commissioned to study the economic feasibility of preserving the existing housing stock. Their report recommended various forms of infill housing, which included infill within lot lines, and infill over lot lines and over road allowances. The rationale for the latter was that because of its central location and proximity to transit, "Fairview may evolve into a relatively car-less neighbourhood". However, infill buildings on the rear parts of lots, or in some cases the fronts of the lots, were felt to present fewer building by-law problems, because of their larger separation from existing buildings. As there were only a few examples of infill underway in Canada, the experiences cited in the report came mainly from one source - the "Mark VIII Infill Housing Project" in Winnipeg, discussed previously in Chapter 2.

In 1975, local area planning was introduced to the neighbourhood. The Fairview Planning Committee, comprised of local owners, tenants and business people, worked through 1975 and 1976 to preserve older buildings, maintain a mix of income groups and restrict building densities. In 1976, Council adopted the Fairview Slopes Policy Plan, the objective being to preserve and strengthen the small scale residential character of the Slopes, allow some commercial development, while maintaining a diversity of old and new buildings. For the first time in Vancouver, infill was adopted as part of a zoning by-law and policy plan. The policy plan stated that infill development should be encouraged.

The infill concept allows new buildings to be constructed on the same site as a building to be retained. Criteria of open space, privacy, light and air penetration, and compatibility with adjoining buildings would determine the maximum size of building that would be permitted.\(^8\)

However, the infill concept never had a chance to take hold in Fairview. While the new zoning schedule adopted in 1976 permitted a floor space ratio (FSR) of 0.6, it also provided for a discretionary bonus. If developers provided certain amenities specified in the by-law, they were allowed to build to a density two-and-one-half times greater (1.5 FSR). Once the higher floor space ratio became achievable, land values soared to match that density. Virtually every project on the slopes from 1976 to 1982 managed to secure the higher FSR. The temptation of the higher density was too great, and most older residences were demolished rather than rehabilitated.\(^9\) The Fairview residents, who had thought the 1976 zoning meant most of the projects would be built at 0.6 FSR, with perhaps a few projects rewarded extra density for good design, naturally felt betrayed.\(^10\)

**Kitsilano:** The first community to really take advantage of the infill concept was Kitsilano. Like Fairview, Kitsilano was also experiencing significant social and physical changes in the 1970's. With its proximity to downtown Vancouver and amenities such as beaches, parks, water and mountain views, Kitsilano came under heavy development pressures. Fearing that their neighbourhood would become another West End, residents

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lobbied against highrise apartment developments, and protested against the destruction of multiple conversion dwellings, which provided much of the affordable accommodation in the area. This and other issues led to the establishment of Vancouver's first local area planning program in 1974. Kitsilano was also one of the first federal Neighbourhood Improvement Program areas established in the city. Area residents expressed a desire to limit growth, maintain and encourage a diversity of people and housing, and encourage innovative and imaginative solutions to problems. The planning program was divided into several sub-areas, with the four conversion areas of Kitsilano left until last.

Many of the older conversion buildings continued to deteriorate, as land speculators were holding their property for redevelopment. The plan for the conversion areas was completed in 1977. To reduce development pressures in these areas, two new zones (RT-1A and RT-2A) were created in 1977 to encourage retention, by allowing incentives such as infill. Probably because of the lesson provided in Fairview, floor space ratios were kept at 0.6, although conversions and infill could get conditional approval for 0.75 FSR in RT-2A. The objective of the new by-laws was to maintain the traditional architectural character of the area, while assisting with certain social goals: in RT-2A, to maintain a diverse social fabric; and in RT-1A, to provide affordable housing.

Continuing pressures for higher density development in conversion areas led Council to re-examine its policy on conversions. A position paper was prepared in 1982 by Dr. Henry Hightower, of UBC's School of Community and Regional Planning. The report
recommended that conversion areas should remain as an alternative to the city’s apartment and single-family areas, as they provided appropriate housing for a variety of people. The report suggested that higher density conversion areas be preserved, with lower density areas gradually densifying to take advantage of existing services and provide needed increases in housing stock.

Figure 4.3  Kitsilano: Rear-Lot Infill

A resident survey was conducted in 1982 to see if the new forms of development were meeting these objectives. In terms of physical change, 84 percent of residents were satisfied with the new changes, although only 49 percent approved of new townhouse development in the area. Forty-three percent of all respondents felt that there were still
too many older homes being demolished in the area. Most respondents did not want to see excessive density, but felt the new housing choices were providing more affordable opportunities for individuals and families to enjoy city life. To address concerns regarding demolition and poor design, the City hired architectural consultants to put together design guidelines for the areas, and several zoning amendments have since been made. In the early 1980's, parts of West Mount Pleasant and Grandview-Woodlands were rezoned to RT-1A or RT-2A, to encourage retention of the conversion stock in those areas.

*Mt. Pleasant:* Mount Pleasant is comprised of five distinct neighbourhoods, extending from Cambie to Clark Drive, and from Terminal to 16th Avenues. In its early years, Mount Pleasant became the new "uptown" of Vancouver. To reflect this, Council renamed Ninth Avenue and Westminster Road to Broadway and Main, respectively. However, Mount Pleasant's role as an affluent suburb did not last, and the area started to quickly decline in the late 1920's, as the "uptown" area shifted towards Broadway and Granville. The same streets that once created a positive focus for the community - Main, Broadway and Kingsway - became major arterials, fragmenting and disrupting the very heart of the community. Until the 1960's, east Mount Pleasant was a stable residential community made up of fine turn-of-the-century houses. However, the area began to show signs of abandonment as resident owners moved away or sold to absentee landlords. When the slope north of Broadway was rezoned for lowrise apartments, developers "jumped at the opportunity, erecting numerous bland, boxy buildings, like strips of
toothpaste along the streets."\textsuperscript{11} These problems and the varied pressures for physical and social change facing the area led the community to request a local area planning program, which Council approved in 1981.

The West Mount Pleasant neighbourhood, bounded by Cambie, Ontario, 10th and 16th Avenues, has survived relatively intact. This area contains a wide cross-section of architecturally significant houses, which were awaiting the inevitable demolition to make way for three-storey apartment buildings in the mid-1970's. It was largely the efforts of one family, the Davises, who made a commitment to save the surviving houses in the 100 block of West 10th Avenue in the 1970's and 1980's, that served as a catalyst to save the area. According to Pat Davis, the city at that time was uninterested in saving anything anywhere, let alone Mount Pleasant, and would not even allow an addition onto the back of one of their smaller homes to encourage its retention.\textsuperscript{12}

In 1980, a private consultant identified over 100 buildings in the area as being architecturally meritorious. Responding to the possibility of preserving some of the historic character of the area without having to spend any tax money, the city rezoned part of Mount Pleasant to allow for conversions and renovations to retain the old houses, paid for by a bonus arrangement that allowed developers to build infill housing on some sites. Infill was introduced to the area in 1982, when it was rezoned to the same RT-2A zone

\textsuperscript{11} Kluckner, p. 91.

\textsuperscript{12} Kluckner, p. 96.
created for Kitsilano. However, many of the early efforts at conversion and infill proved to be unsympathetic restorations and did little to preserve the neighbourhood character. In addition, despite some of the authentic restoration activity occurring in the neighbourhood, the area continued to face redevelopment pressures in the form of apartment and commercial development.

Today, West Mount Pleasant is one of four areas identified in the Vancouver Heritage Inventory as a special area whose character should be preserved. A new zone, RT-6, was introduced in 1988, which included strict design guidelines. Character retention is achieved by strict conversion of existing buildings and landscape features, as even sensitive modifications to their character may compromise them. Infill is the preferred development option, along with restoration of the existing building where needed.\textsuperscript{13} Redevelopment decisions are negotiated between the city and the developer. A developer that who is willing to fit his plans in with the character of Mount Pleasant is rewarded by being allowed to build to a higher density. If a developer chooses to build unsympathetic houses in defiance of the neighbourhoods established character, they cannot build anything large enough to justify the effort. New multiple and infill development is permitted on sites that contain out-of-character dwellings, but must be built to reflect the early architectural styles of the neighbourhood.

\textsuperscript{13} City of Vancouver Planning Department, \textit{RT-4, RT-4N, RT-5, RT-6, RT-7 and RT-8 Guidelines}. July, 1990.
The construction of new buildings that look old is sometimes referred to as "ersatz" heritage, and is often criticized by preservationists. In the words of Michael Kluckner, "the two may look the same, but there is no intellectual or emotional significance to the latter ... it is the difference between the main street of an old town ... and "Main Street, U.S.A." in the heart of Disneyland". According to Rob Whitlock, a planner with the City of Vancouver, the residents were not against contemporary architecture, but there wasn’t any being built in the city that instilled any confidence to the residents. For that reason, they chose to stick to the traditional forms. The house shown in Figure 4.5,
built in 1986, motivated many residents to push for strict design guidelines, and perhaps explains their lack of confidence in contemporary design.

Nonetheless, the new zoning district and design guidelines appear to be effective in encouraging the retention of the existing housing stock. In a consultants study prepared for the city in 1980, 97 houses between Cambie, Ontario, 10th and 16th Avenues were identified as having potential character merit.¹⁶ In 1994, 92 of those houses remain, with three of the five demolitions occurring in the RM-4 apartment zone on the north side of 10th Avenue, just outside the RT-6 area. In addition, numerous buildings not identified on the list have been restored, including two which are now designated heritage

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Twenty-five infill dwellings have been constructed in the area between 1985 and 1994: 12 were added to the rear of multiple conversion dwellings, and 13 were added to the rear of newly constructed multiple dwellings.

As a comparison, the 1976 Fairview Slopes Policy Plan, the intent of which was to encourage the retention of old houses to maintain a diversity of old and new buildings, listed 77 houses which were felt to be of character merit, three of which were designated heritage buildings. By 1994, 25 of the houses on the list remained, or less than a third.

Figure 4.6  Heritage "Retention" in Fairview Slopes


Of the 25, five were incorporated into medium-density condominium developments, two of which are shown in Figure 4.6. Obviously, if retention is to be an objective, densities must be in keeping with the existing character of the area. Moderate increases can be achieved through sensitive infill development.

*First Shaughnessy District:* The First Shaughnessy area is an exclusive residential enclave founded by the CPR at the turn of the century. The general layout of Shaughnessy was heavily influenced by the work of Frederick Law Olmstead, who was responsible for the design of many parks and neighbourhoods in many North American cities between the 1850's and 1890's. Shaughnessy is the city's most elite residential suburb and important heritage landscape. It has a garden-like setting with curving streets and large lots ranging from one-fifth to one and a half acres. Shaughnessy reveals the impact that deliberate planning and restrictive zoning can have on neighbourhood development.19

To secure the exclusive nature of the district, the Province passed the *Shaughnessy Settlement Act* in 1914, to secure the use for single family dwellings. In 1922, a further act was passed by the Province, the *Shaughnessy Heights Building Restriction Act*, again to firm up the exclusive nature of Shaughnessy. This Act served several purposes: it effectively removed all zoning control from the municipality; it prohibited further subdivision; and it extended the boundaries of the Settlement Act to include Second 19. *City of Vancouver Planning Department, Shaughnessy: A Community Profile.* 1993.
Shaughnessy (the area south of King Edward Avenue). In the depression that followed the 1920's, Shaughnessy entered a period of decline and was dubbed "Mortgage Heights". Many of the largest homes were converted to rooming houses, and more modest houses were built as infill on the former multi-acre parcels and on vacant, unsold lots. During World War II, the Federal government, faced with a severe housing shortage, issued an order-in-council under the authority of the War Measures Act, to permit the establishment of multi-family dwellings in areas previously not zoned for such. The adaptability of Shaughnessy mansions for such purposes was seized upon and many single-family homes were converted to rooming or lodging houses. By 1957, 161 of the 533 houses in First Shaughnessy (30 percent) were in multiple occupancy use.

The Building Restriction Act of 1922 expired in 1970, and for the first time, the neighbourhood became subject to the zoning provisions of the city. The RS-4 District Schedule that came into effect that year was accompanied by a plan that indicated the possibilities of creating many new lots on existing streets and developing cul-de-sacs within existing parcels of land. The plan, which was not adopted, would have opened up the area to drastic changes.


21. Ibid.
In response to land development pressures of the 1960's and 1970's, in which many large homes were demolished and properties subdivided, the Shaughnessy Heights Property Owners Association (SHPOA) commissioned an independent consultant in 1976 to prepare a Plan for the area. The primary concern of the residents was to conserve and maintain the legacy of older homes and landscaped estates in the face of increasing housing costs. The costs of heating, maintenance and taxes associated with the larger homes were a deterrent to buyers looking for a new home. The subdivision regulations of the day also provided an incentive for demolition, where older mansions sat on properties that qualified for subdivision. Consequently, many older homes of heritage merit were demolished and replaced with new houses, many of which were out of character with the area. According to Joyce Catliff, a member of the association, "it was zoning that was presiding over the destruction of the neighbourhood. It was the zoning that had to go." To rationalize the land economics while still preserving the large houses, some as large as 10,000 square feet, you "had to get rid of literal subdivision and bring in infill housing, and you had to allow some dwellings to be converted to multiple dwellings to preserve them. This went against the single family ethos."22

In response to the private study, Council approved the Shaughnessy Planning Study in 1979, to prepare a plan to protect the historic character of the area. The area was rezoned from RS-4 (One-Family Dwelling District) to the new FSD (First Shaughnessy District) in 1982, along with the First Shaughnessy Official Development Plan. The following

22. Presentation to Plan 527 class, October 26, 1990.
proposals were adopted into the plan:23

a) Conversion Option: To allow certain large pre-1940 meritorious houses and non-conforming multiple residential properties to redevelop as multiple conversion dwellings, provided they comply with zoning regulations and design guidelines for the area;

b) Infill Option: To allow secondary infill development at the rear and/or side of large sites provided the site is occupied by a pre-1940 principal building and this development complies with zoning regulations and design guidelines for the area; and

c) Subdivision Option: To increase the subdivision standards for minimum parcel size and configuration to complement the established and prevailing subdivision pattern in the area.

Figure 4.7 Side-Lot Infill: First Shaughnessy

These options are intended to recycle the use of large homes and intensify development on large sites in a way that protects the unique character of the area. The conversion option allows existing multiple conversion dwellings and pre-1940 houses over 650 m\(^2\) (7,000 ft\(^2\)) to be converted to a maximum of four conversion units. The infill option allows additional infill dwellings, up to a maximum of four, on sites exceeding 2140 m\(^2\) (23,000 ft\(^2\)) in area. In most cases the new conversions and infill dwellings are sold as strata units. To further discourage demolition, minimum subdivision standards were increased to a minimum of 30.48 m (100 ft) in width and 1208 m\(^2\) (13,000 ft\(^2\)) in area.

The infill option provides an alternative to subdivision while allowing more intensive residential development on large sites in the form of new secondary dwellings, or by legitimizing existing secondary dwellings (such as coach and guest houses) for residential use. Infill dwellings must be secondary to the original dwelling, and generally imitate the same architectural style. Of the 590 lots in the First Shaughnessy District, approximately 80 might qualify for infill, depending on the quality and condition of the existing house.\(^{24}\)

Infill and multiple conversions are a conditional use, and all proposals for them are reviewed by the First Shaughnessy Advisory Design Panel, whose intent is to ensure new development maintains the area character. The panel is comprised of four residents and a representative from the Heritage Advisory Committee, the Architectural Institute of B.C., the B.C. Society of Landscape Architects and the Planning Department. However, the use of a residential property for a single-family dwelling in the city is an outright one,

\(^{24}\) Gret Sutherland, former city representative on the First Shaughnessy Advisory Design Panel, as quoted in the Vancouver Sun, October 29, 1988, p. E5.
not a conditional one. Therefore, pre-1940 homes can be demolished and replaced with single family dwellings, without going before the Design Panel. Only three houses in all of Shaughnessy are effectively protected by existing legislation. Despite this, Michael Kluckner, a prominent Vancouver heritage advocate, believes that the First Shaughnessy Official Development Plan has been successful in preserving the streetscapes and historical quality of the neighbourhood, by allowing conversions, "coupled with discreet and well-designed infill buildings."\(^\text{25}\)

### 4.3 Infill Initiatives in Single-Family Neighbourhoods

Technically, infill one-family dwellings are allowed as a conditional use in Vancouver's single-family zones. However, the infill unit must be for a caretaker, and can only be built on sites having a minimum area of 3,000 m\(^2\) (0.75 acres). There are only about 100 lots of that size in Vancouver's single-family (RS) neighbourhoods. Despite these restraints, current and past provisions in Vancouver's Zoning By-law have allowed infill to occur in single-family neighbourhoods, under limited circumstances.

### 4.3.1 Thin Houses

The issue of thin houses in single-family neighbourhoods received considerable attention in Vancouver newspapers in 1980, when residents in West Point Grey were faced with four thin house proposals in the space of a few months. Thin houses are a form of small-lot, or side-lot infill. A typical thin house was approximately 4 m (13 ft) wide, built on

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\(^{25}\) Michael Kluckner, p. 108.
5 m (16.5 ft) wide lot. Most of the narrow half-lots were purchased by adjacent homeowners early in the city's history, to enlarge their regular 10 m (33 ft) wide lots. Many were simply used as gardens. There are approximately 485 narrow lots (24 feet or less) in single family neighbourhoods, with the heaviest concentration in the west side of the city. Approximately 20 thin houses were constructed in the city between 1968 and 1987.

Thin houses became very controversial, with many of the objections relating to issues of neighbourliness. In many cases, where permits were issued for development of a thin house, neighbours would appeal to the Board of Variance to have the decision overturned. Negative effects on neighbourhood character, devalued property values, density and parking were the most common concerns. When a thin house was proposed in his block, a local alderman became a vocal opponent to the by-law. The RS-1 District Zoning Schedule was amended on January 5, 1988, to specify that the minimum width of a site for a one-family dwelling shall be 7.3 m (24 ft). Further, the Director of Planning was not permitted to relax the minimum width requirement. Existing narrow lots became undevelopable on their own and can now only be developed by consolidating with an adjacent parcel, to form a larger lot.

The issue of thin houses may not be over. Technically, thin houses could still be built in Vancouver in other zoning districts such as RT-2 (Two-Family Dwelling), which does

26. Ibid., p. 43.
not have a minimum width stipulation. There are several narrow 5 m (16.5 ft)-wide parcels in RT-2 areas of Kitsilano. In addition, houses as thin as 3 m (10 ft) in width have been built recently in Victoria. Although the Victoria thin houses have been very controversial, some of the neighbours who originally opposed them changed their minds after touring the inside of one of the 110 m² (1,200 ft²) homes.²⁷

Figure 4.8   A Vancouver Thin House

4.32 Infill and Heritage Retention

The development of a second detached dwelling in a single-family neighbourhood can be permitted in certain circumstances. Section 3.2.6 of Vancouver's Zoning and Development By-law permits the Director of Planning or the Development Permit Board to relax Zoning regulations where "literal enforcement would result in unnecessary hardship in carrying out any restoration of buildings or sites on the Vancouver Heritage Inventory ...". Section 3.2.6(h) instructs the Director of Planning to "notify such adjacent property owners and tenants as deemed necessary, consider the responses received, and if there is significant objection, refer the matter to Council for advice ...".28

To be considered for infill in residential zones where it is not a conditional use, the site must be:

- listed on the Vancouver Heritage Inventory;
- comprised of more than one legal parcel;
- otherwise subdividable; or
- otherwise meritorious.

The dwelling shown in Figure 4.9 was one of the first sites in an RS-1 neighbourhood to be developed with infill under this clause. The site, located at 3846 West 10th Avenue, was composed of two legal parcels, and developed with an "A" building on the Vancouver Heritage Inventory. Built in 1929, it is the City's best example of a residential moderne structure. The heritage building overlapped the second lot, thereby making outright development of the second lot, while retaining the heritage building, unworkable.

28. City of Vancouver, Zoning and Development By-law, No. 3575. 1994
A development permit application was submitted in 1989 to consolidate the two lots, restore and designate the heritage house, and construct an infill dwelling to the rear of the heritage house. The style of the infill dwelling complements the heritage house, and two parking spaces are incorporated into the infill dwelling. Since the two lots would be consolidated to permit two strata units, the proposal also required a relaxation of the regulation which permits one principal dwelling on a site and an adjustment to above-basement floor space ratio calculations to accommodate a second dwelling.

*Qualitative Analysis:* As shown in Figure 4.10, the potential development of two single-

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29 City of Vancouver, Manager's Report to Standing Committee on Neighbourhood Issues and Services, June 14, 1989, and Development Permit file (DP209056).
family dwellings would create greater overshadowing of adjacent lots than retention of the existing building with an infill development. The shadow pattern of the infill dwelling is similar to that which would occur if two garages were constructed in the rear yard.

The infill scheme maintains the rear yard open space intended in the RS-1 Schedule and is consistent with adjacent properties. The existing lawn area to the east is maintained, which provides context for the heritage building, and open area for the eastern neighbour. The infill dwelling and the alterations to the rear of the heritage building were designed to prevent overlooking into the neighbouring properties.

**Figure 4.10  Context Plan of Infill Development at 3846 West 10th Avenue**
Figure 4.11  Technical Analysis: Infill at 3846 West 10th Avenue

<table>
<thead>
<tr>
<th>Infill Scheme (2 houses, 1 lot)</th>
<th>Permitted Outright (2 houses, 2 lots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total FSR</td>
<td>4835.5 sq.ft.</td>
</tr>
<tr>
<td>Above-Basement FSR</td>
<td>4407.0 sq.ft.</td>
</tr>
<tr>
<td>Site Coverage</td>
<td>2704.5 sq.ft.</td>
</tr>
<tr>
<td>Height:</td>
<td></td>
</tr>
<tr>
<td>Existing Bldg.</td>
<td>21.00 ft.</td>
</tr>
<tr>
<td>Infill Bldg.</td>
<td>14-16 ft.</td>
</tr>
<tr>
<td>Setbacks:</td>
<td></td>
</tr>
<tr>
<td>Existing Bldg.</td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>40.3 ft.</td>
</tr>
<tr>
<td>East</td>
<td>21.9 ft.</td>
</tr>
<tr>
<td>West</td>
<td>5.5 ft.</td>
</tr>
<tr>
<td>Rear</td>
<td>42.0 ft.</td>
</tr>
<tr>
<td>Infill Bldg.</td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>11.0 ft.</td>
</tr>
<tr>
<td>West</td>
<td>10.0 ft.</td>
</tr>
<tr>
<td>Bldg. Location</td>
<td>within 26 ft. of</td>
</tr>
<tr>
<td>Rear</td>
<td>2.0 ft.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The primary living spaces in the infill dwelling face into the subject lot, away from the lane and properties to the north. The existing and infill dwellings are below the permitted height stipulated in the RS-1 Schedule. Therefore, the infill scheme has less impact on views from properties to the rear than would the development of two new dwellings on the site. In addition, the infill scheme maintains the panoramic views to the north from adjacent houses, which would be cut off if two outright dwellings were constructed on the site.

Neighbourhood Responses: Eighteen surrounding property owners were notified of this proposal by the Planning Department. Seven objections were received from neighbours.
to the rear of the site, one of which was outside the notification area. These objections were primarily to the construction of a dwelling on the lane, the bulk of the proposed building, and to the interruption of the one-house to one-lot pattern of the neighbourhood. Three letters of support were also received, two of which were from the neighbours immediately adjacent to the site. A second notification was sent out by the Planning Department to clarify the total floor space ratio (FSR) of the scheme. The architect also held an open house to discuss the impact of the development with the neighbours. As a result of input from the neighbourhood, the design of the infill dwelling was revised to reduce the bulk by eliminating one carport and changing the garage to a carport. Subsequently, one letter of objection was withdrawn and two additional neighbours supported the scheme.

In summary, the infill scheme allowed the retention of a unique heritage building, while providing a neighbourly response to the adjacent properties by preserving views and minimizing overshadowing. The infill dwelling is contained within an area that would normally accommodate two garages under the RS-1 schedule, is no greater in height and bulk than two garages, and provides a similar garden area between the buildings as on adjacent sites.

4.33 Rezoning Single-Family Neighbourhoods for Infill

One eastside single-family neighbourhood in Vancouver has been rezoned to permit infill, and a current rezoning proposal to allow infill on a large west side estate will probably
goto Public Hearing in September, 1994. The first case offers an example of how infill can be successfully integrated into an existing single-family neighbourhood, while the second demonstrates the pressures to intensify that remaining large sites throughout the city are likely to be subjected to in future. In many respects, the economic realities of these large properties are similar to those that threatened the large estates in First Shaughnessy District. It would seem logical that the same measures be taken to preserve them.

*Riverside:* The Riverside community is located between the north shore of the Fraser River and Southeast Marine Drive in the southeast part of the city. It is one of two areas outside of the central core in which infill is encouraged, the other being Southlands, at the southwest corner of the city. Southlands, a semi-rural area comprised of large lots, most exceeding 0.9 hectares (2.25 acres), permits a single infill dwelling on lots that meet size requirements, as long as a stable to accommodate at least ten horses is also provided.

Changes to the Riverside area emerged from a planning study of the Fraser Lands, from Argyle Street to east of Elliott Street, done in the early 1980's. The industrial activity along the river was physically separated from the existing single family (RS-1) neighbourhoods at the west and east portions of the study area. A large wooded area divided the two neighbourhoods. Both neighbourhoods contain long narrow lots ranging from 9.1 m (30 ft) to 18.2 m (60 ft) in width, and from 49 m (160 ft) to 61 m (200 ft) in depth. Many of the lots slope southward and have commanding views.
Two zoning amendments were approved for the Riverside neighbourhood. The existing industrial zone along the water would remain as is. A Comprehensive Development (CD-1) zone was approved to allow for the development of a 400 unit, medium-density residential neighbourhood on vacant land. The existing RS-1 neighbourhoods were rezoned to a new zone, RS-1B, to allow some densification of the area in the form of infill housing, while preserving its single family character. The majority of the area residents supported the changes to allow infill. The zoning report, which was prepared in consultation with various city departments, private consultants and a Citizens Liaison Committee in 1983, stated:

It is intended that this zoning district schedule could have a broader application to other areas of the City. In this regard, however, some modifications of the specific regulations and guidelines may be necessary to facilitate its general application.30

Figure 4.12  Orientation on Typical RS-1B Site

The new zones were enacted in August 1983. Infill dwellings must be designed to respect the privacy of the principal dwelling, the neighbouring dwellings and the secondary dwelling. They should also have an identifiable presence at the street and a clear means of access to and from the street.

Figure 4.13  8400 Block of Victoria Drive

6120 MacDonald Street: The existing house at 6120 MacDonald, built in 1921, is one of only nine Georgian Revival houses on Vancouver's west side listed on the Vancouver Heritage Inventory and one of the two not located in First Shaughnessy. Together with the two listed heritage buildings to the south, the house forms part of a listed streetscape, important for their architectural value and landscape setting. The 0.56 hectare (1.38 acre)
site is comprised of three legal parcels, two with 20.1 m (66 ft) of frontage, the other with 14.3 m (47 ft). All parcels are 102.1 m (335.1 ft) in depth. The existing 512 m² (5,500 ft²) house straddles the two northerly lots. The entire property is heavily treed: this block as a whole has one of the city's largest non-parkland concentrations of mature coniferous trees, interspersed with other mature specimens.

Figure 4.14 Site at 6120 MacDonald Street

In December, 1992, the current owner applied to subdivide the property into four parcels: two fronting MacDonald Street, and two fronting West 45th Avenue. The proposal, which involved the demolition of the existing house, was refused in April 1993. A second application was made the following month, which proposed five parcels, with the existing dwelling being modified and relocated to one of the parcels. This proposal was
Figure 4.15  Subdivision Proposals: 6120 MacDonald Street
also refused, in July 1993. The owner appealed the decision of the City's Approving Officer to the Supreme Court of British Columbia, but the decision was upheld.\footnote{Under the provisions of the Land Title Act, a subdivider who is aggrieved by the decision of the Approving Officer has one month after receipt of that decision to file an appeal. City Council and the Board of Variance have no jurisdiction in subdivision matters.}

Because of the contentious nature of both subdivision proposals, surrounding residents were notified of both applications. Most neighbours strenuously objected to both proposals. The Approving Officer concluded that the proposals would injuriously affect the established amenities of adjoining or adjacent parcels, would set an inappropriate precedent, because there was no comprehensive plan for the block, and were overall not in the public interest.

The current application to rezone the site from RS-1 (Single-Family) to CD-1 (Comprehensive Development) to permit five infill one-family dwellings and retention of the existing dwelling is not without controversy, given that there is a change to the prevailing single family zoning of the area. The rezoning, if approved, would enable the preservation the heritage building, the important streetscape and a significant portion of the landscaped setting.

The design of the infill houses would reflect detailing consistent with the character of the existing house and would be finished with wood shingle roofs, brick chimneys, divided wood windows and stucco to match the existing house. The infill houses would have
floor areas ranging from 349 m² to 458 m² (3,754 to 4,928 ft²), and would each be priced in the $1.2 million range. The total floor space area is the same as would be allowed under current zoning (0.6 FSR), while site coverage is reduced to 22 percent of site area, as opposed to 40 percent under RS-1. City staff surveyed all trees on site to determine their species, size and condition. Forty-six "good" trees were identified along with six large, but previously topped trees. Most of those would likely be removed for development under existing zoning. The current rezoning proposal retains all except two of the notable trees, which in itself is a significant environmental benefit. A site plan shows the proposed locations of the dwellings in Figure 4.16.

Figure 4.16  Context Plan of Infill Development at 6120 MacDonald Street
Comprehensive Development zones (CD-1) are a discretionary form of zoning, that offers several advantages over conventional zoning. Regulations are site specific, and allow for negotiation over density, design, siting and landscaping, among other thing. They also allow for significant neighbourhood input. Design and landscaping issues cannot be effectively addressed under conventional zones such as RS-1. Under existing by-laws, the City cannot require any tree to be retained; rather, it can only require tree replacement. On a site with 50 m tall cedars and Douglas firs, this is not adequate. The CD-1 rezoning addresses most of the residents concerns dealing with character preservation and tree retention. Neighbourhood input led to several improvements to the proposal: increased setbacks, a reduction in the number of driveways and garages along 45th Avenue, and a reduction in the number of notable trees to be removed (from 20 down to 2) because of improved siting of the infill houses. None of this would have been possible under present zoning, or under either of the two subdivision proposals. Following a public meeting attended by city staff on May 11, 1994, several residents who initially opposed the proposal changed their minds after the implications of not allowing it had been explained. Several mistakenly assumed that the City would have some control over design and tree retention under the current zoning.

Robin Ward, a prominent Vancouver heritage advocate, stated in a recent newspaper column that:

Development here is inevitable. The ... plan will guarantee the most pleasing aspects of its landscape setting. The alternative, under the present zoning, would be three elongated monster houses replacing the existing house and virtually all the trees ... Permitting infill, where the site is large
enough, is still the most practical way in Vancouver of ensuring heritage home preservation while accommodating development ... Vancouver Council's decision on this issue is keenly awaited. Changes to zoning in single-family neighbourhoods are often hotly contested. But in this case, willingness to preserve heritage property, financed by architecturally well-mannered infill design, deserves prompt approval.32

4.4 Future Infill Opportunities in Single-Family Zones

The incremental nature of infill can result in a scale of building which is smaller and more in keeping with a single-family neighbourhood, while still increasing density in a sensitive manner. If owners of older, underutilized houses were encouraged to renovate them, or had the option of adding their unused floor space area to the rear of the site, it could prevent much of the demolition occurring in Vancouver today. The controversy over the mega-houses being built in Vancouver over the past decade is primarily related to the massing and bulkiness of these homes. Although recent changes in single-family zones have reduced some of the massing, poor design continues to be rampant. Current zoning and building by-laws are not sympathetic to those who would like to retain their homes, because any additions or dormers have to fit the same building envelope as does new construction. Those who persist are further deterred by lengthy approval times: permits for extensive modifications may take three months or longer, while permits for new construction are sometimes issued in a week.

The environmental costs of these policies are immense: the demolition of an average

32. The Vancouver Sun, June 11, 1994.
Vancouver house produces 22 tonnes (44,000 pounds) of garbage. In the Lower Mainland, about 25 to 30 percent of the garbage comes from demolition, construction and land clearing. In 1991, that added up to 830,000 tonnes of waste. Gypsum board mixed with water produces sulphuric acid, paint contains lead and other harmful compounds and wood is full of preservatives. These eventually seep through the peat moss of the local landfills and into the Fraser River.

In terms of the housing form, infill is a relatively new concept in the Vancouver area. Although developed primarily as a tool to encourage retention of older character buildings, the examples illustrated so far indicate that infill can be applied to a variety of situations. The example of the Healthy House on Graveley Street, discussed in Chapter 2, was constructed at the rear of a standard 10 by 37 m (33 by 122 ft) Vancouver lot. Infill units have been constructed on the majority of the long lots in the Riverside community, some of which are only 9.1 m (30 ft) wide. Most of the conversions with infill in the southeast part of Kitsilano and in West Mount Pleasant are being developed on 15.2 by 38.1 m (50 by 125 ft) lots. Typically, three units are contained in the conversion with a single-unit infill at the rear. The four required parking spaces are provided behind or under the infill dwelling. Most infill dwellings being constructed in conversion areas range in size from 300 to 400 m² (1,000 to 1,300 ft²). Typical infill units in the Riverside community have areas in the 165 to 185 m² (1,800 to 2,000 ft²) range, with larger yards than those in the conversion areas.

Given the general preference for ground-based units, these examples could help establish infill as a real development option, even for single-family neighbourhoods. The lot sizes mentioned above are typical of those in Vancouver's single-family areas. However, infill is primarily a site planning issue. There has to be a portion of the lot that could accommodate a second dwelling, while providing sufficient yard space for both houses. Issues of privacy, overshadowing and neighbourliness must also be addressed. Infill is more readily adaptable to sites with rear lanes, because parking and access are easier to address. Although rear-lot infill can be developed on sites without lane access, most existing houses cannot accommodate a driveway to the side, and it is difficult to provide sufficient parking.

As demonstrated with the heritage building at 3846 West 10th Avenue, Vancouver offers some creative solutions to encourage the retention of heritage buildings. However, many more modest buildings not identified on the heritage inventory do not have such options available to encourage their preservation. A recently approved subdivision at 6320 Larch Street in Kerrisdale involved the demolition of a character building, the gardens of which were illustrated in Western Living magazine. In April, 1994, 80 people attended a neighbourhood vigil to mourn the destruction of the house and large trees on the site.34 Had the house been on the Heritage Inventory, infill could have been successfully applied to this site. The existing dwelling and much of the trees and gardens could have been preserved, and the character of the streetscape retained.

34. Vancouver Courier, April 24, 1994.
Infill could also be successfully applied to unusually large or long sites throughout the city. While it is beyond the scope of this study to determine this potential, a review of typical lot sizes and siting requirements of past RS-1 by-laws would seem to indicate a large number of single-family lots in the city could accommodate an infill unit. In addition, the large rear yards provided for under the current by-law (45 percent of lot depth) could easily accommodate infill dwellings in future, if the floor space ratio was raised from 0.60 to 0.75, as in some multiple conversion areas.

Most of the city’s single-family neighbourhoods are served by back lanes to accommodate cars and service vehicles, which is a considerable plus for infill development. Out of the
approximately 200,000 dwellings in Vancouver, approximately 70,000 are single-family detached houses. About 55 percent of single-family (RS zoned) lots are 10 m (33 ft) wide and less than 460 m² (5,000 ft²) in area: 65 percent are located east of Cambie Street although there are some in West Point Grey and Dunbar. Most large lots over 550 m² (6,000 ft²) in area are located west of Cambie Street. About 11 percent of lots in 1986 were at least 20 m (66 ft) wide. In 1986, the City had approximately 14,000 lots in single family zones that exceeded 39.6 m (130 ft) in depth. Of those, about 7,300 were from 39.9 to 42.4 m (131 to 139 ft) deep, 3,170 were from 42.7 to 45.4 m (140 to 149 ft) deep, and 3,500 were over 45.7 m (150 ft) deep. From 1930 to 1986 a minimum front yard setback of 7.3 m (24 ft) was required in RS-1 areas. About 85 percent of single-family dwellings were built to the minimum front yard setback, with the remainder, on deeper lots, built further from the street.\(^{35}\) Since then, a minimum front setback of 20 percent of lot depth has been required. The current by-law also requires a 45 percent rear yard, with all accessory buildings and parking contained in the rear 8 m (26 ft) of lots having lane access. The infill unit built behind the heritage house at 3846 West 10th Avenue was accommodated within that portion of the lot.

If infill was permitted as a conditional use on the 14,000 lots over 39.6 m (130 ft) in depth, many of which should have large rear yards, based on the front yard setbacks required from 1930 to the present, a significant number of ground-oriented housing opportunities could be created. The various infill dwellings created in other zones

\(^{35}\) Stanbury and Todd, p. 12.
demonstrate that issues of privacy, neighbourliness and parking can be effectively addressed. Visually, some infill dwellings do not stand out much more than some of the large garages being built in single family areas today.

The high land values in the city are changing the streetscape of Vancouver's single-family neighbourhoods. Even in areas such as Oakridge, which was developed in the 1950's, many of the original homes have already been demolished and replaced with larger houses. Development pressures are so strong that some of the luxurious houses built around 1960 are no longer considered to make the best use of their lots, and are thus prime targets for sale at lot value. Most lots in the Oakridge area are large, ranging from 15.2 to 24.4 m (50 to 80 ft.) in width, and 36.5 to 42.7 m (120 to 140 ft) in depth. A new house on a typical 18.3 by 36.5 m (60 by 120 ft) lot can have 670 m² (4,320 ft²) of floor area, and sell for well above $1 million.

Infill could be implemented in Vancouver's single-family areas by maintaining the existing floor space ratio (FSR) of 0.6, but allowing the option of splitting it into a 0.4/0.2 ratio. Owners of older homes, many of which are built to 0.45 FSR or less, would have the option of placing their additional FSR in the rear portion of the lot, in an infill unit. Criteria of open space, privacy, light and air penetration would determine the maximum size of a building that would be permitted. Relaxations may be required to above-basement floor space ratio calculations in order to accommodate a second dwelling. Detached infill dwellings present fewer building by-law problems than do secondary
suites, because of the large separation from the existing building. For some, an infill unit may be a preferable source of income than a secondary suite, allowing the homeowner more privacy.

Of course, owners could still have the option of adding to their existing house to bring it up to the 0.6 FSR, or demolish and rebuild. Builders of new homes could also have the option of building one home at 0.6 FSR, or a smaller house and an infill using the 0.4/0.2 split. On a 557 m² (6,000 ft²) lot, a 223 m² (2,400 ft²) house could be retained or built in the regular building envelope, with a 111 m² (1,200 ft²) infill unit built in the rear 7.9 m (26 ft) of the lot required of accessory buildings. The principal dwelling would be more in keeping with the scale of existing older houses than would a 334 m² (3,600 ft²) house, and the smaller infill dwelling would remain secondary to the front dwelling. As mentioned previously, the Riverside Village zoning report stated that the RS-1B zoning created for that neighbourhood could have a broader application to other areas of the City. In this regard, however, some modifications of the specific regulations and guidelines may be necessary to facilitate its general application. In Vancouver's conversion areas, infill is permitted, on appropriate sites, as an incentive to retain the existing house. All development permits for infill are subject to the condition that the existing house cannot be demolished without the approval of the Director of Planning.

The large homes built in Vancouver's conversion areas and First Shaughnessy early in the century soon became uneconomic to maintain as single-family residences. The same
future may await the large houses being built in today's single-family neighbourhoods, especially those on larger lots. A report prepared by the City of New Westminster Planning Department found that 60 percent of all new houses and 90 percent of houses over 3,500 square feet were designed for conversion to multiple accommodation, and that the size of households was larger than in smaller homes.36

In conclusion, much of the city's future ground-oriented housing stock could be accommodated in the city's single-family areas, through the processes of conversion and sensitive infill development. Retention opportunities by way of additions and infill are achievable if some consideration is given to a review of zoning by-law constraints, with a view to modifying them to the extent necessary to encourage these activities, while at the same time maintaining adequate standards of safety, service and access. Infill has the potential to encourage retention of existing homes and streetscapes, but does involve a sacrifice of much of the rear yard space. Pressures to intensify in the single family districts are likely to increase, because of high land costs and because they are convenient to downtown workplaces and activities.

5.0 Findings and Conclusions

5.1 Determining a Future Role for Infill

As more and more of the older homes and gardens in Vancouver are demolished, the character of the city has drastically changed. The premise of this thesis is that the provision of small-scale infill development in urban areas can play a vital role in encouraging housing retention, as well as provide good quality ground-oriented housing on a cost-effective basis. However, the suburban bias and regulatory environment in most Canadian municipalities is a significant barrier to the development of alternative housing forms such as rear-lot infill. In this era of recycling, demolition of good quality housing because of outdated by-laws is unfortunate.

Current residential zoning by-laws often discourage alternative housing forms, by strictly regulating development in single family areas. Despite the social, demographic and economic changes over the last two decades, our cities have not experienced a similar level of physical change. In the Vancouver region, the amount of residential land zoned for single family use is not indicative of present household formation. For many, the single-family zone reduces access to people and activities. In Ontario, the Inclusive Neighbourhoods Campaign (INC) defines such zoning practices as exclusionary and a violation of rights under the Canadian Charter of Rights and Freedom and the Ontario Human Rights Code.
Significant pressures are emerging for change in the pattern of urban residential development and urban land use in general. Continued low density fringe development is costly and inefficient, for both the individual and society. Yet, increasing residential densities in already developed areas presents serious regulatory and political problems, particularly in single-family areas. Higher residential densities contravene many existing building codes, zoning by-laws and official plans, and are often resisted by local residents. Many residents are apprehensive about new housing forms, fearing that neighbourhoods will undergo dramatic and adverse change. In some neighbourhoods and in some instances, these fears may be valid. At the same time, there is considerable evidence demonstrating that infill housing can be successfully integrated within existing communities.

The City of Vancouver is expected to grow by 160,000 people and 100,000 households by the year 2021. The variety of household forms that are emerging will require a variety of solutions. Alternative housing must be affordable, accessible, and provide more opportunities for sharing and support. While much of this housing growth will be accommodated in high-density residential developments, Vancouver will also need to provide additional ground-oriented housing to meet the varying needs of its growing population. The variety of housing produced through intensification initiatives such as infill may help people of different ages and incomes live and stay in their neighbourhoods as their age and lifestyle changes.
To compete with other forms of housing, infill must demonstrate its advantages over comparable dwellings. Infill housing has been used to create innovative forms of low-rise, medium-density, and ground related housing that offer enhanced liveability and increased individual identity. It is also a renewal strategy. By adding population and amenity to an area, and improving the use of existing services without adding to public costs, it serves a social purpose. It can influence a neighbourhoods environment by responding in its design or location to elements in the neighbourhood, contributing in turn to the neighbourhoods continuity, scale and character.

Alternative housing forms such as infill may be expected to encounter opposition. It may take the form of local opposition or inflexibility on the part of administrative authorities. By definition, innovative projects do not operate within the existing boundaries of administrative or political control, and are thus vulnerable to opportunistic attack. If there is to be innovation, politicians and bureaucrats will have to eliminate obstacles, and acquire a sense of experimentation. Effective approaches to urban infill can help unlock land located near working areas that are already fully serviced, and may provide lower priced ground-oriented housing in a market that is currently beyond the financial reach of many home buyers. Infill, by providing additional ground-oriented housing not common in the region today, may encourage a healthier lifestyle, in which walking and bicycling become viable transportation alternatives.

The GVRD's Livable Region Plan, Burnaby's Compaction Plan, the Vancouver Plan and
CityPlan demonstrate that planners are in favour of intensification and have tried to promote it. However, attempts to introduce change into single-family neighbourhoods have generally ended in failure, because of a lack of public support and political will. However, CityPlan, by involving the public in the preparation of plans for accommodating future growth in the City, has done a better job in educating the public of the need for change. The first 1,000 responses to the Futures questionnaire show that with regard to land use topics, 84 percent of respondents are in favour of a new future that adds new housing, jobs and services to existing single-family areas, either through neighbourhood centres (62%) or through scattered redevelopment (22%). Eight percent support a future which continues to redevelop industrial land for housing. Surprisingly, only eight percent voted to limit growth.1

5.2 Recommendations

Much of the cities future ground-oriented housing stock could be accommodated in the city's single-family areas, through the processes of conversion and sensitive infill development. Retention opportunities by way of additions and infill are achievable if some consideration is given to a review of zoning by-law constraints, with a view to modifying them to the extent necessary to encourage these activities, while at the same time maintaining adequate standards of safety, service and access. Infill has the potential to encourage retention of existing homes and streetscapes, but does involve a sacrifice of much of the rear yard space. Pressures to intensify in the single family districts are likely

to increase, because of high land costs and because they are convenient to downtown workplaces and activities.

- In Vancouver, single-family zones should be changed to allow infill development. Areas with surplus physical infrastructure (such as sewer capacity), surplus community services (schools, community centres and parks) and good transit access to employment should be identified. The existing floor space ratio (FSR) of 0.6 could be maintained, with the option of splitting the floor area at a ratio of 0.4 for the front (principal) dwelling, and 0.2 for the rear infill dwelling. This may encourage housing retention, as well as encourage new development at a scale in keeping with older existing dwellings.

- Municipalities should review their zoning, subdivision and building by-laws for consistency with market demands, with a view to modifying them to the extent necessary to encourage housing retention (additions, dormers, infill), while maintaining adequate standards of safety, service and access. Permits for infill housing should be easier to obtain, with some modifications of regulations and guidelines to facilitate its general application.

- Communities should begin to access the environmental implications of housing demolition, and incorporate these factors into their policies and by-laws. Tougher demolition by-laws should be implemented. The reuse of existing buildings supports environmental objectives by conserving resources and thereby energy by not having to manufacture new materials. Communities should also encourage the recycling and reuse of construction materials from demolition. Materials such as drywall, wood and bricks can be recycled. Architectural elements such as doors, windows, cornices and stonework can also be reused.

- In cities with vacant parcels of land in existing neighbourhoods, infill opportunities should be inventoried by municipalities and publicized in the public sector.

- An education program should be established for the public, explaining municipal development plans and alleviating fears and concerns. Neighbourhoods should be aware of the benefits of improved sites in terms of their own real estate values.

In the interim, there may be additional infill opportunities in Vancouver's single-family and other residential zones which do not permit infill, without drastic changes to current
by-laws. Infill could be encouraged on large or irregular sites where subdivision is not practical, or where subdivision necessitates the demolition of an existing dwelling. Other municipalities should follow Vancouver's lead in using infill as an incentive for heritage retention. Municipalities which are interested in encouraging a more efficient use of infrastructure through intensification should not limit the scope of their interest to conversion activity.

Jane Jacobs, in "The Death and Life of Great American Cities", stated that in seeking visual order, cities are able to choose among three broad alternatives: (1) they can aim for areas of homogeneity which look homogenous, and get results depressing and disorienting, (2) aim for areas of homogeneity which try not to look homogenous, and get results of vulgarity and dishonesty, or (3) they can aim for areas of great diversity and, because real differences are thereby expressed, can get results which, at worst, are merely interesting, and at best can be delightful. The variety of household forms that are emerging will require a variety of solutions. Alternative housing must be affordable, accessible, and provide opportunities for sharing and support. A more flexible zoning policy may help alleviate current housing pressures, create a more interesting urban form, and promote equality of opportunity and service.


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