From Office to Home:
The Adaptive Reuse of Office Buildings to Residential Use
in the Core of the City of Vancouver

by

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Abstract

This thesis examines the planning implications of the adaptive reuse of office buildings to residential use in the core of the City of Vancouver.

In recent years, Vancouver's core has undergone significant urban transformation as a result of structural economic changes and directions advocated by the Central Area Plan (1991). The impact of these changes have in turn influenced the City's urban form and built environment. An inadvertent result of the reconfiguration of Vancouver's core has been the marginalization of some buildings which have become structurally obsolete for their original purposes and inappropriate for their new situations. Uncompetitive compared to their newer counterparts, such buildings are precariously positioned and subject to long term vacancy and decay.

This thesis examines the process and implications of implementing adaptive reuse schemes in the core of the City of Vancouver and offers policy recommendations as to how such schemes may be utilized to maximize the life of a structure. This thesis also investigates the question of adopting this brand of adaptive reuse for the purposes of implementing live/work premises in the core.

The research suggests that adaptive reuse is an innovative and flexible planning tool for the management of built capital in the core city of Vancouver and predicts that future conversions will occur again the area, namely in Triangle West. Adaptive reuse offers a sustainable approach to growth management and the recycling of built capital in
the face of structural economic changes and accompanying spatial changes in metropolitan cores.

The thesis research is presented in the following manner. An overview of the adaptive reuse literature is introduced to provide a full understanding of its nature and implications. A survey of policies which govern office and residential use in Vancouver's core is presented to determine their suitability to adaptive reuse schemes. The three examples of office to residential conversions in Vancouver's core are analyzed in case study fashion to assess the impetus and impacts of these adaptive reuse schemes. Finally, the results of key informant interviews are presented to offer the perspective of various developers and planners with Vancouver.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>viii</td>
</tr>
<tr>
<td><strong>CHAPTER ONE</strong> INTRODUCTION - THE RESEARCH AGENDA</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Background</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Problem Statement and Objectives</td>
<td>2</td>
</tr>
<tr>
<td>1.3 Scope</td>
<td>4</td>
</tr>
<tr>
<td>1.4 Limitations</td>
<td>5</td>
</tr>
<tr>
<td>1.5 Purpose and Research Questions</td>
<td>6</td>
</tr>
<tr>
<td>1.6 Methodology</td>
<td>7</td>
</tr>
<tr>
<td>1.7 Organization</td>
<td>8</td>
</tr>
<tr>
<td><strong>CHAPTER TWO</strong> ADAPTIVE REUSE LITERATURE REVIEW</td>
<td>10</td>
</tr>
<tr>
<td>2.1 Definition</td>
<td>10</td>
</tr>
<tr>
<td>2.1.1 Form and Function</td>
<td>12</td>
</tr>
<tr>
<td>2.2 Adaptive Reuse in City Cores</td>
<td>13</td>
</tr>
<tr>
<td>2.2.1 Manhattan</td>
<td>14</td>
</tr>
<tr>
<td>2.2.2 Boston</td>
<td>15</td>
</tr>
<tr>
<td>2.2.3 Toronto</td>
<td>16</td>
</tr>
<tr>
<td>2.2.4 London</td>
<td>17</td>
</tr>
<tr>
<td>2.2.5 Lessons Learned</td>
<td>19</td>
</tr>
<tr>
<td>2.3 Adaptive Reuse and Real Estate Development</td>
<td>20</td>
</tr>
<tr>
<td>2.4 Adaptive Reuse and Planning</td>
<td>20</td>
</tr>
<tr>
<td>2.4.1 Regulatory Framework</td>
<td>20</td>
</tr>
<tr>
<td>2.4.2 Strategies</td>
<td>22</td>
</tr>
<tr>
<td>2.5 Live / Work in the City of Vancouver</td>
<td>23</td>
</tr>
</tbody>
</table>
# CHAPTER THREE  VANCOUVER'S METROPOLITAN CORE AND ITS PLANNING POLICIES

3.1 Policy Context
   3.1.1 Central Area Plan
   3.1.2 Downtown South Plan

3.2 Vancouver's Metropolitan Core
   3.2.1 Background
   3.2.2 Evolution of Vancouver's Central Business District
   3.2.3 Marginalization of Structures

3.3 Vancouver Office Market
   3.3.1 Factors Affecting the Office Market

3.4 Key Informant Interviews

3.5 Conclusions

# CHAPTER FOUR  CASE STUDIES

4.1 Introduction

4.2 Vancouver Condominium Market Analysis
   4.2.1 Buyer Types and Target Markets

4.3 BC Hydro Case Study
   4.3.1 Background
   4.3.2 Factors Affecting Leasability
   4.3.3 Potential Options
   4.3.4 Planning Consent
   4.3.5 Structural Suitability for Conversion
   4.3.6 Conclusions

4.4 London Place Case Study
   4.4.1 Background
   4.4.2 Proposed Development
   4.4.3 Planning Consent
   4.4.4 Unit Price and Target Markets
   4.4.5 Conclusions

4.5 1010 Howe Case Study
   4.5.1 Background
   4.5.2 Conversion Process
   4.5.3 Costs of Retrofit and Structural Suitability
   4.5.4 Conclusions

4.6 Lessons Learned
CHAPTER FIVE  CONCLUSIONS

Major Findings
Planning and Policy Implications
Areas for Further Research

BIBLIOGRAPHY

APPENDIX A  Map of the Location of the Three Conversions in Vancouver's Core  87
APPENDIX B  Past Vancouver Central Area Land Use Plan  88
APPENDIX C  Current Vancouver Central Area Land Use Plan  89
APPENDIX D  Vancouver's Central Area Office Space Plan  90
APPENDIX E  Vancouver's Central Area Residential Space Land Use Plan  91
APPENDIX F  Downtown South Context Map  92
APPENDIX G  Downtown South Boundaries Map  93
APPENDIX H  Key Informant Interview Participants  94
APPENDIX I  Key Informant Interview Questions  95
APPENDIX J  Central Area Sub Areas  96
APPENDIX K  Structural and Technical Aspects of Conversion  97
List of Tables

Table 1  Vacancy Rates in the Downtown Vancouver Office Space Market from 1978 to 1995 37

Table 2  Price and Type Mix of Condominiums January to November 1992 48

Table 3  Cost Analysis of Potential Options for BC Hydro Site 55

Table 4  Electra: Suite Type, Price, Size 57

Table 5  London Place: Unit Type, Size, Price 62

Table 6  Locational and Structural Guidelines for Adaptive Reuse Schemes 79
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Chapter 1
Introduction - The Research Agenda

1.1 Background

Urban transformation is a dynamic and continuous process of change which manifests itself most predominantly in the cores of metropolitan cities. Urban transformation encompasses a number of components including economic restructuring, spatial reconfiguration, and physical reconstruction. The impacts of these components are interwoven and interdependent. In metropolitan cores, profound structural changes in the economy often express themselves in spatial and physical transformations. As the nature of business and employment changes, so too does the social composition of the inhabitants and the labour force of city cores. The growth which accompanies these changes is often in the form of increases in population, employment, and consumption. The built environment of city cores tends to absorb significant repercussions from these transformations. Urban form and the reconstruction of the built environment are therefore integral components of urban transformation. In the core of the City of Vancouver, for example, the intentional concentration of the Central Business District (CBD), coupled with the emergence of specialized service clusters and the rapid construction of new residential developments around the CBD, have left some structures in a precarious situation. Obsolete for their original purposes, uncompetitive relative to new construction, and structurally inappropriate for their new situations, such buildings are unlikely to be re-leased and thus may become subject to long term vacancy and decay.
Reconciling structures built for longevity with requirements which may change during a building’s lifespan is a crucial issue for the planning of metropolitan cores. The planning consideration warranted by this issue is emphasized by the current and anticipated rapid pace and complexity of change for city cores. Local planning policies should encourage resourceful ways in which the built environment can accommodate the evolving economy of a city. Indeed, innovative land use policy cannot ignore the structures which occupy various sites within the core of a city. In this respect, the advancement of strategic goals and a commitment to flexibility are essential and should be embraced by planning officials in the management of the built environment of city cores.

1.2 Problem Statement and Objectives

If the spatial reconfiguration and physical reconstruction of cities are integral components of the urban transformation phenomenon, then a need exists to consider the prospects of individual buildings which may be left vacant because they are no longer valuable for their original, intended purposes. Such buildings are often ignored in the general land use policy statements put forth by local governments as such documents are generally not concerned with individual buildings. Unquestionably, zoning and land use planning are the chief instruments local governments possess to influence patterns of economic growth and transformation in metropolitan cores. Planning policies for most city cores, however, advance zoning strategies on the basis of general sub areas often neglecting the status of individual buildings which maybe precariously situated with
respect to the new land use directions. Tactical zoning, in the form of precinct level plans and policies, however, may be incorporated into general land use policies to ensure the maximum use of such buildings. From the planning perspective, it is valuable to consider how adaptive reuse schemes may be utilized as an effective tool for growth management and the recycling of built capital in the face of structural economic changes and accompanying spatial changes in metropolitan cores. The notion of adaptive reuse must be regarded from two perspectives: the planning implications for the immediate surrounding area and the conversion suitability of the structure itself.

**Objectives**

Given this situation of the built environment in the core of the City of Vancouver, this thesis is based on the following objectives.

- To examine factors which affect the spatial reconfiguration of Vancouver’s metropolitan core and thus the quantity and qualitative requirements of office space.

- To examine the policies of the Central Area Plan and Downtown South Plan for residential neighborhoods in the core to determine relevant policy guidelines.

- To examine, through the case study approach, the three examples of office buildings which have been adapted to residential use in Vancouver’s city core.

- To examine the literature pertaining to adaptive reuse in city cores.

- To conduct key informant interviews with planners and developers to determine the future role of adaptive reuse in Vancouver’s city core.
1.3 Scope

The core of the City of Vancouver and implicitly its CBD provides a relevant case study for the urban restructuring argument and the resulting need for tactical polices which pertain to the future of individual buildings rather than individual sub areas. The geographical configuration of Vancouver’s CBD has evolved in reaction to the City’s changing economic role within the Province of British Columbia and vis a vis the economies of the Pacific Rim.

As the turn of the century approaches, it would appear that economic globalization and market integration, coupled with the predominance of software and knowledge sector services, will recreate the CBD’s function as the nerve centre of the region and the linking node with global markets. These changes will significantly impact how and where office space is used within the downtown core, notwithstanding the compact CBD established by Vancouver’s Central Area Plan (CAP) (1991).

The directions outlined in CAP are strategic guiding principles. An inadvertent result of the plan has been the marginalization of some office buildings which are no longer considered part of the elite cooperate complex as they are not located within the new concentrated boundaries of the CBD. In addition to their locational disadvantage, these buildings are often older, less “smart”¹, and therefore less attractive than their newer

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¹“Smart” buildings are those which cater to and are adaptable to new users and their demands, new materials, technology, construction procedures, and new laws and expectations which constantly alter and increase expectations of what is an acceptable and useful structure. Obsolescence is created when rising expectations with respect to changes in technology and flexibility of design within the market decrease the attractiveness of a building (Iselin et al.).
counterparts. These factors combined have led, in many instances, to difficulties in leasing the properties, economic losses, and structural decay.

Of such buildings in Vancouver's core, three were rescued from possible demolition or potential perpetual vacancy by the implementation of adaptive reuse schemes. These office buildings, located at 970 Burrard Street, 1177 Hornby Street, and 1010 Howe Street, were converted to full residential use with the first conversion occurring in the Fall of 1992 (see Appendix A). Each conversion was approved on an ad hoc basis. Arguably, Vancouver's core has been ripe for this brand of adaptive reuse since the early 1990s. The convergence of a number of variables has created an environment which renders this category of adaptive reuse an attractive scheme for planners, building owners, and consumers.

1.4 Limitations

Adaptive reuse schemes may be applied to a number of structure types and situations within the core of the City of Vancouver, of which the conversion of office buildings to residential use is one. Other examples include the conversion of warehouses to residential use and the conversion of apartment buildings to hotel use. This thesis is limited to the analysis of the conversion of office buildings to residential use in the core of the City of Vancouver. Although this application is the most rare of adaptive reuse
schemes, it is certainly the most innovative and timely in light of Vancouver’s reconfigured core.

While the implications of this investigation may be far-ranging, the research is limited to the core of the City of Vancouver with a concentration on the CBD, the Downtown South, and Triangle West.

1.5 Purpose and Research Questions

As the trends of the 1990s will, in some respects, pervade the Twenty First Century, the purpose of this thesis is to make recommendations about the utilization of adaptive reuse as it pertains to the conversion of office buildings to residential use in Vancouver’s core. It would be useful for the City of Vancouver to adopt specific policy guidelines advocating and regulating adaptive reuse within the core as it appears that within the foreseeable future, the area of Triangle West will experience similar pressures as the fringe of the CBD and Downtown South are currently facing.

In order to achieve this purpose, the following research questions will be addressed by this thesis. In considering the cyclical demand for office space, how can the potential of office buildings be maximized through adaptive reuse schemes? Further, what has been learned from the three Vancouver office conversion examples and should changes be made to land use policy within Vancouver’s core to encourage this brand of adaptive reuse? Can such adaptive reuse schemes be utilized for the purposes of sanctioning commercial live/work premises adjacent to the CBD in Vancouver’s core?
What commonalities exist between Triangle West and the Downtown South and is Triangle West an appropriate area for adaptive reuse?

1.6 Methodology

Given the purpose, objectives, and research questions of this thesis, a multifaceted research methodology was employed to obtain a clear understanding of the concept of adaptive reuse as it relates to the conversion of office buildings and to better comprehend the planning and fiscal environments in which these conversions occurred. As written material does not exist about office to residential conversions in the City of Vancouver, the following methodology was employed in order to attain fullest understanding of the impetus of such conversions and the related planning and policy implications.

A literature review was conducted with two objectives: to examine the origin and application of adaptive reuse as it applies to structures in general and, more specifically, to understand adaptive reuse as it pertains to the conversion of office buildings to residential use in the cores of cities.

A survey of the policies which govern office and residential uses in Vancouver’s core was also undertaken with the objective of determining the conduciveness of these policies to adaptive reuse schemes. Further, the evolution of Vancouver’s CBD was traced to understand its present configuration and role within the core and the above policy environment.
Case study analyses were undertaken of the three examples of office to residential conversions in Vancouver’s core to determine the environment in which they took place and the impetus for the implementation of the adaptive reuse schemes. All case study information was the result of primary research.

Key informant interviews were also undertaken with planners and developers within the city of Vancouver to determine the future role of adaptive reuse in Vancouver’s core.

1.7 Organization

The thesis is organized into five chapters. Chapter One provides an introduction to the concept of metropolitan transformation and the potential for the utilization of adaptive reuse in city cores. Chapter One also introduces the research agenda and outlines the purpose, objectives, research questions, and methodology of the thesis.

Chapter Two reviews the literature pertaining to both the general notion of adaptive reuse and its application to the conversion of office buildings to residential use in the cores of cities.

Chapter Three is comprised of an examination of the planning policies which affect residential and office uses in Vancouver’s core as well as an analysis of the evolution of Vancouver’s CBD. Chapter Three is also concerned with factors which affect the office market in Vancouver’s core. In addition, the results of the key informant interviews are presented in this chapter.
Chapter Four presents all primary research findings in the form of case study analyses of the three examples of office to residential conversions in the core of the City of Vancouver.

Chapter Five concludes the thesis. Case study findings are commented upon and the research questions introduced in Chapter One are concluded upon. Chapter Five also includes the policy and planning implications of the adaptive reuse of office buildings to residential use in Vancouver’s core.
Chapter 2
Adaptive Reuse Literature Review

2.1 Definition

"Where the built environment is concerned, change is both essential and inevitable." \(^2\)

What is noticeable from the adaptive reuse literature is that the term is often used interchangeably with rehabilitation, recycling, and heritage preservation. While the connotations of these terms differ slightly, they are commonly rooted in the concept of extending the life of a structure for new use or for the revitalization of an area or neighbourhood. For the purposes intended here, the term adaptive reuse is understood as the maximization of a structure, which has been deemed redundant or obsolete for a variety of economic or social reasons, for the purposes of re-employment.

The objective of adaptive reuse is the use of obsolescent structures or land for purposes different from which they were originally intended. In effect, it is the conversion of land or structures into viable economic entities which have the potential to succeed in the future when reinstituting previous uses may be likely to fail. Adaptive reuse therefore converts structurally sound properties of declining economic value to new uses which enhance the value and well being of the structure in question and its neighbours.

\(^2\) Diamonstein, 1978: 25
Inevitably, adaptive reuse implies a change in the context of a site and the situation of a structure. The site of a project is regarded as the geographical relationship to the other physical phenomena surrounding it. The situation of the site refers to the abstract and intangible social and cultural milieu surrounding the structure. The context of site and situation offers both constraints and opportunities for the reuse of structures including land use plans, regulations, public values and public interests.

Adaptive reuse is hardly a novel concept. Society has been reusing structures since Roman times. What has brought the concept to the forefront in current times, that is from the 1970s onwards, is the rejection of the comprehensive demolition and redevelopment of North American cities in the 1950s and 1960s. In reaction to the destructive, wholesale urban renewal and public housing schemes in many such cities, a new interest spawned in historicism and architecture in the 1980s spawning a new consciousness about the built urban environment. The wreck and rebuild approach of the 1960s and 1970s was replaced with an attitude of restoration and readaptation.

Rehabilitation and reuse have become popularized as they embrace timely community values. Constantly surrounded by changes in technology and society, people find psychological comfort in the familiarity offered by the built environment. This is reflected in the growth of community based preservation movements. Conservation is also fundamental. Like day to day recycling, the reuse of finite resources such as buildings is a sustainable exercise in energy and material conservation. As rehabilitation

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3 Woodcock et al, 48.
5 Hoyt, 95.
is often less expensive than new construction and as planning approval is sometimes easier to obtain for heritage preservation projects, developers and purchasers alike benefit economically.

The success of adaptive reuse schemes rests on three key ingredients: the compatibility of the building with the intended new use, the economic feasibility of the conversion relative to new construction, and the commitment of the building owner to maintaining the original structure.

2.1.1 Form And Function

"The Bauhaus taught architects to shape space to fit the function - form follows function. That’s an inductive process. But [adaptive reuse] is a deductive process. First you look at space and then determine what kind of functions it will accept".  

Pivotal to the notion of adaptive reuse is the relationship between form and function. In assuming that in terms of building type, function has traditionally created form, the logical question that adaptive reuse seeks to address is that of what should be done with the form when it is no longer appropriate for original, intended function. A conversion only succeeds when there is a good match between new function and existing form.

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7 Ibid.
2.2 Adaptive Reuse In City Cores

Most adaptive reuse schemes are found in the metropolitan cores of cities. The migration of industry from high tax, high labour cost American cities to lower costing suburbs resulted in the abandonment of thousands of factories, warehouses, and office buildings which became ripe prospects for adaptive reuse schemes. Although the most ubiquitous form of adaptive reuse in metropolitan cores is the conversion of industrial buildings into lofts, the precarious nature of downtown commercial markets has recently led to a number of conversions of office buildings to residential use. This phenomenon has been accompanied by demographic changes in many American cities. The modern city dweller no longer appears to regard living in the core as a mere stepping stone to suburbia, but as a goal in itself.

Soft office market conditions have left many class B and C office properties vacant in major American cities such as Boston and New York, in Canadian cities such as Toronto and Vancouver, and in British cities such as London. By the late 1980s and early 1990s, in all cases, overbuilding and a weak economy allowed tenants to obtain class A office space at rates comparable to what they once paid for class B and C office space. The circumstance of unleasable office space was worsened by the high cost of

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Class A Buildings are characterized by a prime, central location, 1st class tenant improvements, on site parking, state of the art elevators and HVAC systems, concrete and steel construction, contemporary design and architecture, high quality of maintenance, ability to command premium rents within relevant markets. In terms of downtown Vancouver, class A buildings must be 200,000 square feet or greater. Class B Buildings are defined as new or older buildings in non-prime locations. Class B buildings are normally built utilizing a variety of construction methods and are generally been previously occupied. Class C Buildings are older structures which may or may not have been renovated with lower quality of upkeep and maintenance. All Class C building space will have been previously occupied (Colliers Research Department, June 1997).
upgrading properties to compete with their newer, high-tech counterparts, especially in the climate of high vacancy rates and tumbling rents. As a result, building owners and planners collaborated on innovative adaptive reuse schemes which allowed for the conversion of obsolete office buildings to residential use.

2.2.1 Manhattan

State and city legislators approved a package of tax benefits in late 1995 for downtown Manhattan which could potentially convert the traditionally commerce-centred Wall Street into a residential area. Downtown Manhattan was no exception to the aforementioned office market conditions. The eroding office market had rendered office vacancies in the area to post World War Two highs.\(^9\)

The government's incentive package encourages the residential conversion of office properties constructed prior to 1975. The package provides a fourteen year abatement on property taxes as well as a twelve year exemption from tax increases generated by the new higher assessed values of the buildings.\(^10\) The incentives are intended to help offset renovation costs which would otherwise be downloaded to the renter or buyer.

It is anticipated that the scheme will introduce between two and four thousand residents to the area.\(^11\) In this way, conversions are providing a foundation for a twenty

\(^10\) Ibid.
\(^11\) Ibid 18.
four hour community. Legislators have recognized that in order for this revitalization scheme to be successful, other uses such as restaurants, shops, and entertainment will have to be accommodated through flexible zoning.

2.2.2 Boston

Since 1993, two office buildings in Boston’s Central Business District have undergone conversions, while another two are slated for construction in 1997. In Boston, residential space in the City commands up to twice the rent of office space.12 Developers are thus better able to recover their acquisition and renovation costs. Older office buildings in Boston can typically be purchased and converted at a cost of $90 to $120 per square foot, compared to a purchase price of $150 per square foot for existing residential property.13

Like the Manhattan example, until recently, zoning regulations had barred residences from the city’s financial district. When the vision for the city changed to revitalization and an alive downtown, flexible zoning was forced to follow.

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2.2.3 Toronto

In February of 1994, the City of Toronto introduced a new policy permitting the conversion of vacant commercial space to residential uses in the City’s core. The policy was regarded as a way to fulfill Toronto’s planning goals. The conversion policy would facilitate the promotion of residential intensification in the City, the generation of increased tax revenues, the preservation of existing building stock, and the protection of existing building stock from demolition and deterioration in light of Toronto’s high vacancy rates.\textsuperscript{14}

By late 1994, the City of Toronto had approved four applications comprising two hundred and seventeen units and was considering eight applications representing one thousand, one hundred and thirteen units.\textsuperscript{15} The City of Toronto appears optimistic that the policy will encourage more people to live and work in the city which will in turn create a healthier and richer urban environment. It is hoped that the policy will increase safety in the City, reduce reliance on the automobile, and produce sustainable development which has minimal physical impact on the existing environs.\textsuperscript{16}

\textsuperscript{14} City of Toronto Planning and Development Department 1994.
\textsuperscript{15} Ibid.
\textsuperscript{16} Ibid.
In the early 1990's, England, Metropolitan London in particular, was faced with both a crumbling office market and a shortage of affordable housing units. The predicament created by the over and under supply of these goods respectively, led to the belief that some office buildings could be adaptively reused for residential use.

Between 1986 and 1991, England experienced a large scale property boom nourished by qualitative changes in the demand for office space. In particular, demand for new types of office space to accommodate information technology increased sharply. As employment in information intensive areas grew, firms sought office structures which offered adaptable and upgradable cabling for data and communication networks, air conditioning and environmental control to remove excess heat generated by office equipment, disaster prevention features such as uninterrupted power supply, and adaptable space to accommodate changing organizational structures.\(^\text{17}\) In light of such demand features, many buildings were deemed obsolete.

The London market was characterized by an oversupply of offices and high vacancy levels and falling returns. By 1992, the office vacancy rate in Central London and the Docklands was 20%.\(^\text{18}\) As with the North American examples, high vacancy rates meant that rents for class A buildings were often comparable to those of class B and C buildings.

\(^\text{17}\) Barlow and Gann, 9.
\(^\text{18}\) Ibid. 14.
The owners of the less attractive class B and C office space were faced with three options: demolish the structures and leave the sites vacant for the next development boom, upgrade the office space in hopes that it may be leased, or convert the office structures to completely different uses. Concomitantly, London was experiencing a shortage of quality affordable housing close to employment centres. Many building owners and developers felt that an immediate change in use for their structures would be the optimal way to minimize financial losses.\textsuperscript{19} As a result, several examples of the conversion of office buildings to residential use may be found in London.

By 1993, nine conversion schemes totaling 460 housing units had been approved in London. One example is the Trade Tower at Plantation Wharf, Battersea, England. The Tower was designed as a twelve story, class B office structure and was constructed in 1988. By 1991, the developer was concerned about the marketability of the office space in the soft office market climate. As the developer was on the verge of receivership, conversion to residential was a cost saving mechanism.\textsuperscript{20} Planners endorsed the conversions as they were concerned about the potential of having another close to vacant building in the area which would only contribute to the blight. The Trade Tower was converted into 53 condominium suites.\textsuperscript{21}

British Planning authorities regard the adaptive reuse of office buildings to residential use with caution. While some favour the conversions as they stimulate a broad mix of uses in office districts, many are concerned that this brand of adaptive reuse may

\textsuperscript{19} Ibid.
\textsuperscript{20} Ibid. 25.
\textsuperscript{21} Ibid.
detract floorspace from employment use. As a result, British Planning authorities do not have a specific adaptive reuse policy for office buildings and evaluate applications on an ad hoc basis.\textsuperscript{22}

2.2.5 Lessons Learned

Common to the examples of the adaptive reuse of office buildings to residential use in New York, Boston, Toronto, and London was the co-operation and willingness of local government to be flexible about zoning changes. Developers and building owners admonish that City governments must have carefully constructed visions for city cores in order for adaptive reuse schemes to succeed as a positive element of a city’s downtown. If vitality is essential to these visions, then considering residential uses in areas of the core not historically associated with housing, is crucial

\textsuperscript{22} Ibid. 35.
2.3 Adaptive Reuse and Real Estate Development

Adaptive reuse schemes broaden development prospects and as such have commanded significant interest in the real estate development community.

The conversion of an existing property rarely takes as long to complete as a replacement building which involves demolition, site preparation, and complete reconstruction.\textsuperscript{23} The expedient completion of a project translates into the earlier use of a building and therefore a more rapid return on investment for the developer. Moreover, a developer avoids the potential demolition costs associated with new construction and may receive a variety of concessions from planning departments.

While rehabilitation and reuse are not always less expensive than new construction, the concepts have gained popularity as developers are enticed by the possibility of creating attractive and unusual spaces. In addition, developers find that planning officials often regard reuse as an effective tool for inner city neighbourhood regeneration and are thus amenable to most proposals.\textsuperscript{24}

2.4 Adaptive Reuse and Planning

2.4.1 Regulatory Framework

The tripartite regulatory structure local governments employ for land use is comprised of zoning, subdivision standards, and building codes. Zoning controls the

\textsuperscript{23} Scottish Civic Trust, 13.
\textsuperscript{24} Donegan, 57.
permitted uses and intensity of development. Subdivision standards affect the division of land for sale, development, or lease. Building codes establish the building materials, techniques, and standards applied for new construction or reuse. With respective to adaptive reuse schemes, local zoning regulations and building codes are influential in determining the feasibility and viability of projects.

Most regulatory frameworks are designed to encourage new construction and thus inadvertently discourage adaptive reuse. If building codes for new construction are imposed on reuse schemes, costs may be severely heightened or prohibitive.\textsuperscript{25} Also, the imposition of high intensity uses by zoning regulations may result in pressures for the demolition rather than the reuse of structures.

Adaptive reuse decisions often fall into the category of spot zoning. Spot zoning refers to ad hoc zoning decisions wherein a smaller area is singled out of a larger area or district and specially zoned for a use classification different from the classification of the surrounding land.\textsuperscript{26} The conversion of an office building to residential use, for example, in an area zoned strictly for commercial use may be considered a spot zoning decision. Some planning departments facilitate the implementation of adaptive reuse schemes by providing special permit and variance procedures or by compromising normal development standards for reuse. Local governments may also institute property tax relief as a constructive measure to encourage the reuse of structures.

Given that adaptive reuse influences land use, it may be prudent for planning departments to incorporate the strategy into a community's comprehensive plan so that it

\textsuperscript{25} Listokin, 47.
\textsuperscript{26} Woodcock et al, 56.
may be used as an integral part of economic, housing, transportation and community planning.\textsuperscript{27}

\subsection*{2.4.2 Strategies / Considerations}

In considering adaptive reuse schemes, examining and evaluating the trends which affect the existing uses of a building are paramount. It is essential to determine whether a supply of building stock with conversion potential exists and then assess the location of the structures. The adaptive reuse of building stocks should be regarded as an opportunity to practice sound economic, social, and ecological postures.\textsuperscript{28} As new buildings generally require large amounts of materials like glass, steel and aluminum, which consume inordinate amounts of energy, adaptive reuse may be regarded as a more sustainable option than new construction from the planning perspective.

When assessing adaptive reuse schemes in city cores, planning officials should consider three significant groups: users who are looking for suitable buildings to accommodate their needs; pressure groups wishing to save buildings for historical and architectural value; and local groups seeking to preserve the physical, economic, and social fabric of a neighbourhood which may be threatened by redevelopment or planning blight.\textsuperscript{29} Some planners endorse adaptive reuse as a sensitive and effective means of urban regeneration which is community based. Further, as adaptive reuse is less costly

\textsuperscript{27} Listokin, 47. 
\textsuperscript{28} Cantacuzino, 9. 
\textsuperscript{29} Markus, 30.
for developers than new construction, the result is often lower marker prices for residential, retail, and commercial spaces within the city.\(^{30}\)

2.5 Live / Work in the Core of the City of Vancouver

One of the current proposed policies for residential zonings in Vancouver's core is the sanctioning of commercial live / work premises adjacent to the CBD as a complementary use and transition between commercial and residential activities. Demand for such dwellings is expected to flourish as the City of Vancouver projects that by the year 2011, 34,070 Vancouverites will be engaged in some form of commercial live / work or work / live circumstance. This represents a dramatic increase from the 13,520 reported in 1991.\(^{31}\) In this context, the conversion of obsolete office buildings to residential units which are suited to low impact work / live activities emerges as a prudent and innovative application for existing, obsolescent built capital

The types of businesses which may be categorized under low impact commercial live / work include office or service work such as self-employed consultants, researchers, writers, and teleworkers; such work does not involve employees or sales and does not require special types of space or facilities.\(^{32}\) Current zoning for all residential areas in Vancouver's core permits this type of live / work under the Homecraft provision which

\(^{30}\) Unger, 44.
\(^{31}\) Live / Work and Work / Live, 6.
\(^{32}\) Ibid, 5.
authorizes occupations in dwellings which do not involve employees, sales, or objectionable impacts.33

Building bylaws for live / work dwellings stipulate that a structure must adequately service both work and live functions including building access, security, and interface between employees and residents, and the movement of materials and goods. As obsolete office buildings were originally built to service such needs, their conversion to live / work units appears to be an unconstrained initiative. It should be recognized that these conversions are only viable if a building meets other building code requirements and is structurally suitable to adaptive reuse as explained in Appendix K.

No examples of office to live / work conversions exist in the core of the City of Vancouver. Office to residential adaptive reuse schemes have been implemented on three occasions in the core. As the City of Vancouver does not have a an adaptive reuse policy, each conversion was approved on an ad hoc basis. From the planning perspective, therefore, it is crucial to not only examine the regulatory context and city core environment in which the conversions occurred, but to also solicit the opinions of planning and development professionals about the value of adaptive reuse. Chapter Three is therefore devoted to this analysis.

33 Live / Work and Work / Live, 6.
Chapter 3
Vancouver's Metropolitan Core and its Planning Policies

The convergence of a number of conditions in the City of Vancouver's policy and fiscal environments rendered the adaptive reuse of three office buildings to residential use in the metropolitan core an optimal strategy in the early 1990s. As these conditions continue to exist, analyzing and understanding the environment they created is useful in predicting if this form of adaptive reuse will recur. Map 1 indicates the various areas which constitute Vancouver's downtown core.

3.1 Policy Context

Office and residential uses in Vancouver's metropolitan core are governed primarily by the City's Central Area Plan (CAP) (1991) and Downtown South Plan (1991). While neither plan makes reference to adaptive reuse specifically, their land use policies regulate the purposes for which structures may be used. This implicitly determines whether or not particular office buildings may be considered for residential use.
3.1.1 Central Area Plan 1991

The City of Vancouver’s Central Area Plan outlines objectives in land use policy. In terms of the core, it advocates the contraction and the condensation of the CBD to both address the changing need for office space and reflect a deliberate effort to promote diversity within the core. The Plan contends that a well defined CBD is necessary to recognize Vancouver’s preeminence as a local, regional, national, and international centre of commerce; its consolidation ensures that the other recommended uses will not impede this function.

The CBD is rigorously zoned for office use. CAP seeks to protect the City’s current corporate complex and ensure that the business district remains centred on Burrard and Georgia Streets. This is in contrast to the former policy of widespread office zoning (see Appendices B,C,D,E for Central Area Maps). Concurrently, CAP seeks to promote a diversified mix of uses around the CBD and within the core including residential, retail, and entertainment.
Map 1 - Sub Areas of Vancouver's Downtown Core
(Taken From Central Area Plan, 1991)

Map A: CENTRAL AREA SUB-AREAS

DOWNTOWN PENINSULA
1. Bayshore
2. Established Central Business District
3. Central Business District: Fringe
4. Chinatown
5. Coal Harbour East
6. Coal Harbour West
7. Downtown South
8. Downtown South: Burrard-Granville
9. Downtown South: Granville Street
10. Downtown South: Northeast Quadrant
11. False Creek North: Apex
12. False Creek North: Cambie Bridge
13. False Creek North: Granville-Cambie
14. False Creek North: International Village
15. False Creek North: Stadium
16. Gastown
17. Granville Slopes
18. Port Lands
19. Triangle West
20. Victory Square
21. West End
22. Yaletown

OUTSIDE DOWNTOWN PENINSULA
23. Broadway: Centre
24. Broadway: Cambie Bridge South
25. Broadway: East
26. Broadway: West
27. Burrard Slopes: Broadway-Burrard-Granville(C-3A)
28. Burrard Slopes: South of Granville Island
29. Fairview Slopes
30. False Creek East
31. False Creek South
32. False Creek Southeast
33. Granville Island
34. Mt. Pleasant Industrial

Note: These areas are generalized. There may be individual sites or portions of areas which vary from the generalization. This will become evident in detailed planning.
The Central Area Plan outlines the following objectives (directly quoted from the document) which are salient to the conversion of office space for residential purposes.

- **Reduce Office Zoned Capacity outside the CBD.**

Continue to reduce overall office zoned capacity through deletions in central area office zoning outside the defined CBD...primarily to add housing areas, protect heritage areas, and locate offices near transit. Relative to housing and transportation capacity, there is excess office zoned capacity within the central area. This approach will help achieve a number of goals that involve more housing in the central area such as an “alive downtown”, a “sense of place”, and an “accessible central area”.

- **Enhance the CBD as the region’s prestige office centre, consistent with transportation and other city and regional objectives.**

While the downtown complex of office activity represents a significant part of the City’s economy and functions as the nerve centre for regional and provincial economies it has negative impacts on transportation demand and housing affordability. Pressure is added to housing prices when many people compete for scarce housing supply close to jobs.

- **Reshape Downtown Peninsula major office zoning into a compact, high amenity Central Business District...**

This area would not contain heritage buildings or existing housing and would not be suitable for future residential zoning.
• Seek a reduction in overall central area office zoned capacity in areas that do not meet CBD location criteria and are not part of the Uptown Office District.

Continue to favour replacement of office and industrial zoned lands, outside the defined CBD and Uptown District, with housing where suitable.

• Increase the amount of housing and create new neighbourhoods for a range of households, to add people and activity and to reduce the need to commute from outside the central area.

People tend to live close to work. Data shows that over 50% of West Enders remain on the downtown peninsula for work.

• Allow choice of use in limited areas in order to permit a mix of housing and office developments. Favour Housing.

In Triangle West, replace housing bonus and housing substitution with choice of use zoning to favour flexibility for buildings to be primarily housing or primarily offices or hotel

A primary goal of CAP is to taper the office zoned capacity in the core so as to allow a variety of other uses to enhance the vitality and livability of the area. In this way, the adaptive reuse of office buildings (to residential use), which are not located within the prescribed compact CBD, is in congruence with the policies of CAP.
3.1.2 Downtown South Plan (1991)

The City of Vancouver’s Downtown South Plan (1991) seeks to transform the area from an extension of the CBD into a high density residential and mixed use community. The area referred to as the Downtown South includes Hornby Slopes, Burrard-Granville, Granville Street, New Yaletown, and Seymour-Smithe and Heritage Block (see Appendices F, G for Downtown South Maps). The previous zoning had allowed residential use but only if it was combined with commercial use. The new zoning allows buildings to be completely residential. Furthermore, the Downtown South Plan has facilitated the addition of residences in the area by increasing residential FSR (Floor to Space Ratio) from 3 to 6.

The Downtown South Plan outlines the following objectives which are pertinent to the conversion of office space to residential use.

- Hornby Slopes

This area is bound by Burrard Street, Davie Street, Granville Street (between Davie and Drake Streets), Howe Street (between Drake Street and Pacific Avenue), and Pacific Avenue. The Plan proposes that development extend the residential images of Granville Slopes and the West End into this neighbourhood. The London Place building at 1177 Hornby Street is located in this sub area.
• Burrard-Granville

This area is bound by Granville Street, Nelson Street, Davie Street, Burrard Street (between Helmcken and Nelson Streets), and Hornby Street (between Helmcken and Davie Streets). The Plan proposes that the neighbourhood continue with its established character of mainly offices, but allow mixed building forms. This will give the choice of residential use equal status and thus provide for choice of use. The Electra (970 Burrard) and 1010 Howe buildings are located in this sub area.

The primary rationale for the recommendations of the Downtown South Plan is that replacing commercial zoned potential with residential zoning aids in reducing large office zoned capacities in areas that are more suitable for housing than office development. In this way, by increasing zoning for residential capacity, the Downtown South Plan paved the way for the conversions of the office buildings located at 1010 Howe and 1177 Hornby to residential use. It should be noted that the Downtown South Plan was given Council approval after the conversion at 970 Burrard Street.

3.2 Vancouver’s Metropolitan Core

3.2.1 Background

The core of the City of Vancouver and implicitly its CBD provide a worthy case study for the need to consider new uses for built capital. As Vancouver’s core has
evolved, structures have been erected at various locations in reaction to changes in the economy and the City's changing role in that economy. This evolution is accompanied by a spatial reconfiguration of the core recognizing specific uses for particular areas and thus leaving some structures unsuitable for the purposes for which they were originally constructed.

3.2.2 Evolution of Vancouver's CBD

The geographical configuration of Vancouver's CBD has evolved in reaction to the City's changing economic role within the Province of British Columbia and vis a vis the economies of the Pacific Rim.

From 1945 to the late 1970's, Vancouver's locational advantage placed it strategically within the expanding national and provincial resource economy. As a result, head office and corporate support services and stock exchange and venture capital agencies emerged as primary users of office space in the downtown core. By the 1970's, this office space was concentrated on the Georgia and Pender Street corridors from Burrard to Granville Streets characterized by the construction of the Bentall complex and the Vancouver Stock Exchange.

From the 1980's to the present, the expansion of B.C.'s economic and immigration relationship with the Pacific Rim has contributed to the downtown core's new orientation to producer services, international banking, and tourism. New office space structures include Canada Place (1980's), Cathedral Place (1980's), the B.C. Gas
Building (1990’s), and Waterfront Centre (1990’s). Office space predominantly occupies Hastings, Dunsmuir, West Pender, and Georgia Streets between Bute and Granville Streets. This period is also characterized by the emergence of regional town centres within the Greater Vancouver Regional District which have led to the emergence of office colonies outside of the CBD, namely in Richmond, Surrey, and Burnaby.

Concomitantly, the downtown core has experienced the emergence of specialized service clusters. In aggregate, these service clusters, in tandem with existing and new residential developments, have contributed to the creation of a vital and populated downtown core. They represent a diversification of the core outside of the office district. These clusters include the cultural and entertainment district which extends eastward from the CBD along Georgia and Robson streets; the applied design services district which are concentrated in Yaletown and Gastown; and international tourism and convention facilities which are clustered around Canada Place and Robson Street.

As the turn of the century approaches, it would appear that economic globalization and market integration, coupled with the predominance of software and knowledge sector services, will recreate the CBD’s function as the nerve centre of the region and the linking node with global markets. These changes will significantly impact how and where office space is used within the downtown core, notwithstanding the compact CBD established by Vancouver’s Central Area Plan (1991).

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34 Hutton and Ley, p. 414.
35 Hutton, p. 233.
3.2.3 Marginalization of Structures

An inadvertent result of CAP and the above-described spatial reconfiguration has been the marginalization of some office buildings which are now situated on the periphery of the new, concentrated CBD. In addition to their locational disadvantage, these buildings are often older, less "smart", and therefore less attractive than their newer counterparts. In aggregate, these attributes have often led to difficulties in leasing the properties, economic losses, and structural decay.

The implementation of adaptive reuse schemes, in particular conversions to residential use, have salvaged three buildings - 970 Burrard, 1177 Hornby, and 1010 Howe - in Vancouver’s downtown core from possible demolition or potential perpetual vacancy. Common to these buildings was the departure of the primary anchor tenants. In all cases, the anchor tenants had structurally customized the buildings for their own uses which left the premises difficult to release without extensive renovation. Moreover, because of the dynamics within the office market itself, renovation for the purposes of securing new tenants would have been infeasible for all three building owners in light of the lease rates offered by newer and more attractive office stock.
3.3 Vancouver Office Market

3.3.1 Factors Affecting the Office Market

The office market in Vancouver has been directly affected by structural changes in the economy and by progressions in technology. Advances in telecommunications technology have lessened the geographic constraints on the location of office activities and have thus reduced the need for their geographic concentration. Firms may thus scatter geographically, but remain linked to their suppliers and customers. Firms also have the flexibility of concentrating in locations which are efficient, convenient, and attractive but do not necessarily have direct relationships with the location of their customers or suppliers.

The demand for office space has also been affected by the cost effective means of operation many businesses have been forced to adopt in order to survive. They include the surplusing of employees, decentralizing, job and office sharing, and the use of contract services. In addition, the use of technology such as facsimile machines, computer linkages, and management information systems with offsite retrieval and sharing capabilities have allowed the streamlining of business operations with particular reductions in clerical staff and thus lessened the need for office space.\(^{36}\)

In Vancouver, several circumstances lead to a soft office market in the 1990s, when the three conversions were initiated. The completion of the Waterfront Centre, Cathedral Place, the new BC Hydro Building, and the BC Gas Building acutely

\(^{36}\) GVRD: June 1993.
augmented the supply of Class A and B office building space in the downtown core. The concomitant attraction of emerging office colonies in Burnaby’s Metrotown and Surrey’s Gateway caused the displacement of some major downtown core tenants. The oversupply of office space and the uncertainty of the market forced landlords to pursue aggressive methods, such as the lowering of rents, to maintain existing tenants. In 1992, for example, Cathedral Place was leasing office space for $7.50 per square foot; whereas in 1990, the comparable BC Gas building was charging $17 per square foot.\(^3\)\(^7\)

For these reasons, future business and employment growth was not predicted to translate into an increased demand for downtown office space. Long term over supply and anticipated weak demand rendered the security of major office tenants, or a significant number of smaller tenants, unlikely.

\(^3\) GVRD June 1993.
3.3.2 Vacancy Rates

The following table illustrates the Vacancy Rates in the Downtown Office Space Market in Vancouver from 1978 to 1995. Figures are taken from information provided by Colliers International.

Table 1 - Vacancy Rates in the Downtown Office Space Market in Vancouver from 1978 to 1995

<table>
<thead>
<tr>
<th>Year</th>
<th>Inventory (square feet)</th>
<th>Net New Supply (square feet)</th>
<th>Absorption (square feet)</th>
<th>Vacancy Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>12,333,408</td>
<td>747,000</td>
<td>609,000</td>
<td>9.40</td>
</tr>
<tr>
<td>1979</td>
<td>12,604,408</td>
<td>271,000</td>
<td>303,000</td>
<td>9.00</td>
</tr>
<tr>
<td>1980</td>
<td>13,054,408</td>
<td>450,000</td>
<td>1,062,000</td>
<td>4.60</td>
</tr>
<tr>
<td>1981</td>
<td>14,208,408</td>
<td>1,154,000</td>
<td>1,548,000</td>
<td>1.80</td>
</tr>
<tr>
<td>1982</td>
<td>14,867,408</td>
<td>659,000</td>
<td>(753,000)</td>
<td>9.40</td>
</tr>
<tr>
<td>1983</td>
<td>14,989,408</td>
<td>122,000</td>
<td>(132,000)</td>
<td>11.00</td>
</tr>
<tr>
<td>1984</td>
<td>16,046,408</td>
<td>1,057,000</td>
<td>59,000</td>
<td>16.50</td>
</tr>
<tr>
<td>1985</td>
<td>17,216,408</td>
<td>1,170,000</td>
<td>616,000</td>
<td>18.60</td>
</tr>
<tr>
<td>1986</td>
<td>17,666,408</td>
<td>450,000</td>
<td>406,000</td>
<td>18.40</td>
</tr>
<tr>
<td>1987</td>
<td>18,446,408</td>
<td>780,000</td>
<td>1,237,000</td>
<td>15.20</td>
</tr>
<tr>
<td>1988</td>
<td>18,483,408</td>
<td>37,000</td>
<td>696,000</td>
<td>11.50</td>
</tr>
<tr>
<td>1989</td>
<td>18,729,408</td>
<td>246,000</td>
<td>828,000</td>
<td>8.30</td>
</tr>
<tr>
<td>1990</td>
<td>19,113,408</td>
<td>384,000</td>
<td>(9,000)</td>
<td>10.20</td>
</tr>
<tr>
<td>1991</td>
<td>20,145,408</td>
<td>1,032,000</td>
<td>165,000</td>
<td>14.00</td>
</tr>
<tr>
<td>1992</td>
<td>20,412,408</td>
<td>267,000</td>
<td>(260,000)</td>
<td>16.30</td>
</tr>
<tr>
<td>1993</td>
<td>20,297,408</td>
<td>(115,000)</td>
<td>233,000</td>
<td>14.70</td>
</tr>
<tr>
<td>1994</td>
<td>20,520,408</td>
<td>223,000</td>
<td>693,000</td>
<td>12.18</td>
</tr>
<tr>
<td>1995</td>
<td>20,777,408</td>
<td>257,000</td>
<td>526,572</td>
<td>10.80</td>
</tr>
</tbody>
</table>

It is worth noting that Harrowston purchased the former BC Hydro building in 1989 when office vacancy rates were at their lowest since 1981 at 8.3%. By 1991 - 1992, when Harrowston was attempting to lease this office space, vacancy rates had doubled at
14% and 16.3%, respectively. It is also worth noting that London Place was purchased in 1992 when vacancy rates were 16.3%.

While it is understood that vacancy rates fluctuate with market demand and economic cycles, it should be recognized that as new office stock enters the market, an undeniable result is a decline in demand of some existing stock. Certainly, as new and improved goods are offered in the market, the value commanded by older, existing goods decreases.

In this way, short of a rampant shortage of office space in the Vancouver core and Regional Town Centres, high vacancy rates will perpetually exist among less desirable office stock in the downtown core.

3.4 Key Informant Interviews

While the adaptive reuse of office structures to residential use has occurred on three occasions in the City of Vancouver’s downtown core, secondary material about this subject matter is not available as such research has not been recorded. As the purpose of this thesis is the investigation of why these conversions occurred and the assessment of the probability of their recurrence, face to face key informant interviews with planning and development professionals within the city of Vancouver were undertaken to aid the analysis (see Appendix H). The independent interviews were guided by a set of questions which concern the current and future role of Vancouver’s downtown core and
the role that adaptive reuse may play within that core (see Appendix I). In some instances, one or two questions were omitted, depending upon suitability.

What emerged from the interviews were the following major themes about Vancouver’s changing core and the role of adaptive reuse in that core. The most noticeable and significant change in Vancouver’s downtown core during the past ten years has been the increase in residential uses which will, in all likelihood, continue. The City of Vancouver’s CAP, which outlines residential and office space growth objectives for the core, has rendered most parts of downtown Vancouver, notwithstanding the CBD, eligible for residential use. Concomitantly, changes in demand for built capital have allowed adaptive reuse schemes such as the BC Hydro conversion to surface as an alternative to building demolition and vacancy. Although adaptive reuse is a planning concern, the impetus for the implementation of such schemes is always fiscally motivated. Given environments of rapid change, planning flexibility is of tremendous significance.

Each participant unequivocally responded that the most significant way in which Vancouver’s core has changed in the past ten years is the unprecedented increase in residential units and use. Office growth, conversely, has not been that substantial. All participants commented that with its already established West End neighbourhood, downtown Vancouver is attracting a variety of residents, from those seeking a particular lifestyle to those opting to live closer to their places of work. As a result, not only has the core become more populated, it has also become more lively and energetic - it has become a residential destination, rather than a mere stepping stone to suburbia.
Three of the interviewees explained that the increase in residential capacity in the core reflects a deliberate policy and land use restructuring on the part of the City of Vancouver’s Planning Departments to balance live and work uses in the downtown. They went on to say that this differentiates Vancouver from many North American cities which regard their cores solely as centres of commerce and as a result are vacant once the business day has ceased. All participants agreed that protecting and enhancing residential growth in the core does not detract from the legitimacy of the CBD nor does it expropriate land or built capital from commercial activities. Four participants further commented that the interaction and adjacency of commercial and residential uses is the key to vibrancy in most energetic cities. Residential uses are important to vitality in the core as they have a multiplier effect. The City of Vancouver Planning officials explained that residential use is successful in Vancouver’s core because City policy has built an energy for housing by providing a friendly regulatory environment, creating neighbourhoods, and strengthening infrastructure, all of which have fostered a sustained buoyancy in the residential market.

Five of the participants stated that through CAP, the City of Vancouver was achieving its objective of maintaining downtown Vancouver as the most prestigious office area of the Region, while encouraging other uses in order to enhance vitality and livability in the core. They explained that by identifying a consolidated CBD, CAP has affirmed the business district’s prominence and ensured that residential uses do not encroach upon the corporate complex. The City of Vancouver Planner added that
permitting residential use within the CBD itself contradicts the transportation planning of the area which targets commuting office workers in the core.

Both City of Vancouver interviewees identified another objective of CAP as the creation of residential communities or clusters to ensure adequate and shared amenities. The Central Area Plan seeks to replace excess office zoned capacity with residential capacity. All participants agreed that residential use has not displaced office use. The six participants also agreed that the emerging office centers in the Regional Town Centres (RTC) such as Burnaby and Surrey have served to reinforce downtown Vancouver’s role as the Region’s preeminent office centre, but have not necessarily lured businesses away from the core. Two of the interviewees explained that downtown Vancouver’s relative share of office space has decreased because suburban office development has grown due to suburban population growth and factors of business agglomeration. In following, businesses which have located in the RTC’s have done so out of choice and preference. If the RTC’s did not exist, then some businesses would have been forced to locate in the core, although they may not have required that location. The two interviewees stated that marginal office space exists in the core therefore as space which these businesses would have occupied if the RTC’s did not exist.

None of the participants felt that the policies and configurations advanced by CAP would require imminent alteration as the plan is designed robustly to accommodate future changes in the core.

All participants agreed that adaptive reuse could be a productive approach to accommodating changes in demand for built capital in the core so long as the new uses
did not negatively impact existing, surrounding uses. They referenced the successful conversion of warehouse space to residential use in Yaletown and Gastown as evidence of this. Three participants identified the BC Hydro conversion as an illustration of how adaptive reuse can protect built capital from cycles in the economy and can prevent the destruction of buildings which may not be considered useful in the short term and render them useful for the long term. Two interviewees commented that purpose built structures for single users are particularly vulnerable to leasing difficulties because of customized configurations and structural elements. Such buildings are ideally suited for adaptive reuse depending on structural suitability for the new use.

One participant suggested that the Hydro conversion demonstrated a sensible and sustainable approach to a “white elephant” office building which would have otherwise suffered from chronic vacancy. From the perspective of the City of Vancouver Planning Department, this conversion benefited all stakeholders: a heritage building was preserved for the City and the public; relatively affordable market housing was provided to consumers; building owners were able to minimize monetary losses; and the environment was not faced with debris from demolition.

The Planning Officials indicated that as the City of Vancouver wholeheartedly embraces residential uses in the core, it also embraces schemes which seek to add a diversity of residences to the area. As the Hydro conversion met the conditions of local planning policies, the City regards it as a positive execution of an adaptive reuse scheme. All interviewees commented that vacant office buildings are injurious to the City’s image and public morale about the core.
Four of the participants indicated that adaptive reuse should be embraced as a planning tool for the future as changes in the demand for built capital are inevitable. Two participants emphasized that as keepers and dwellers of Vancouver’s core, its citizens cannot allow buildings to remain indefinitely vacant or marginalized as both lead to urban blight and diminished public morale. While he agreed with this statement, one participant wondered about the likelihood of future office conversions and whether the three examples in Vancouver’s core were exceptions.

While five participants endorsed adaptive reuse as workable in Vancouver’s core, none thought it necessary to amend CAP to incorporate the concept. Four of the participants, however, recommended that macro planning and land use policy should be flexible about the potential and usefulness of adaptive reuse. It was their conviction that the key to successful planning is flexibility and adaptability as market and economic needs are constantly changing. If situations similar to the case studies were to recur, the City of Vancouver should be encouraging of adaptive reuse schemes.

One participant suggested that flexible planning policy may be achieved by emphasizing what cannot be done, rather than what can be done. That is to say that planning policy should be “proscriptive” rather than “prescriptive”. In terms of adaptive reuse, this participant recommended that policy should identify buildings which cannot be demolished and allow some latitude with respect to the uses they house.

Two interviewees proposed that adaptive reuse schemes could be particularly useful in providing live/work opportunities in Vancouver’s core. They justified this by stating that live/work is a concept which has become increasingly popular because of the
current and anticipated economy and has been likewise endorsed by the City of
Vancouver’s Central Area Planning Department. The core would be ideal for low
impact live / work uses which are allowed in all downtown residential zones.

In commenting about Triangle West’s potential as another area in the core ripe for
adaptive reuse, four of the participants indicated that the choice of use zoning that exists
in the area offers the flexibility required for sound planning decisions regarding the
interaction of commercial and residential uses. They went on to say that adaptive reuse
schemes may be suitable as Triangle West houses many older office buildings and has
increasingly become the location of new residential construction.

Three participants commented that while the concept of adaptive reuse warrants
planning consideration and encouragement, a building owner’s financial considerations
are always the driving force behind the decision to convert a structure’s use. If a building
owner can minimize losses or maximize profits through another avenue, adaptive reuse
schemes will not be considered.

One participant recommended that, in the final analysis, planners should ought to
be concerned about whether zoning should be tied to a structure or to that structure’s use.

3.5 Conclusions

Although the City of Vancouver does not have a specific adaptive reuse policy,
the policies advanced by the Central Area and Downtown South Plans, which govern
residential and office uses in the core, are clearly complementary to the concept. Both
Plans encourage residential uses in the core so long as such uses do not encroach upon the
CBD. Both Plans also recognize that some areas of the core, which are located outside of the CBD, are better suited for residential uses. Moreover, both Plans further encourage the establishment and enhancement of residential neighbourhoods in the core.

The policy of a compact CBD reflects the changing requirements for office space and the need for housing in Vancouver's downtown core. Demand for office space, both in terms of type and location, has been affected by various structural changes within the economy and technological progressions. As some of the key informant interviewees explained, the emerging RTCs within the Greater Vancouver area have provided alternatives for businesses which do not require downtown addresses or building types. In addition, all interviewees agreed that the unprecedented growth in residential use in the core has rendered some areas of the core better suited for residential, rather than office use. In tandem, many of the interviewees regarded adaptive reuse schemes as an innovative and productive approach, which is in congruence with City planning policies, to address changing demands for built capital in the core.

Many of the interviewees identified the BC Hydro conversion as a prime example of how adaptive reuse schemes can protect built capital from cyclical and structural changes in the economy. In this light, Chapter Four is devoted to an extensive analysis of the BC Hydro adaptive reuse project as well as the other two conversion examples at 1177 Hornby Street and 1010 Howe Street.
Chapter 4
Case Studies

4.1 Introduction

Since the early 1990s, some building owners have experienced difficulties in leasing their downtown Vancouver office buildings. These uncertainties may be attributed to soft office market conditions and the changing nature of business, coupled with the Central Area Plan's strategy for office space in the CBD. In recognizing that a building's lifespan is unrelated to its productivity within various markets, the adaptive reuse of office space which cannot be leased at rates generating reasonable returns on investment has appeared to be a prudent strategy for both planners and building owners in Vancouver. Additionally, the conversion of office space to residential use appears to offer a sustainable remedy to the need for market housing in the downtown core (priced from about $120,000.00 for a one bedroom condominium).

Clearly, the adaptive reuse of office buildings to residential use is most successful in cities where housing is an accepted existing use in the downtown core and where entertainment and recreational uses already provide elements of vitality. It is in this context that Vancouver is examined. Three buildings in Vancouver's downtown core have recently been converted for residential purposes: 970 Burrard, 1177 Hornby, and 1010 Howe. The City of Vancouver does not have a policy for such conversions; the
aforementioned were approved on an ad hoc basis (see Appendix A for building location map).

The following case studies investigate the three examples to determine why the conversions occurred with the intent of predicting if they will recur and thus warrant specific policies.

4.2 Vancouver Condominium Market Analysis

A market analysis was commissioned by the owners of the BC Hydro Building in November 1992 about the implications of the conversion of the building to residential use. While this report was commissioned specifically for the BC Hydro conversion, its contents are applicable to the 1177 Hornby and 1010 Howe conversions, both of which took place within the same time frame as the Electra.

The report concluded that while an obvious condominium construction boom was occurring in Downtown Vancouver, very few of the starts were taking place in the West End. Moreover, there existed a marked deficiency in the supply of affordable units - that is units priced around the $100,000 price point. The report recommended that if the owners of the BC Hydro Building opted to convert their property to residential use, the units should be targeted towards the income and investor buyers. The $100,000 price point was based on the findings presented in Table 2 which illustrates the types and prices of condominiums which were being marketed in the Downtown / West End areas of Vancouver between January and November 1992. Eleven high rise condominium
projects totaling 800 units were on the market; the average asking price of the units was below $330,000.

Table 2 - Price and Type Mix of Condominiums Available from January to November 1992

<table>
<thead>
<tr>
<th>PROJECT PRICE</th>
<th>under $250K</th>
<th>$250K - $300K</th>
<th>$300K - $400K</th>
<th>$400K - $500K</th>
<th>$500K - $500K</th>
<th>Total Ave</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDO TYPE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>One Bedroom</td>
<td>$208K</td>
<td>$224K</td>
<td>$216</td>
<td>-</td>
<td>$345K</td>
<td>$243K</td>
</tr>
<tr>
<td>One Bed + Den</td>
<td>-</td>
<td>$203K</td>
<td>$297K</td>
<td>-</td>
<td>-</td>
<td>$227K</td>
</tr>
<tr>
<td>Two Bedroom</td>
<td>-</td>
<td>$262K</td>
<td>$306K</td>
<td>$298K</td>
<td>$422K</td>
<td>$310K</td>
</tr>
<tr>
<td>Two Bed + Den</td>
<td>-</td>
<td>$376K</td>
<td>$442K</td>
<td>$397K</td>
<td>-</td>
<td>$392K</td>
</tr>
<tr>
<td>Three Bedroom</td>
<td>-</td>
<td>$452K</td>
<td>-</td>
<td>$375K</td>
<td>$489K</td>
<td>$435K</td>
</tr>
<tr>
<td>Penthouse</td>
<td>-</td>
<td>$640K</td>
<td>$857K</td>
<td>$1415K</td>
<td>$1099K</td>
<td>$918K</td>
</tr>
<tr>
<td>Project Average</td>
<td>$208K</td>
<td>$279K</td>
<td>$343K</td>
<td>$407K</td>
<td>$469K</td>
<td>$337K</td>
</tr>
</tbody>
</table>

4.2.1 Buyer Types and Target Markets

Buyers for new condominium projects in the Downtown / West End may be characterized according to the following typologies: income buyers, equity buyers, and investor buyers.

Income buyers are considered those who would purchase a condominium with savings and income. They are typically single person households and couples who are
buying their first home. Their purchasing power is limited by the availability of funds for downpayment and by income.

Equity buyers are those who would finance the purchase of their condominiums with the equity from their previous home in order to be mortgage free. These buyers are attracted to the Downtown area for lifestyle reasons and are thus seeking amenities, good location, and views.

Investor buyers usually have a five year time horizon and are seeking units that have worthy rental and equity appreciation potential.

The distribution of demand among the three buyer groups depends on market conditions. Income and investor buyers are more likely to take advantage of depressed markets within a horizon of economic prosperity. Equity buyers seek the optimal time to best maximize on trading equity.

The 1992 market favoured income and investor buyers. Investor buyers accounted for 40% of total demand, while income and equity buyers made up the remaining 60%.

In light of this demand analysis, the report recommended that new condominiums coming to the market within 24 months of the Fall of 1992 be targeted at the investor and income buyer groups. In particular, the units should be focused towards those income buyers who already reside in the Downtown / West End area.

In terms of price points, the report recommended that units should not be unlivably small, yet prices should not deter target markets by yielding unacceptable returns on investment to investor buyers. The target should therefore be units ranging from 450 to 1,200 square feet, with starting prices just over $100,000.
In this way, it was concluded that an overall deficiency in the supply of affordable condominium units in the Downtown / West End area existed in the Fall of 1992.

4.3 BC Hydro Case Study

4.3.1 Background

The former BC Hydro Building, currently known as the Electra, is located at 970 Burrard Street in Vancouver's downtown core and is the first example of the adaptive reuse of an office building to residential use in the area. The structure is located outside of the Central Area Plan's prescribed CBD. Indeed, the research undertaken by the developers of the project and the positive response provided by the City of Vancouver's Planning Department encouraged the City's other two conversions at 1177 Hornby and 1010 Howe Streets. As the Hydro conversion arguably pioneered this form of adaptive reuse in Vancouver's core, the decision analysis undertaken by its owners and developers for conversion provides a worthy case study.

Harrowston Developments Corporation purchased the BC Hydro Building from BC Hydro in 1989 for $56 million. The acquisition was made with the knowledge that BC Hydro would be moving its operations to another site in 1992. The purchase was further made with the intention of renovating and leasing the building for multi-tenant office use. The commercial property market in Vancouver had peaked in 1989 - 1990; however, by the time BC Hydro vacated the premises, downtown office vacancy rates in Vancouver had almost doubled. In 1992, the site was assessed at $40 million, $16
million less than the original purchase price. The site includes the land occupied by the BC Hydro building and the adjacent surfacing parking lot bordering Smithe Street.

As a result, Harrowston undertook action for the disposition of the site because of difficulties in leasing the building. By 1992, Harrowston had not received an offer for the property which would minimize its losses to an acceptable amount. Consequently, the company chose to convert the building into a residential tower and leave the adjacent site undeveloped for the time being.

4.3.2 Factors Affecting Leasability

By 1992, the former BC Hydro building was virtually impossible to lease because of prevailing market conditions. Not only was the office market unreliable, but the retail market did not offer a better alternative. In the Fall of 1992, market conditions were assessed according to the following.

The possibility of Utilizing the building as a site for retail activity was not considered a fiscally prudent option in light of what was occurring in the Vancouver retail market. Retailers' ability to pay high rents had been impacted by cross border shopping, the Goods and Services Tax, and a pervasive reduction in consumer spending. Further, the oversupply of developed space and the failure of some prominent retailers had led the market to instability.

The older, less attractive BC Hydro building, although a Class A, heritage structure, would have been difficult to market and lease in the office market climate
described in Chapter 3. Vacancy rates in the Vancouver office market had reached the high teens as a result of new construction and structural changes in the economy.

4.3.3 Potential Options

Harrowston identified the following strategic options for the disposition of the BC Hydro Building.

*Lease the Building to a Major Office User*

Although the building was designed for one major office user, securing another anchor tenant was deemed impossible in light of the building's uncompetitive location and structural design. Securing another large tenant could only be achieved if rents were discounted significantly. Considering that Harrowston was seeking to minimize losses, this option was not considered the most cost effective.

*Convert the Building to Multi-Tenant Office Use*

This case is similar to the preceding scenario. The property would have to be held until the "landlord's market" returned. In the interim, the premises would be difficult to rent and thus contribute to financial loss. Further, after conversion to multi tenant use, the building would still have to compete with other class A and B structures once again leaving profitability to the precarious office market.
Convert the Building to Hotel Use

The costs involved in the conversion of the building into a hotel would only be marginally less than constructing a new hotel because of the high mechanical costs and the costs associated with furniture, fixtures, and equipment. With other potential sites in Vancouver to accommodate hotels, these costs was unjustifiable. Further, the Wall Centre Hotel had just been built on the next block.

Convert the Building to Residential Use

As the residential market was experiencing enormous growth, the conversion of the building to residential use was considered the best market option. The most obvious and strongest growth area was affordable accommodation which attracted former renters into home ownership. Market demand seemed to focus on income purchasers rather than equity purchasers: seniors, some empty nesters, career couples, and singles. Furthermore, the nearby St. Paul’s Hospital provided a ripe market for rental units with 3000 employees, 400 doctors, and 1500 nursing and medical students. As the shallow floor plate of the building was conducive to residential unit design, this option seemed like the most reasonable use for the building.

Demolition

Demolishing the building would have reduced the annual operating costs to $35,000 as the building taxes would be saved. After demolition, the property could potentially yield $160,000 in parking revenue. The cost of demolition would be $2.1 to
2.5 million rendering the payback period for demolition 40 to 48 months. Although demolition would render the property more salable, public resistance to the destruction of a heritage structure would be insurmountable.

*Do Nothing Scenario*

The “do nothing approach” resulted in the worst fiscal scenario. The annual operating costs of the building were $500,000. Holding the building for 1 to 2 years at a minimum would thus produce a debt of $500,000 to $1 million in addition to the $16 million capital depreciation loss.

*Cost Analysis of Potential Options*

Having carefully evaluated these alternatives, Harrowston decided that the most efficient and cost effective strategy would be to sell the property and utilize the analysis of its options as a marketing tool. Table 3 explains the fiscal analysis of the options.
### Table 3 - Cost Analysis of Potential Options for the BC Hydro Site

<table>
<thead>
<tr>
<th>USE</th>
<th>VALUE POTENTIAL BASED ON SALE/RENTAL INCOME</th>
<th>BUILDING DEMO/UPGRADES DE DEV'T COSTS</th>
<th>HERITAGE BONUS COMPENSATION</th>
<th>NET VALUE POTENTIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale to Major User</td>
<td>$26.0 - 28.0</td>
<td>$4.9 - 7.5</td>
<td>$2.2 - 4.7</td>
<td>$23.2 - 25.3</td>
</tr>
<tr>
<td>Office 18 mo Lease-up</td>
<td>$5.0 - 13.0</td>
<td>$2.7 - 3.3</td>
<td>$2.2 - 2.7</td>
<td>$4.4 - 12.5</td>
</tr>
<tr>
<td>Office 36 mo Lease-up</td>
<td>$10.1 - 16.8</td>
<td>$5.3 - 8.3</td>
<td>$4.5 - 7.2</td>
<td>$9.0 - 16.0</td>
</tr>
<tr>
<td>Demolition / Land Sale</td>
<td>$10.2 - 11.6</td>
<td>$2.1 - 2.5</td>
<td>N/A</td>
<td>$7.7 - 9.5</td>
</tr>
<tr>
<td>Residential Conversion</td>
<td>$44.32</td>
<td>$32.27</td>
<td>$6.75</td>
<td>$18.8</td>
</tr>
</tbody>
</table>

*Conversion Option Chosen*

In September 1992, the property, which included the building and adjoining site, was listed for $39.5 million, $16.5 million less than the original purchase price of $56 million in 1989. By November 1992, the property had not received a advantageous offer. As a result, Harrowston decided to pursue the strategy of converting building into residential units. It considered this the most efficient of the non-sale options outlined earlier in the year. Harrowston renamed the building “The Electra” in keeping with its history as the former “BC Electric” building.
4.3.4 Planning Consent

On November 9, 1993, Vancouver City Council granted approval in principle to Harrowston’s application to convert the former BC Hydro building to 244 strata lots: 243 residential and 1 commercial. This approval in principle was valid for one year until November 9, 1994. Within this year, 4 conditions were to be met before a Certificate of Approval for the strata plan could be granted:

1. Enactment of the CD Comprehensive Development District By Law for the site as the site was currently zoned DD or Development District.
2. Acquisition of the issuance of a development permit allowing conversion of floors 3 - 21 to residential use.
3. Renovation of the building to compliance with all relevant City By Laws.
4. Completion of the extensive construction required to convert floors 3 - 21 into residential use.

Because of the extensive nature of the work required to fulfill the conditions of the 1993 Approval in Principle, Harrowston’s application was reapproved on October 28, 1994. Table 4 describes the finished Electra project in terms of suite type, square footage, and suite price.
<table>
<thead>
<tr>
<th>Type</th>
<th>Square Footage</th>
<th>Price Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>330</td>
<td>$84,900-$98,400</td>
</tr>
<tr>
<td>1 Bedroom</td>
<td>496</td>
<td>$111,900-$148,900</td>
</tr>
<tr>
<td></td>
<td>617</td>
<td>$134,900-$171,400</td>
</tr>
<tr>
<td></td>
<td>631</td>
<td>$139,900-$180,400</td>
</tr>
<tr>
<td></td>
<td>631</td>
<td>$139,900-$183,900</td>
</tr>
<tr>
<td>2 Bedrooms</td>
<td>663</td>
<td>$170,900-$190,000</td>
</tr>
<tr>
<td></td>
<td>810</td>
<td>$199,900-$223,400</td>
</tr>
<tr>
<td>2 Bedrooms + Den</td>
<td>983</td>
<td>$220,900-$233,400</td>
</tr>
<tr>
<td>Penthouses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Bedroom + Den</td>
<td>1224-1667</td>
<td>$340,000-$445,000</td>
</tr>
<tr>
<td>3 Bedroom + Solar</td>
<td>1812</td>
<td>$475,000-$485,000</td>
</tr>
</tbody>
</table>

4.3.6 Structural Suitability for Conversion

Paul Merrick, the architect who designed this adaptive reuse scheme, comments that the BC Hydro building, constructed in the 1970's, is the most adventurous modernist building in Vancouver in terms of floor plate design. The chairman of the BC Electric Company was influential in its design; he strongly believed that each employee who worked in the building should be near light and thus near a window. As a result, the floor plate design is relatively shallow to most office buildings - especially those built in the 1970’s. In fact, the building’s floor plate design is more like a residential building than an office building. The shallow distance from the core to the exterior walls allows more windows per square foot than conventional deep core office structures.
The top 19 floors of the 21 story building would be converted. The conversion design included the replacement of the original prefabricated curtain wall by a system of shallow spandrels and 9 foot, floor to ceiling, tinted thermal glazing which would incorporate operable windows (see Appendix H for technical aspects of conversion).

4.3.7 Conclusions about the BC Hydro Case Study

The adaptive reuse of the former BC Hydro structure to residential use was chosen as a mechanism for loss minimization by the owners of the building. Clearly, the notion of conversion received attention because the building was unleasable in prevailing office market conditions. From the planning perspective, the conversion to residential use was the optimal strategy from the options Harrowston had identified as it provided the maximum public benefit. A heritage structure in Vancouver’s downtown core was maintained and restored for the purposes of relatively affordable housing units within a three block radius of the CBD. This residential use was in congruence with the Central Area Plan’s strategy for revitalizing the core and Downtown South Plan’s objective for residential uses in the core. Furthermore, the avoidance of demolition and new construction embraced sustainable planning principles.
4.4 London Place Case Study

4.4.1 Background

The London Place building, located at 1177 Hornby Street, is the second office building to be adaptively reused for residential purposes in Vancouver’s downtown core. At the time of its construction in 1982, it was a class B, mixed use building housing commercial, office, restaurant, and residential spaces. The building contained 24 dwelling units on floors 10-12; the mezzanine and floors 1-9 and 13 were developed for commercial, restaurant, and office uses. By late 1993, Mastercard and BC Hydro, the anchor commercial tenants of the building, had chosen to relocate. This left the commercial space difficult to lease for the same reasons identified for the former BC Hydro building. London Place was moreover not competitively located in terms of the Central Area Plan’s compact CBD and its floor plate design was not conducive to the creation of smaller (for example 300 square feet) and perhaps more marketable office spaces.

In January of 1994, the ITCO Company purchased the building for $8.7 million with the intention of adaptively reusing it for residential purposes. Prolonged inability to attract tenants to the office space had forced its owners to consider a change of use in order to minimize potential losses. The success of the BC Hydro building certainly encouraged ITCO to conclude that the building’s location - adjacent to the CBD and
within the emerging downtown south residential area - would render it attractive to the same market that Electra had targeted. Of equal significance, the City of Vancouver’s Downtown South Plan (1989) had already rezoned the area for 100% residential use. In this way, ITCO was not forced to undertake a costly rezoning application.

4.4.2 Proposed Development

ITCO proposed that its units would also be constructed and marketed for buyers seeking affordable housing within the Downtown core - that is, buyers able to spend about $120,000 to $130,000 on the purchase of a new condominium. Residential units on the second to ninth floors would consist of one bedroom and one bedroom and den units varying in size from 653 to 704 square feet. The five penthouse floor units would vary in size from 664 to 1118 square feet. Because of the previous office use, the units would be fully air conditioned and afforded 9 foot ceilings. The existing perimeter spandrel glazing would provide substantial natural light to all of the units. The already existing large common roof terrace would compliment individual roof terraces and enclosed balconies. In addition, commercial uses would be allowed to continue on the main and mezzanine floors.
4.4.3 Planning Consent

The City of Vancouver’s Planning Department approved ITCO’s application to convert the building to residential use in January 1994. The approval was contingent upon ITCO obtaining consent for the conversion from two thirds of the households who were residing in the existing 24 units. In response, legal documents were distributed for signature to the existing tenants. Of the 24 residential units, 23 supported the application and 1 opposed it. In considering the application, the Director of Housing at the City of Vancouver made the observation that the existing 24 units were large and relatively expensive commanding rents of between $1150.00 and $1400.00 per month. Because the apartments were located on the 10th 11th and 12th floors, they were also unsuitable for families. In this light, the conversion of the building would add 116 additional units to the Downtown South neighbourhood at ostensibly lower prices and would thus be advantageous to the City’s housing stock in the area.

4.4.4 Unit Price and Target Markets

The target market for London Place was essentially the same as for the Electra including West End renters, those who walk to work, St. Paul’s Hospital workers, Courthouse workers, clerical workers, service Sector workers, and first time buyers. Table 5 illustrates the unit type, size, and prices of condominium units offered at London Place after the conversion. Like the developers of the Electra, the London Place
developers were determined to start unit prices at a price point which would be attractive to the income buyer. Because the London Place suites are substantially larger than the Electra units, the target price point was around $130,000 for approximately 640 square feet. Notwithstanding the thirty units on the top floors which have commanding views, most of the London Place suites are sized and prices in a common range.

Table 5 - London Place: Unit Type, Size, and Price

<table>
<thead>
<tr>
<th>Floor Range</th>
<th># of Units</th>
<th>Unit Size (sq. ft.)</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floors 2-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Bed + Den</td>
<td>32</td>
<td>706</td>
<td>$128,900</td>
</tr>
<tr>
<td>1 Bed + Den</td>
<td>16</td>
<td>628</td>
<td>$129,900</td>
</tr>
<tr>
<td>1 Bed</td>
<td>32</td>
<td>672</td>
<td>$132,900</td>
</tr>
<tr>
<td>1 Bed + Den</td>
<td>16</td>
<td>634</td>
<td>$135,900</td>
</tr>
<tr>
<td>1 Bed + Den</td>
<td>16</td>
<td>651</td>
<td>$142,900</td>
</tr>
<tr>
<td>Total / Ave</td>
<td>112</td>
<td>658</td>
<td>$134,100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floor Range</th>
<th># of Units</th>
<th>Unit Size (sq. ft.)</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floors 10-12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>12</td>
<td>1113</td>
<td>$209,900 - $249,900</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>6</td>
<td>1021</td>
<td>$209,900 - $249,900</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>6</td>
<td>1071</td>
<td>$209,900 - $249,900</td>
</tr>
<tr>
<td>Penthouses</td>
<td>6</td>
<td>1302</td>
<td>$266,900 - $289,900</td>
</tr>
</tbody>
</table>

4.4.5 Conclusions about the London Place Case Study

The success of the London Place project is inextricably linked to the research conducted by the owners of the Electra. Indeed, it is the success of the Electra conversion which provided ITCO with the concept and confidence to convert London Place.
The London Place conversion also benefited from the Downtown South Plan's rezoning to allow residential uses in Hornby slopes. A rezoning application would have otherwise been an arduous and expensive process for ITCO.

Like the BC Hydro conversion, the London Place project was an exercise in loss minimization. Undeniably, conversion of the building would not have been elected if there was a market for the office space it housed. The owners of the building concluded that a change in use for the structure was the only way in which they could efficiently salvage their investment without enduring the significant financial costs and risks of demolition and new construction.

From the planning perspective, the conversion option offered a sustainable strategy for providing relatively affordable housing in the Downtown South - a strategy which concurred with the City of Vancouver's vision for a residential community in that area.

4.5 1010 Howe Case Study

4.5.1 Background

The third example of office to residential adaptive reuse in Vancouver's core is the 1010 Howe building, a 12 story, class B structure constructed in 1983 for mixed use. The building contained office space on the second through tenth floors and 8 residential units on the eleventh and twelfth floors. All commercial and residential strata units are owned by one party. A development permit was granted by the City of Vancouver in 1994 for
the building’s conversion to residential use. While renovations have taken place, the
granting of multi strata titles is still outstanding. As 1010 Howe is neighbour to 1177
Hornby, its location too had already been rezoned for complete residential use by the
City of Vancouver’s Downtown South Plan.

The building’s principal tenant, Canada Post, had relocated in early 1994 leaving
the space unleasable and thus vacant for two years. Canada Post had customized the
building for its own use in terms of mechanical and electrical facilities. Converting the
commercial space for multi tenant use would therefore have been a costly endeavor for
the building owners. Furthermore, securing another anchor tenant was considered
improbable considering the structure’s condition and the quality of competing buildings.
The building owners regarded an entire change of use for the building as the optimal and
only means of minimizing losses, particularly as the building had been vacant
(commercial space) for two years.

Indisputably, the owners of 1010 Howe were inspired by the success of the
Electra and London Place conversions. In light of the Downtown South Plan’s rezoning,
they were convinced that converting the building to full residential use would be a
fiscally prudent strategy. It should be noted that concrete cost projections were not
determined for a range of options and the conversion option was chosen on the basis of
the Electra and London Place as precedents.
4.5.2 Conversion Process

Strata Title

The one party which owns the total number of strata lots in the 1010 Howe Building sought to sell the units as individual strata lots. In order to obtain this restratification, an amendment must be made to the original strata plan to allow for common space such as corridors. The Condominium Act, however, does not allow for the amendment to an existing strata plan. The owner was therefore forced to extinguish the current strata plan and refile a new plan containing the revised strata lot configurations. For these reasons, the units at 1010 Howe have not yet been marketed as apartment condominiums.

Current Status

The building renovation transformed the existing commercial space into 130, 1 bedroom suites ranging in size from 400 to 500 square feet. Together with the existing 8 penthouses, the building currently houses 138 suites.

In order for the owner to proceed with the extinction of the original strata plan, a "deemed destruction of the building" would have to be pronounced. By doing this, the building, between the time the original plan was extinguished and the new one decreed, would be without a strata plan and would thus have to be vacant so as not to affect any residents.
The owner had intended to rent the recently created units while the new strata plan was being finalized - this did not materialize. The tenants who had been occupying the residential penthouse units on the eleventh and twelfth floors were renting on fixed term tenancy agreements and vacated their units effective November 1995. The building has been completely vacant since this time.

4.5.3 Costs of Retrofit and Structural Suitability

The cost to convert the 1010 Howe Building was approximately $50 - $60 per square foot. According to real estate developers and notwithstanding the owners of the property, the building was purchased for $15 million. The same developers contend that the total cost of retrofit was between $3 and $5 million. The building’s worth today is $10 - $12 million.

1010 Howe was a Class B office building built with minimum costs. It was built with a deep floor plate, deemed to be unsuitable for residential conversions. As a result, the suites are long and narrow and have too much dead space or space without light.

4.5.4 Conclusions about the 1010 Howe Case Study

The 1010 Howe conversion project is the most problematic among the three. It is clear that the option to convert was chosen as a loss minimizing mechanism for a building which could clearly not compete because of location, structural suitability, and quality, all
of which were compounded by tenuous demand in the office market. Information about the project is difficult to obtain as the owners of the building and other key players are either unreachable or reluctant to discuss the project.

4.6 Lessons Learned

The case study analyses have clearly illustrated that the adaptive reuse of obsolete office buildings to residential use is an innovative and progressive approach to addressing changes in demand for built capital in the core. In all three cases, particularly the BC Hydro conversion as it was the first, City Planning Departments worked in collaboration with local developers to both prevent demolition and to provide housing in the core for a certain target market. In this way, all stakeholders involved - the City of Vancouver, Vancouver residents, developers, and potential buyers - were afforded some benefit by the adaptive reuse schemes.

If the three case study adaptive reuse schemes are compared and contrasted, the Hydro conversion is the most successful by all measures. The primary reason for this is the structural design of the building. To reiterate from section 4.3.6, the Hydro building has a particularly shallow floor plate which is commonly found in residential, rather than office building design. As a result, the residential units produced by the reuse scheme have immense window exposure and thus an extensive amount of light. Although some of the Electra units are relatively smaller than their counterparts at 1177 Hornby and 1010
Howe, their design and exposure to light render them more attractive and engaging to potential buyers.

In addition, although Harrowston did not benefit from the Downtown South Plan's rezoning provisions, it was able to take advantage of heritage zoning provision offered by the City of Vancouver. As Harrowston was seeking to minimize losses, the bonus was a welcome concession.

While the London Place structure is not constructed with as wide a floor plate as the Electra, its architects were able to design relatively attractive suites with high ceilings and thus extensive light exposure. The units at London Place are also larger than those of the Electra both in terms of square footage and rooms per suite. Although the owners of London Place could not take advantage of a heritage bonus, they were afforded the benefits of the Downtown South Plan's rezoning and flexibility by the City of Vancouver Planning Departments which had attained some experience from the Electra project.

As has been noted in section 4.5, the 1010 Howe conversion was the most problematic among the three. Not only are the owners are still entangled in legal issues, but the suites are not as attractive as the other case study buildings. The floor plate illustrations in Appendix J demonstrate the difference in exposure to light between the suites produced by the narrow floor plate of the 1010 Howe conversion and those which resulted from the Hydro conversion. Nevertheless, both the Planning Departments and the developers were able to draw upon precedent experience.

From the planning perspective, all three conversions may be judged as successful to varying degrees. The new uses of the buildings concurred with planning policies and
the elimination of the old uses did not detract from the City’s employment space. The three buildings were further preserved without extensive exterior renovation and additional units were added to the Downtown South’s housing stock. Furthermore, Vancouver Planning departments were exposed to this application of adaptive reuse and will thus have experience for future projects.
Chapter 5

Conclusions

Although the most common form of adaptive reuse in city cores has been the conversion of warehouse space to residential use, the conversion of obsolete office buildings to residential use has increasingly become a phenomenon in some urban centres. As the literature review and case study analysis have demonstrated, changing patterns and demand for built capital, particularly office space, in city cores, have forced building owners and planners to be flexible and resourceful with respect to the uses permitted for built capital. The strategy of adaptively reusing office space for residential use in Vancouver's downtown core therefore warrants planning consideration and analysis. Although an epidemic of vacant buildings is not currently plaguing the City's core, the area has undergone significant transformation as a consequence of changes in its economy and City policies. Combined, these shifts have, unpredictably perhaps, resulted in changes in demand for built capital in the core. As built capital is a valuable commodity, its preservation should be recognized as a goal in itself.

The preceding chapters have been dedicated to both an investigation of the conditions and environment which allowed the case study adaptive reuse schemes to occur and, an inquiry as to the continuation of these conditions and thus the probability of the recurrence of this brand of adaptive reuse in Vancouver's core. Based upon the analysis of the conversions at 970 Burrard Street, 1010 Howe Street, and 1177 Hornby Street, it is concluded that this form of adaptive reuse should be permitted and
encouraged by City of Vancouver policy. Correspondingly, the following policy recommendations suggest a possible framework for how and why such schemes should be advanced by the City of Vancouver and elaborates upon the resultant planning implications.

The primary and fundamental conclusion of this thesis is that the City of Vancouver should encourage the adaptive reuse of office space to residential use as a sustainable and pragmatic approach to addressing obsolescent built capital in its core. The City of Vancouver can best influence the employment of adaptive reuse in the core by advocating the concept in sub area plans such as the Downtown South Plan and the Triangle West Plan - the latter of which is referenced in the research questions posed in Chapter One of this thesis.38

While the concept of adaptive reuse has significant planning implications, it should be noted that the impetus for such schemes, is for the most part, fiscally motivated. As the case studies have clearly illustrated, adaptive reuse was employed as an instrument of loss minimization for the building owners. That is to say that the conversion of the three office buildings would not have occurred if the owners were able to lease their structures for the intended uses. Common to these buildings was the departure of the primary anchor tenants who had structurally customized the buildings for their own uses rendering the buildings difficult to release without extensive renovations. Moreover, because of the dynamics within the office market itself, renovation for the

38 Strategies to implement this recommendation may include property tax incentives, the relaxation of some building code regulations, zoning incentives, and perhaps other fiscal incentives if a building owner is willing to restore a structure for the purposes of affordable housing.
purposes of securing new tenants would have been infeasible for the owners in light of
the lease rates offered by newer and more attractive office stock.

As Chapters One and Three of this thesis have suggested, the conditions and
environment which prevailed when these conversions occurred are expected to in the City
of Vancouver. City policies regarding the core have not changed. The Central Area Plan
continues as the primary vision statement for Vancouver and its core. The phenomenon
of urban transformation continues as the City's economy gravitates towards software and
knowledge sector services. As a result, the CBD's function as the nerve centre of the
region and a link with global markets continues to evolve. These changes continue to
influence the type and location of built capital demanded in Vancouver's core. Arguably,
therefore, the three office building conversions studied here should not be considered
anomalies, but rather examples to aid in the anticipation of what may occur in the market
for built capital in the core. Such anticipation is particularly timely for the Triangle West
area.

Triangle West

One of the research questions identified in Chapter One of this thesis relates to the
commonalities which exist between the Triangle West and Downtown South areas of the
core and the suitability of adaptive reuse schemes in Triangle West. The similarity
between the two areas in terms of their relationships to the CBD and their treatment by
CAP is remarkably similar. Clearly, land use changes and resultant zoning changes in the
Downtown South created an environment which was conducive to the adaptive reuse of
office buildings to residential use. Arguably, the City of Vancouver’s vision for Triangle West will have the same impact on that area. The Downtown South and Triangle West areas of Vancouver’s core are parallel with respect to a number of planning considerations, namely the intended coexistence of adjacent commercial and residential uses. For this reason, it is probable that future examples of office reuse to residential use will occur in Triangle West.

Triangle West is a small area located west of the CBD and south of Coal Harbour in the northwest quadrant of Vancouver’s downtown core (see Appendix I - Area 19). Until the 1970’s, it was assumed that the CBD would move westward. In actuality, the shift was eastward and Triangle West evolved as a mixed use area combining Class A office space, older office space, older apartment buildings, and high density residential condominium developments.39

The Central Area Plan treats Triangle West as it does the Downtown South, as a choice of use area where zoning permits uses which may be entirely office, entirely residential, hotel, or any combination. This is in congruence with CAP’s attempt to decrease office zoned capacity and to create new residential neighbourhoods in Vancouver’s downtown core. As the bordering West End residential neighbourhood is built to capacity, Triangle West has emerged as a prime area for residential development.

Like the Downtown South, Triangle West, while proximate to Vancouver’s CBD, is not part of the elite corporate complex identified by CAP. The office buildings in Triangle West are therefore vulnerable to the same economic impacts as their

counterparts in the Downtown South. Furthermore, with the CBD's shift eastward, the immediacy of the residential community in the West End and the residential construction in Triangle West itself, the future attractiveness of office space in the area may be deemed precarious at best.

The Downtown South Plan increased residential FSR from 3 to 6 thereby encouraging residential use in the area through economic incentive. To reiterate from Chapter 4, the increase in FSR was a key consideration in the pro forma analysis which concluded that the reuse of the buildings was preferable to renovation for continued office use. Clearly, if the Downtown South's new (6 FSR) residential zoning was not in place, the owners of these buildings would not have considered reuse as the rezoning process would have been a costly initiative.

Currently, the City of Vancouver has proposed the increase of residential FSR in Triangle West from 3 to 6. Notwithstanding unforeseen complications, this zoning change should be implemented in the near future hence creating the same environment for residential development in Triangle West as in the Downtown South. Accordingly, if building owners in Triangle West find their structures in similar predicaments as the case study buildings, the reuse of office space to residential use may prove to be a convincing approach.

In 1990, the heritage inventory of the City of Vancouver was expanded to include modern buildings which were built during the post war period (1940's to 1960's). A number of these buildings exist in Triangle West including the Imperial Life Building,
the "IBM" Building, and the Georgia Towers. As the significant Maxwell Construction Building was demolished in 1975, the Triangle West Plan seeks to identify strategies which will aid in preventing the future demolition of the area's heritage stock.

If the reuse of the BC Hydro Building is used as a precedent and useful example of the thoughtful and sensitive preservation of a landmark / heritage structure, it follows that heritage buildings in Triangle West may be treated similarly. If indeed, the owners of these buildings are faced with the same circumstances as the owners of the BC Hydro structure, then adaptive reuse for residential purposes may be identified by building owners as an optimal mechanism for potential loss minimization and as a concomitant strategy for heritage preservation.

The most significant contrast between Triangle West and the Downtown South is that the former is perhaps considered a better established commercial area. Indeed, it was once expected that the natural extension of Vancouver's CBD would occur westward. At present, however, Triangle West is situated on the perimeter of the CBD and enclosed by residential development. The Downtown South is similarly placed. While the intention here is not to identify particular buildings in Triangle West which may be obsolete, it is proposed that the Downtown South provides a worthy precursor to what may occur there.

Live Work

To reiterate from the research questions posed in Chapter One and the information presented in the literature review in Chapter Two, reusing obsolete office buildings in

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40 Triangle West Plan, 10.
Vancouver’s core for low impact live/work purposes affords a strategic method of implementing live/work uses in the core. The conversion of existing office space in Vancouver’s core also provides the convenience of proximity to downtown activities and services as many workers may require access to business and clients in the core. Such workers may also benefit from shared telework centres and satellite offices which could comfortably be incorporated in the design of an office conversion. In terms of structural design, adapting office buildings for the purposes of live/work residences is the same as conversion for residential purposes.

Just as industrial live/work is often regarded as a buffer between residential and industrial/commercial activities, so too can commercial live/work in Vancouver’s core serve as a transition from the office-centred CBD to adjacent residential use. Traditionally, live/work was conceived as a strategy for the re-use of derelict industrial buildings to the benefit of the artist community. Futuristically, the reuse of obsolete commercial buildings in Vancouver’s core has the potential of addressing the needs of an evolving live work community.

**Growth Management and Sustainability**

The case studies clearly support the conjecture that adaptive reuse provides an advantageous strategy for growth management and the management of built capital as it embraces sustainable development principles. The management of built capital is a significant component of the urban transformation phenomenon and therefore warrants attentive planning consideration. If sustainable growth management tactics promote
“resilience in the face of economic shocks and stresses”, then adaptive reuse is a sensible approach to utilizing, rather than destroying, built capital to accommodate these changes of urban transformation.\textsuperscript{41}

Generally, in the urban context, sustainable planning practice may be deemed as an attempt to incorporate environmental stewardship, economic vitality, resilience and adaptability, fiscal sustainability, and social equity.\textsuperscript{42} In the urban context, growth management may be defined in terms of increases in population and the expansion of urban space as result of additions to built capital.

Within these contexts, adaptive reuse, more specifically, the conversion of office buildings to residential use, affords a growth management strategy which addresses cyclical and structural changes in a city’s economy, while preserving built capital and accommodating residential needs in the core. As the case studies have illustrated, the reuse of the three office buildings prevented demolition and thus avoided environmental concerns regarding the disposal of resultant waste. The residential uses introduced to the vacant buildings enhanced the vitality of the respective streets and provided relatively affordable market housing within a three block radius of the CBD. Reuse also salvaged three buildings from indefinite vacancy or demolition. From the planning perspective, flexibility with respect to the built capital can aid in accommodating population growth in the core in harmony with CAP’s objectives of new growth destinations (built capital and population).

\textsuperscript{41} Hutton et al, p.5.
\textsuperscript{42} Ibid, p.40.
Sustainable growth management of the Twenty First Century will unquestionably require planning flexibility and forethought with respect to the uses and lifespan of built capital in the core. The philosophy of adaptive reuse has enormous potential as an urban policy instrument to manage change within emerging sustainable planning models.

Planning Flexibility

While the principal conclusion of this thesis is the advocacy of adaptive reuse in Vancouver's core as a sustainable and pragmatic method of addressing the changing requirements for built capital, the importance of planning flexibility must not be forgotten as a crucial tool for innovative planning of the future.

In approving demolition applications, for example, the City of Vancouver should consider the worth of a building in terms of age, structural soundness, structural suitability for new use, architectural value, its street situation, and value to the public. Structures are built at particular locations at various points in time. While it is possible that the original purpose of these structures may become obsolete, it should not follow that the structures themselves be demolished as it is their uses, not their construction, which have become outmoded. Demolition should only be considered when a structure's fabrication is deemed unsalvageable. Table 6 offers some guidelines which may be useful in determining if a particular structure has the potential of being adaptively reused both in terms of its location and resultant new product.
Table 6  Locational and Structural Guidelines for Adaptive Reuse Schemes

<table>
<thead>
<tr>
<th>LOCATIONAL ATTRIBUTES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In which sub area of the core is the building located?</td>
<td></td>
</tr>
<tr>
<td>What uses does CAP prescribe for this sub area?</td>
<td></td>
</tr>
<tr>
<td>Which sub area plans apply and what uses are prescribed?</td>
<td></td>
</tr>
<tr>
<td>Is the proposed change in use in congruence with these plans?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STRUCTURAL ATTRIBUTES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>What use(s) does the building currently house?</td>
<td></td>
</tr>
<tr>
<td>Why do the owners seek a change in use?</td>
<td></td>
</tr>
<tr>
<td>Does the City of Vancouver require the current use to be maintained for the welfare of the City?</td>
<td></td>
</tr>
<tr>
<td>Is the building a heritage structure? If so, should the structure and/or use be maintained? What is the possibility of a heritage bonus?</td>
<td></td>
</tr>
<tr>
<td>What uses are structurally suitable for the building?</td>
<td></td>
</tr>
<tr>
<td>What is the size of the floor plate? Is it conducive to office, hotel, residential, or other uses? For example, wider floor plates are more conducive to residential design?</td>
<td></td>
</tr>
<tr>
<td>If the building can be adapted to engaging residential units, what is the potential of using the units for social housing?</td>
<td></td>
</tr>
<tr>
<td>What size and type of suites would conversion offer?</td>
<td></td>
</tr>
</tbody>
</table>
Planners of the Twenty-first Century should recognize that as centres which house and facilitate the transactions of business, city cores will evolve and change as rapidly as the technology which guides business. Such transformations will undoubtedly manifest themselves in unprecedented changes in the types of built capital demanded. If city cores must be flexible to accommodate anticipated and unanticipated economic and related social changes, it follows that flexibility should also be afforded to the built capital that constitutes these cores. As the case studies and key informant interviews have demonstrated, planning adaptability is key when dealing with rapid change. As the term implies, built capital is a valuable commodity. Existing built capital should not be sacrificed for new construction merely because it is less charming or lacks market potential. Built capital, furthermore, constitutes the built form and therefore the character of a city’s core. In this context, heritage preservation and the architectural evolution of a city’s core must be protected through building preservation and readaptation. Based upon the planning experiences of the Late Twentieth Century city core, the adaptive reuse of built capital will unquestionably emerge to the forefront as a sensitive and resourceful approach to rapid change.

Areas for Further Research

This thesis has been concerned with the concept of adaptive reuse, and more specifically, the conversion of obsolete office buildings to residential use in Vancouver’s core. As stated in Chapter One, the scope of this thesis was limited to this particular application of adaptive reuse in the CBD, Downtown South, and Triangle West sub areas.
of Vancouver's core. Indeed, a number of other issue areas are deserving of further research and investigation. The applicability of office to residential adaptive reuse schemes in the Victory Square sub area of Vancouver’s core warrants further attention. Further, the possibility of forming new partnerships between planning departments and building owners to provide social or affordable market housing in Vancouver’s core through adaptive reuse programs and the possibility of amending the regulatory planning framework - property tax structure, building code regulations, and zoning bylaws - to encourage adaptive reuse schemes should also be researched. Finally, investigating the implications of other forms of adaptive reuse in Vancouver’s core such as the conversion of commercial space once occupied by major downtown department stores for residential use warrants further consideration.
BIBLIOGRAPHY

Chapter 1 - Introduction


Chapter 2 - Adaptive Reuse


Chapter 3 - Vancouver Context


Chapter 4 - Case Studies

Office Market


Condominium Market

Strategies Report November 1992

BC Hydro Case Study

Interview with Electra’s Project Manager

Interview with Electra’s Architect

Interviews with members of the City of Vancouver Land Use and Planning Division

London Place Case Study

Interview with London Place Project Manager

Interview with London Place Architect

Interview with London Place Marketing Firm
Interviews with Members of the City of Vancouver Land Use and Planning Division

1010 Howe Case Study

Interview with 1010 Howe’s Architect

Interviews with Members of the City of Vancouver Land Use and Planning Division

Chapter 5 - Conclusions


APPENDIX B: PAST VANCOUVER CENTRAL AREA LAND USE PLAN
(TAKEN FROM CENTRAL AREA PLAN 1991)

Map B: PAST CENTRAL AREA LAND USE PLAN

Notes: These areas are generalized. Retail, parks, and institutions are not included on this map. Office districts may contain housing in mixed use buildings or sites.

This is an illustrative summary of by-laws and guidelines.
APPENDIX C: CURRENT VANCOUVER CENTRAL AREA LAND USE PLAN
(TAKEN FROM CENTRAL AREA PLAN 1991)

Map C: NEW CENTRAL AREA LAND USE PLAN

Central Business District
Uptown Office District
Heritage Area
Heritage Character Area

"Choice of Use" / "Mixed Use"
Residential Neighbourhood
Light Industry
Skytrain line and station.

Notes: These areas are generalized. There may be individual sites or portions of areas which vary from the generalization. This will become evident in detailed planning. Retail, parks, and institutions are not included on this map.

This is an illustrative summary of the policy contained in this plan.
Map D: POLICY - OFFICE

- Burrard Inlet
- English Bay
- Downtown District
- Office Zoning
- English Bay
- False Creek
- Skytrain line and station

Notes: These areas are generalized. There may be individual sites or portions of areas which vary from the generalization. This will become evident in detailed planning. Retail, parks, and institutions are not included on this map.
APPENDIX E: VANCOUVER'S CENTRAL AREA RESIDENTIAL SPACE
LAND USE PLAN (TAKEN FROM CENTRAL AREA PLAN 1991)

Map F: POLICY - HOUSING

Established housing areas
New housing areas recently supported
Additional housing areas desired

"Choice of use" areas desired (H-Heritage)
Housing or "choice of use"/"mixed use" possible

Notes: These areas are generalized. There may be individual sites or portions of areas which vary from the generalization. This will become evident in detailed planning. Retail, parks, and institutions are not included on this map.
APPENDIX F: DOWNTOWN SOUTH CONTEXT
(TAKEN FROM DOWNTOWN SOUTH PLAN 1991)
APPENDIX G: DOWNTOWN SOUTH BOUNDARIES
(TAKEN FROM DOWNTOWN SOUTH PLAN 1991)

GEORGIA ST
Burrard St
Hornby St
Howe St
Granville St
Seymour St
Richards St
Homer St
Hamilton St
Cambie St
Beatty St
Robson St
Smithe St
Nelson St
Helmcken St
Davie St
Drake St
PACIFIC BOULEVARD

DOWNTOWN SOUTH - STUDY AREA
BOUNDARY

City of Vancouver Planning Department

Date: January 1991
Drawn: N. Wormald
Scale: 100 000:1

93
APPENDIX H - KEY INFORMANT INTERVIEW PARTICIPANTS

- David Baxter, President, Urban Futures
- Larry Beasley, Director of Central Area Planning, City of Vancouver
- Ronda Howard, Planner, City of Vancouver
- Ray Spaxman, President, Spaxman Consulting
- Jay Wollenberg, President, Coriolis Consulting
- Ron Yuen, Partner, Davidson, Yuen, Simpson Architects
APPENDIX I - KEY INFORMANT INTERVIEW QUESTIONS

1. In your view, how has Vancouver's downtown core changed in the past ten years?

2. More specifically, how have office and residential uses changed in the core?

3. What was the rationale behind the office and residential policies of the City of Vancouver's Central Area Plan (1991)?

4. The Central Area Plan tightened the boundaries of the CBD. How has this affected uses?

5. How have the office centres in Burnaby and Surrey affected Vancouver's CBD?

6. What are your impressions about the BC Hydro conversion?

7. Do you feel that adaptive reuse can play an important role in Vancouver's core?

8. In your opinion, what is the likelihood that such conversions will reoccur in Vancouver's downtown core?

9. The Central Area Plan's land use policies are general. Would more specific policies be useful to encourage or discourage adaptive reuse schemes in the core?

10. What are your impressions about Triangle West and the potential for adaptive reuse schemes there?
APPENDIX J  CENTRAL AREA SUB AREAS  
(TAKEN FROM CENTRAL AREA PLAN 1991)

Map A: CENTRAL AREA SUB-AREAS

DOWNTOWN PENINSULA
1. Bayshore
2. Established Central Business District
3. Central Business District: Fringe
4. Chinatown
5. Coal Harbour East
6. Coal Harbour West
7. Downtown South
8. Downtown South: Burrard-Granville
9. Downtown South: Granville Street
10. Downtown South: Northeast Quadrant
11. False Creek North: Apex
12. False Creek North: Cambie Bridge
13. False Creek North: Granville-Cambie
14. False Creek North: International Village
15. False Creek North: Stadium
16. Gastown
17. Granville Slopes
18. Port Lands
19. Triangle West
20. Victory Square
21. West End
22. Yaletown

OUTSIDE DOWNTOWN PENINSULA
23. Broadway: Centre
24. Broadway: Cambie Bridge South
25. Broadway: East
26. Broadway: West
27. Burrard Slopes: Broadway-Burrard-Granville(C-3A)
28. Burrard Slopes: South of Granville Island
29. Fairview Slopes
30. False Creek East
31. False Creek South
32. False Creek Southeast
33. Granville Island
34. Mt. Pleasant Industrial

Note: These areas are generalized. There may be individual sites or portions of areas which vary from the generalization. This will become evident in detailed planning.
A crucial factor in the decision analysis about the prospect of utilizing adaptive reuse schemes to convert office buildings to residential use is structural suitability. If an office building cannot be converted into engaging units with attractive layouts, then the potential of using adaptive reuse as the mechanism for loss minimization is slim or nonexistent. This chapter is therefore concerned with the elements which render an office building structurally suitable for conversion to residential use.

**Depth of Building and Internal Layout**

Office buildings designed before the 1980's often have floor plans with shallow, cellular rooms located on either side of a central corridor. The floor plate and depth of such buildings do not usually problematic for the design of conversions. Existing partitions generally need to be replaced, upgraded, or moved. More recently constructed office buildings are designed with open plans and thus tend to have deeper floor plates. Such buildings are more difficult to convert because of the long core to window depth. Long core to window depth is problematic in terms of the amount of natural light and ventilation suites receive, specifically those located close to the core. These elements are necessary for cross ventilation and the prevention of condensation build up. In contrast, purpose built residential buildings have shallow floor plate designs.

The “Wall to Hall” space of most office structures is 35 to 40 feet. Newer, post 1980 buildings, may be larger. In contrast, most new residential structures have a wall to
hall space of 25 to 30 feet. In terms of conversion units therefore, it is preferable to design units which are wider along window spaces and narrower from the window to the common hallway. From a design perspective, this poses a great challenge as the maximum utilization of developable square footage must be balanced against designing the most marketable units. That is not to say that buildings with deep floor plates are impossible to convert. Suites may be designed to locate bathrooms and kitchens on internal walls, and leave the exterior areas for living space. Mechanical ventilation and heat recovery systems may be installed. Such measures do, however, have price implications which require consideration and may be pivotal in determining whether or not a conversion should take place.

What is attractive about converted units is the high “Floor to Floor” space. Because of the accommodation of service space, most office buildings have a floor to ceiling space of 11 to 12 feet. In contrast, residential units have floor to ceiling spaces of 8.5 feet. This allows for the design of 9 foot vaulted ceilings and high windows in converted residential spaces.

**Floor Plate Design**

“Net to Core” is the area or square footage which is available around the floor plate.

- The average net to core for office buildings in Vancouver is approximately 15,000 square feet.
- The average net to core for residential space in Vancouver is approximately 6,000 square feet.
• This difference exists as most residential units range in size from approximately 500 to 2,000 square feet, whereas some large commercial offices range from 6,000 to 15,000 square feet.

In terms of conversion, this difference in square footage usually allows converted buildings to house more units per floor, particularly because they tend to be smaller in order to be more affordable.

**Building Structure**

Most office structures are constructed with frames rather than load bearing walls. The need to pierce such structures with holes for services has implications for fire protection and acoustic separation. Steel framed buildings are the easiest to convert because services can run close to the beams. Units can be partitioned along beam lines and services can be placed close to partition walls. Concrete structures have shear stresses which are greatest close to beams making it better to pierce slabs in the middle of the rooms. Beam and slab concrete structures are more flexible for conversion than flat concrete slabs as the latter have wide strip beams which cannot be pierced for services.

**Acoustic Separation**

The degree to which noise from the outside of a building is a problem depends on the facade. Noise is defined as general city noise pollution. Openable windows may increase the problem of external noise. Double glazed windows may however reduce noise as the gap between panes gives better acoustic insulation. The internal layout of
units can also assist in shielding against noise. Utility and service areas may be placed to face the source of noise so that living areas have an additional barrier from the source.

It should be recognized that in buildings with deep floor plates, there may be a trade off between installing service areas close to the core so that living space may be adjacent to windows, or using services areas as a buffer against noise. Most cellular office have demountable partitions which are not usually designed to residential acoustic standards. Conversions therefore require the installation of new unit to unit walls. Noise impact is particularly problematic for vertically adjacent residents. This may be remedied by the installation of carpets and false ceilings.

**Case Studies**

The following diagrams illustrate the floor plate design of the Electra and 1010 Howe conversions.

⇒ The Electra was the most suitable for conversion as evidenced from the shallow floor plate design and thus the floor and unit layouts.

⇒ The diagram for 1010 Howe depicts the floor plate and the commercial unit design prior to renovation.
Appendix K - References


Interview with Paul Merrick, Paul Merrick Architects Inc. August 26, 1996.