New Pieces to the Affordability Puzzle: Promoting Context Based Design Strategies with Local Governments, Non-Profits, and the Private Sector

by
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The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

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Abstract

This project explores the context of housing affordability for area median income earners in the Pacific Northwestern cities of Portland, OR, and Vancouver and Whistler, BC. The analysis starts with the argument that regulatory measures, such as Inclusionary Zoning, should be considered after partnership-oriented and innovation based measures are exhausted. I move on to research two case studies that meet the requirements of the latter measures, which include: A downtown development that partnered with a local credit union, a private-sector developer, and the City of Vancouver to experiment with tools to build affordable housing, and secondly a design toolkit in Portland which aims to promote housing form diversity and good design with low-to-medium density developments in established neighbourhoods. The results show that there is greater room for such partnership and innovation based strategies in the Pacific Northwest, but there must be supports in place to keep housing affordable for the middle-class. To respond to this challenge, a third case of a Housing Authority in Whistler, BC is considered, as it is successful in terms of the number of affordable dwelling units in their inventory and the number of years that they have remained in operation. I conclude the project with reflections on the additional steps that municipalities can take to create and maintain affordable housing through less restrictive land-use policies, encouraging partnerships with non-profits, utilizing city owned land, and establishing a housing authority at arms-length from municipal jurisdiction.

Keywords: Affordable Housing; Inclusionary Zoning; Land Use Regulation; Infill Housing; Housing Authorities
Dedication

I would like to dedicate my work to my friends, family, and co-workers who especially encouraged me near the end and said kind words to me when I faced self-doubt. I would also like to dedicate this work to Michael Dhaliwal, a co-worker, friend, and Urban Studies Alumni, who tragically passed away before my defence date.
Acknowledgements

I would like to thank my senior supervisor, Meg Holden, for all of the opportunities to learn and grow in the Urban Studies program and beyond. I am grateful for your guidance and knowledge on housing topics and in helping me contextualize and organize my ideas. I also thank all of the other Urban Studies Professors whose classes I took and helped me to become a better-rounded urban planning professional.
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Chapter 1.

Introduction

Research Question: *How have private sector developers and local governments worked together to build affordable, market-rate, housing in the Pacific Northwest?*

My M.URB project explores means of advancing housing affordability options in the Pacific Northwestern cities of Vancouver and Portland in North America. I examine initiatives that show promise in making housing more affordable by selecting previously built housing projects demonstrating success in achieving affordability, and explore what tools or conditions can allow them to be repeated. The affordable housing initiatives that I study occurred primarily due to innovations in policy, innovative housing design, and key partnerships between local governments and developers. For the purposes of this study, affordable housing is housing for the middle class or area median income earners in a city. This is also termed “Workforce Housing,” described more fully in my research. This research examines strategies for the central cities of Vancouver and Portland, although there may be implications and strategies for suburban municipalities as well.

When beginning my research, I encountered several strategies that policy makers, planners, and research groups had developed to provide more affordable housing in cities. During this time, I became more interested in strategies that were affordable by design and benefited all parties involved (builders, planners, and citizens) because I felt that they could have a larger impact and be more sustainable into the future. Alternatively, strategies that were more regulatory in nature were considered, and in particular the use of Inclusionary Zoning (IZ), which requires
developments to build a certain percentage of units below market rate.¹ This policy has merit and is frequently put forward in many different affordability strategies, however it is an increasingly complex policy with trade-offs that I examine later in my research argument. In response to this finding, I aimed to find case studies that were less regulatory in nature.

I discovered two case studies that can answer my research question and be affordable through design. These case studies include: An infill housing toolkit that promotes best practices to accommodate greater density and variety in single family neighbourhoods in Portland, and a unique partnership that was forged to develop the multi-family housing development 60W Cordova in downtown Vancouver. The Infill Housing Toolkit in Portland is a multi-faceted approach to promote a diversity of affordable housing forms, permit flexible zoning standards, and serve as a strategic guide for development. I describe the Infill Toolkit more fully in this research.

A third dimension of my research is how to keep the housing innovations affordable in the long term. Affordability initiatives that only last for a period of years, or are available exclusively to one group of buyers do not make the best use of the innovative affordable housing strategies that I examine. In response, this research will examine the use of a third party manager, referred to as a “Housing Authority.” In particular, I examine the practices and history of the Whistler Housing Authority; an organization established for more than 30 years, which has more than 1,000 dwelling units in its inventory.

I begin my research by describing Metro Vancouver and Portland as appropriate study locations for these kind of affordability initiatives. My literature review then dissects the multiple meanings of affordability and affordable housing. This section describes why affordable housing is important to our cities, and how scholars and community planners are measuring housing affordability currently. I

then discuss the practice of zoning and other land use regulations while bringing up viewpoints on how they may be affecting housing affordability. Next, I make a formal argument against the use of the regulatory practice of Inclusionary Zoning to create more affordable housing. A description of my research methods follows, along with a section that details my case study selection process.

For the remainder of the thesis I systematically characterize each case study and describe how local governments, developers, financiers, and housing authorities have previously helped to create affordable housing. The case studies detail who was involved, what role they played, and why that role was vital in providing housing affordability. I interviewed key stakeholders in each case study to see whether cities could replicate these strategies, and to what extent we could reasonably expect to see them in our cities. The final section details the practices of the Whistler Housing Authority and the tools it uses to keep housing affordable. The goal of the final section is to cross-reference ideas and goals between my two case studies and the use of a housing authority.

I conclude this work by summarizing my research and making recommendations based on my learnings.

1.1. Key Research Concepts

I will be writing about several key strategies and tools used to develop affordable housing. Many of these tools and strategies can overlap and their titles share similarity. To avoid confusion and allow the reader to easily follow along, I will describe the four key strategies now in the table below, discuss all of these concepts more in the research as well.
Table 1: Key Research Components and Studies

<table>
<thead>
<tr>
<th>Key Concept, Strategy, or Tool</th>
<th>Description and use in this research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smart Growth</strong></td>
<td>Smart Growth is a development strategy that encourages compact growth and development in cities and regions. The goal is to avoid sprawling development whilst maintaining land for farming and environmentally sensitive areas. Smart Growth encourage mixed-use developments and multi-modal transportation options that are not limited to the automobile.</td>
</tr>
<tr>
<td><strong>Smart Growth Toolkit for Affordability</strong></td>
<td>The British Columbia chapter of Smart Growth developed a toolkit for affordability in 2008. This strategy guide suggested several tools and strategies that municipalities in British Columbia can do to encourage more affordable housing for the middle class and below. This toolkit has guided my selection of case studies.</td>
</tr>
<tr>
<td><strong>Mayor’s Task Force on Housing Affordability</strong></td>
<td>In 2012, the Mayor’s task force on Housing Affordability published a list of recommendations to create more affordable housing options in the city of Vancouver. These recommendations are detailed in the research design and they have guided my selection of case studies.</td>
</tr>
<tr>
<td><strong>City of Portland Infill Design Toolkit</strong></td>
<td>In 2006, the City of Portland created a toolkit that would facilitate a greater diversity of housing in existing neighbourhoods, and increase density in single-family neighbourhoods. This toolkit provides the means of doing so by creating zoning to permit a variety of housing forms, flexible density limits, prototypes for good design, and thorough design suggestions and guidelines.</td>
</tr>
</tbody>
</table>
1.2. Areas of Study: Metro Vancouver and Portland

In this section, I describe the rationale for my study of affordability initiatives in Metro Vancouver and in Portland, Oregon. The similarities between these two cities go beyond their geographic proximity, and beyond the application of an Urban Growth Boundary. Both cities and regions have stresses on their housing market, but each has a unique context. I describe each context next along with the studies and assessments that each city has done so far on their respective housing markets.

Metro Vancouver as a Study Location

Background: Factors affecting housing affordability in Metro Vancouver

One does not need to search long to understand that there is an affordable housing crisis in Metro Vancouver. Headlines in Vancouver and global newspapers read the following:

“Vancouver’s living situation is uniquely nuts and its angst is real estate” *National Post, 2015.*

“Vancouver’s million-dollar homes symbol of growing inequality: Youth restless in a city divided by wealth inequity” *Vancouver Courier, 2015.*

“Vancouver’s housing crisis: No, not like before, and not like anywhere else (except Hong Kong)” *South China Morning Post, 2015.*

“Vancouver detached homes reach record-high price in May” *Globe and Mail, 2015.*

These news articles identify many aspects of the affordable housing crisis in Metro Vancouver where the average sales price of all homes in the lower mainland was $631,112.50 as of November 2015\(^2\). They detail the boom of construction that is happening in the region, the rapidly increasing housing prices, and the stagnating

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salaries of residents. The implications of this crisis includes families not being able to afford city living and young people leaving the city. The articles feature planners, politicians, academics, and homebuilders who make suggestions on what could be done to solve the problem or slow the crisis. These articles bring the affordable housing problem to the immediate attention of citizens and on a regular basis.

**Vancouver Housing Trends**

Metro Vancouver employs the Regional Growth Strategy (RGS) and the Regional Affordable Housing Strategy (RAHS), to guide growth in the region and affordable development. The RGS is a consensus-based document where the municipalities agree to be guided by the same set of principles. The RGS does not directly provide tools or strategies to provide affordable housing in municipalities, but it does require municipalities to respond to the goal areas in their municipal plans called Regional Context Statements.  

The RGS plots out population trends until the year 2040 and the corresponding number of housing units that need to be built in each municipality to house 1,000,000 additional people in the region between 2011 and 2040. The RAHS provides estimates for housing demand for low and moderate incomes across the region. Of all the municipalities, Surrey and Vancouver will need to provide the greatest and most diverse affordable housing options for an additional 49,400 and 30,700 people respectively by 2040.

The RAHS characterizes the housing affordability crisis today by looking at what those who earn 120% of the Area Median Income, or roughly $76,000 yearly, can afford in Vancouver, West Vancouver, Richmond, and Burnaby. As an indicator, in 2007, 120% AMI earners could possibly afford 33% of all homes (all forms) sold that year, but in 2012 that number slipped to 29%. The affordability does increase in the

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6 Regional Affordable Housing Strategy. Metro Vancouver. pg. 8
7 Regional Affordable Housing Strategy. Metro Vancouver. pg. 10
Fraser Valley real estate area which includes Surrey, Delta, Langley, and Maple Ridge. This data was charted by Metro Vancouver and is presented below in Figure 1.

Greater Vancouver Real Estate Sales, Total and Estimate of Affordability, 2007-2012

Fraser Valley Real Estate Sales, Total and Estimate of Affordability, 2007-2012

![Home Sales that Median Income Families Can Afford](image)

The number of households in core need is also an indicator of an emerging affordability problem. The proportion of the population in greater Vancouver that is in core housing need has increased by 48% over a period of 10 years from 2001. As of 2011, 31.7% of renters were in core housing need, and 10.8% of homeowners. It is conceivable that this number will rise over the coming ten years.

Portland, OR as a Study Location

Background: Factors affecting housing affordability in Portland

When comparing real estate values of west coast cities, Portland is considered the most affordable with a median sales price of $342,000 for all housing forms (as of September 2015). However, rapid growth in recent real estate prices is creating

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8 Regional Affordable Housing Strategy. Metro Vancouver. pg. 11
9 Regional Affordable Housing Strategy. Metro Vancouver. pg. 10
10 ibid
11 ibid
problems for residents whose wages have not increased at a similar rate. The City of
Portland has identified these issues in a Housing Needs Analysis (2011), and has put
forward goals and initiatives to meet the housing needs of residents.

Recently in April 2015, Oregon State legislature permitted the use of
Inclusionary Zoning (IZ) to provide affordable housing.\textsuperscript{13} What makes Portland an
interesting place to study affordability initiatives despite increasing housing costs is
that until the spring of 2015, the city had to address affordability without the tool of
inclusionary zoning.

Portland Housing Trends

By 2003, it was becoming evident that rental rates and housing prices had far
outpaced income growth in Portland for the past decade.\textsuperscript{14} Of the two tenures, renters
as a group are more burdened because they are more likely to pay greater than 30% of
their income on housing expenses, as shown in Figure 2 below.\textsuperscript{15} These rates are
shown using the core housing need standard, which benchmarks whether households
pay greater than 30% income on housing as discussed in the literature review under
section 2.1.2.

<table>
<thead>
<tr>
<th>All Households</th>
<th>Owners</th>
<th>Renters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Portland</td>
<td>Nation</td>
</tr>
<tr>
<td>Not paying more than 30%</td>
<td>55%</td>
<td>64%</td>
</tr>
<tr>
<td>Paying More than 30%</td>
<td>45%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Figure 2: Portland Housing Expenditures for Owners and Renters (2003)\textsuperscript{16}

From 2000 to 2007, the monthly housing cost for homeowners increased by
40%, and monthly housing costs for renters increased by 23%.\textsuperscript{17} During that time
homeownership rates did increase by virtue of unconventional lending techniques

\textsuperscript{13} Schmidt, Brad. 2015. “After Years of Trying, Inclusionary Zoning Bill Passes Oregon House.” The Oregonian, April 14.
http://www.portlandonline.com/portlandplan/index.cfm?a=373238&c=51427. Pg 11
\textsuperscript{16} Ibid
\textsuperscript{17} “Housing: Updates on Key Housing Supply and Affordability Trends.” Pg 12
such as adjustable-interest rate mortgages that increase or decrease payments depending on new bank rates rather than fixed long term agreements.\(^\text{18}\)

Renters in Portland had average annual, before-tax incomes of $35,000 USD, and the households with greater than $35,000 tended to be homeowners; renters tended be single person households during the data collection period between 2000 and 2009.\(^\text{19}\) For renters, the number of rental units that ranged from $400-600 / month decreased from 2000-2007, these units are considered affordable for those earning close to $17,500, or minimum wage.\(^\text{20}\) In the same period, the median housing price rose 43% or from $166,000 to $288,900 over a period of 7 years; in 2015, the median house price was $342,000 and appreciated at a rate of 29.1% from 2010-2015 (see figure 3 below).\(^\text{21}\) This price is currently at the maximum for area median income earners in Portland without being “burdened,” or paying greater than 30% of household income on housing. The area median income for home owners in Portland is $79,622 per year, which limits affordable monthly household costs to $1990.55.\(^\text{22}\) If the sale prices of homes appreciate further then it is conceivable that Portland will face an affordable housing “crisis” similar to other west coast cities such as Vancouver or San Francisco.

![Figure 3: Portland Home Sales Timeline\(^\text{23}\)](image-url)
Housing Needs Analysis for 2035

Portland completed a Housing Needs Analysis in 2011 projecting housing trends and issues including the city’s ability to meet housing demand, and affordable housing demand until 2035. The city worked with Portland State University to model population growth and housing need regionally by forecasting the availability of developable land, transportation demand, economic growth and job creation, and the location of jobs; this model was called “Metroscope.” The findings of the model indicate that the proportion of burdened households, or those which pay greater than 30% of their income on mortgage or rental payments, will rise from 44.1% in 2005 to 49.2%. The percentage of renters that pay more than 30 percent of their income for housing rises from 51.4 % in 2005 to 56.9 % in 2035.

It is clear that Portland, Oregon takes its current and upcoming affordability problems seriously and has developed goals and initiatives to address them. The Infill Housing Toolkit pre-dates the Housing Needs Assessment, but can be considered a pre-emptive and pro-active attempt to encourage more affordable housing in the city.

26 Housing Needs Study for the Portland Metro Area: Final Report. pg. 3-22
Chapter 2.

Literature Review

This literature review will provide a conceptual framework on the topic of affordable housing and what planning determinants can increase or decrease affordability. I will bring forward some of the most prevalent concepts and strategies concerning affordable housing in North America. I begin with an introduction to affordable housing, followed by background on why affordability is important in cities, and provide common methods of measurement. Afterwards, I describe “Zoning” as a major municipal tool for making land use decisions along with literature on how it has affected housing affordability. The literature review concludes by describing Smart Growth as an urban growth management strategy that promotes the development of compact communities rather than sprawl, and what implications this may have on housing affordability.

2.1. The Context of Affordable Housing

The importance of affordable housing in the context of North America is summarized and presented in this section. Section 2.1.3, will describe a few methods that different bodies have used to define and measure affordable housing in Canada.

Providing the context for affordable housing allows me to differentiate the need for market-rate affordable housing in particular. I also reference several methods to define and measure housing affordability in my own case studies to see whether they meet the need for the middle-class. The methods help me set a baseline to judge the affordability of the case studies in an objective manner.
2.1.1. **Defining Affordable Housing**

When researching and discussing affordable housing, questions often asked include “What do you mean by affordable housing?” or “Affordable to whom exactly?” Affordable housing has become an umbrella term used to express several different types of housing that are not always market rate affordable (my focus). The types of housing that have been included under the terminology of affordable housing include: Rental housing, housing for families, below market rental, social housing, emergency shelters, and subsidized ownership as well. The targets for these housing types can be the homeless, those with disabilities, low-income earners, or the middle class; none are more correct than others but it is important to be specific.

Organizations such as Smart Growth BC and Metro Vancouver use a housing continuum to distinguish different groups and targets for housing production. A sample continuum from Smart Growth BC is shown in Figure 4 below:

![Figure 4: Affordable Housing Continuum](http://www.smartgrowth.bc.ca/portals/0/downloads/sgbc_affordable_housing_toolkit.pdf)

2.1.2. **Affordable Housing and the Neighborhood Effect**

As Canada becomes more urban and cities become employment centers, an item that deserves attention and research is the importance of neighborhoods that are accessible to citizens with diverse income levels. From the research that does exist, when citizens are pushed out of neighborhoods due to rent increases or redevelopment then several problems can emerge. Neil Bradford of the University of

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Western Ontario studied Canadian cities in the early 2000s that were growing dynamically with new productive economic clusters. Bradford found that the prosperity could exist alongside, and potentially mask, substantial poverty and growing inequality and exclusion in cities. These effects of exclusion, called “neighborhood effects” are cyclical and become worse over time for low-income populations concentrated in particular geographical areas.

“This leads to place-specific “neighbourhood effects,” whereby social exclusion, perhaps originating in individual human capital deficiencies or unemployment, is compounded by features of the locality itself.”

The citizens who are pushed out become excluded from participating in the economy through work opportunities. Second, those pushed out are excluded from social or kinship networks that comes from a sense of belonging to a neighbourhood, community or city. Finally, those pushed out can be excluded from taking part in civic, volunteer, or advocacy groups that are present in established neighbourhoods.

Bradford extrapolates by stating that a spatial mismatch occurs where jobs are located in the suburbs but low income earners must travel far to reach them, or the opposite occurs where the lower income earners must commute to city centres when they can only afford to live in suburbs. The segregation may lead to “place discrimination” in the labour market where an applicant is disqualified from a job because their place of residence is too far from the job. A lack of quality public transportation can amplify these effects. Furthermore, those who are excluded due to the neighborhood effect may be subject to a poor public realm, with negative health outcomes due to greater exposure to pollutants, fire, and poor infrastructure.

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29 Why cities matter, pg 34
30 ibid
31 Why cities matter pg 35
33 ibid
34 ibid
35 ibid
36 ibid
37 ibid
Research conducted by Anne-Marie Seguin and Annick Germain at INRS (Institut national de la recherche scientifique) examined the City of Montreal during the 1990s, a period when the city was challenged with poverty and unemployment and increasing rates of immigration. The researchers examined census tracts where 30-40% of the population was low income, but found that the neighborhoods maintained a social mix that was reflective of the greater Montreal Census Metropolitan Area; the census tracts studied were not dominated by groups of unemployed, uneducated, recently immigrated, or other disadvantaged groups. The researchers pointed to strong governmental partnerships and initiatives to promote access to education, access to health resources, and the prevalence of strong initiatives to build affordable housing or renovate older housing stock.

In the absence of strong governmental partnerships that existed in the case of Montreal, Bradford suggests cities can implement strategies to reduce segregation. Strategies that cities can implement include design decisions that do not isolate the poor such as walls of public housing and expressways. A connection needs to be made between public space, housing, and jobs along with transit routes to connect them. Partnerships between all levels of governments also need to occur to identify areas of income segregation and build capacity for more mixed-income neighborhoods. Bradford explains that these strategies are critical to avoid the problem of exclusion transforming into “social containment” of ethnic minorities or low-income populations that are effectively sealed off from other income groups or non-minority populations.

In response to the need to create more mixed income communities, this research will look at housing options that have shown promise for people who earn the area median income of their region. It is important to note that these income

38 Seguin, Anne-Marie, and Annick Germain. 200AD. The Social Sustainability of Montreal: A Local or State Matter? The Social Sustainability of Cities: Diversity and the Management of Change. University of Toronto. Pg 41
39 The Social Sustainability of Montreal: A Local or State Matter? Pg 43
40 The Social Sustainability of Montreal: A Local or State Matter? pg 51
41 Why cities matter pg 38
42 ibid
groups are not able to afford market-rate housing in cities like Vancouver (see figure 1). Another term for the housing needed by this income group is “Workforce Housing,” which is meant to be affordable to people who earn between 50-120% of the area median income a region. Workforce housing is also oriented towards those who are crucial to the core functioning of the city such as emergency workers, maintenance workers, and police officers to name a few examples.

2.1.3. Measuring Housing Affordability in Canada

Organizations such as housing corporations, non-profits, mortgage providers, and governmental bodies have different interpretations of affordability and measurement methods. In the Canadian context, the most prevalent method comes from the Canada Mortgage and Housing Corporation (CMHC) and titled “Core Housing Need.” This measurement states that those who spend greater than 30% of their before-tax income to obtain housing of sufficient quality and size are in core housing need and therefore in need of affordable housing. Core housing need takes into account the following two qualifiers: firstly, that the housing is adequate and not needing major repairs, and secondly that the housing is suitable for the household size in terms of the number of bedrooms. The “30% rule” is standard across Canada and utilized by Metro Vancouver when measuring housing affordability.

In British Columbia, the provincial housing body, BC Housing, establishes a “Housing Income Level” (HIL) rate that citizens must not exceed in order to qualify for living in subsidized housing. Area Median Income (AMI) is applied in a similar method to HIL, and used by the Department of Housing and Urban Development (HUD) in the United States. HUD and BC Housing estimate the family median income
in an area every year, and make an adjustment for family size to express a percentage of area median income. In 2006, the Housing and Transportation (H+T) Affordability Index was created as another method to assess affordability and includes transportation as a vital living cost in addition to shelter costs. The H+T model proposes that transportation costs should make up 15% of an average annual income and thus affordability of both housing and transportation costs combined should be measured at a threshold level of 45%, rather than 30%. In 2015, Metro Vancouver released a study of transportation costs in the region and proved that outer suburbs such as the Township of Langley and Delta had higher combined H+T costs than the City of Vancouver or inner suburbs such as Burnaby and New Westminster.

The 30% rule of affordability measurement has been analysed and criticised by researchers. David Hulchanski, a housing researcher in Canada, refers to the 30% rule as the “housing expenditure-to-income ratio,” and finds that housing consumption patterns and the means that people use to meet their needs are too diverse to be measured accurately by this ratio, and the method should be considered a “rule of thumb.” Hulchanski believes that the 30% method of measuring is not accurate in defining housing need and creating public policy because no research methods nor analysis techniques can defensibly be applied.

Despite the limitations, I require a method to benchmark the value of the housing developed in the specific cases I examine in my research. I make use of the 30% rule to determine whether homebuyers could access the housing in my case studies.

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50 ibid
53 ibid
2.2. Limiting Affordable Housing with Restrictive Land Use and Zoning Policies

This section will focus on the use of zoning for housing development and land use regulation, and I point to research showing how the practice may limit affordable housing. I also discuss the concept of “missing middle housing,” which promotes housing typologies that fit between single family homes and apartment buildings but have become difficult to develop because of inflexible zoning bylaws. This section is important to my own research because later, I will examine how zoning bylaws are varied, or are made more flexible to accommodate a greater range of housing forms. In order to contextualize the variances and flexibility, I must first describe how zoning got its start and what issues have emerged in its application.

2.2.1. A Brief History of Zoning

Zoning has a history in North America since 1928 when a court case upheld the government’s ability to restrict the types of uses for which a landowner could develop his land in Euclid, Ohio. That ruling upheld the practice of “Euclidian” or single-use zoning which has become the major regulatory tool of land use today. Zoning is a tool allowing municipalities to regulate land use decisions such as the activities on a parcel of land, size and look of a development, number of building units, and separation from other units among many other possible regulations. The purpose of this tool was to ensure that activities that did not correspond well together such schoolyards and smog creating factories were not on the same or adjacent parcels of land. As time continued, some researchers believe the regulations became outdated and too stringent to facilitate affordable housing.

Today, many cities are realizing the value of mixing uses, notably through a development method called “Transit-Oriented Development.” This strategy aims to capitalize on the availability of rapid transit by providing greater density, uses such as commercial, residential, and some forms of industrial, and many other amenities.\textsuperscript{56} The goal here is get people to walk in their neighbourhoods and use transit to access other parts of the city rather than use a private automobile.

2.2.2. Segregating Land Use through Zoning

A thesis titled "Form-Based Codes: A Cure for the Cancer Called Euclidean Zoning?"\textsuperscript{57} states that one of the first critics of zoning practice was Jane Jacobs in her book The Death and Life of Great American Cities. Jacobs characterized zoning as rigid tool that created low-density, singular-use districts, and noted that zoning is a method of social and economic exclusion.\textsuperscript{58} The thesis then examines zoning further to state that it has not evolved with changes in society, is written with too much jargon to be accessible to citizens, and impedes the creation of mixed-use developments.\textsuperscript{59} Zoning has become “exclusionary” by creating single use neighborhoods for only single detached houses with minimum square foot requirements, minimum lot sizes, and oriented towards ownership only.\textsuperscript{60} Contrarily, the hallmarks of planning for affordable housing are making use of attached multi-family units, small lot sizes, diversity in housing form and tenure, having multiple uses, and providing rental housing.\textsuperscript{61}

To respond to the criticisms of zoning, my thesis examines case studies that have challenged the regulation of zoning by varying many requirements to build housing that is affordable for middle income Vancouver and Portland residents. I will

\textsuperscript{57} "Form-Based Codes: A Cure for the Cancer Called Euclidean Zoning"
\textsuperscript{59} Form-Based Codes: A Cure for the Cancer Called Euclidean Zoning? pp 11
\textsuperscript{60} Form-Based Codes: A Cure for the Cancer Called Euclidean Zoning? pp. 11
first examine the "Missing Middle" housing typologies and how they are less likely to be permitted because of contemporary zoning practices.

**Missing Middle Housing**

Daniel Parolek is a planner and architect at Opticos Design firm based in Berkeley, California. He coined the “Missing Middle” term in 2015. The “Missing Middle” concept identifies and advocates for housing typologies that should fit between mid-rise apartment buildings and single-family homes, be transit accessible, and provide greater affordability. Missing middle housing typologies include courtyard apartments, bungalows, and live-work housing. The housing typologies are provided in figure 5 below.

![Figure 5: A Diagram of Missing Middle Homes](image)

Notably, Parolek states that zoning practices prohibit medium to high-density housing forms within single-family zones, while the smaller footprint and lower heights do not meet the requirements of current multifamily zones. Opticos Design advocates for several strategies to include the missing middle housing types into communities such as using better, more space efficient design for the smaller units,

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63 "Missing Middle: Responding to the Demand for Walkable Urban Living."
64 ibid
65 ibid
66 ibid
limiting off-street parking requirements from leading site plans, and using shared space rather than private space to create a sense of community.67

Parolek and his firm asserts that traditional, or Euclidian, Zoning tends to favor single detached housing or large apartments, but other diverse forms are perceived to be “breaking the rules” because they are a hybrid of an established housing form.68 Alternatively to regulate these housing forms, Parolek recommends Form-Based Codes which provide predictable built results for any housing form because housing matches the pattern of a city segment or “transect” which may be rural in nature, or low-to-high density.69. A sample transect is shown in figure 6 below that displays seven different transect zones. Each zone would have its own set of guiding design principles, height requirements, setbacks, and goals for amenities or public places. The assigned district at the right of the transect diagram could have special requirements for a heritage district, or be used for heavy industrial uses that would be counteractive to other design goals in the other transects.

![Figure 6: Transects "Zones" used by Form-Based Codes.70](image)

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68 ibid


70 ibid
2.2.3. Economic Externalities of Zoning Practices

The research paper “The Impact of Zoning on Housing Affordability” by Gyourko and Glaeser brought forward several criticisms of general conceptions of housing affordability along with restrictive zoning legislation in American cities. Tsur Somerville, of the University of British Columbia, reviewed this study and agreed with many assertions of the original paper, and finds that the study is applicable in the Canadian context. The original paper takes the approach that zoning altogether is a detriment to housing affordability because it artificially creates scarcity of land and lowers the supply of all housing units, based on the assumption that greater supply is what ultimately what lowers the average sale price of housing. The paper asserts that zoning becomes a tax on affordability because gaining a permit for development becomes a time consuming process, risky because it could alter or destroy a business model, and can often be an expensive and technical process. Furthermore, the authors suggest that if zoning and land-use regulations were reduced or eliminated then the problem of housing affordability would be only tied to poverty rates and low incomes, not development patterns.

Tsur Somerville critiqued Gyourko and Glaeser’s research because it does not account for the positive contributions of land use regulation, particularly with reference to urban containment boundaries which limits external growth of an urban area in order to protect environmentally sensitive land or area for food production. Somerville suggests that UCBs can improve mobility and accessibility within a region, improve transportation options to jobs, and the creation of mixed-use centers. These aspects improve affordability options in the same way Neil Bradford described earlier because lower income groups now have access to new job and social networks. I agree with Somerville’s position here that there are benefits to regulation such as

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72 The Impact of Zoning on Housing Affordability pg 2
73 The Impact of Zoning on Housing Affordability pg 20
74 The Impact of Zoning on Housing Affordability pg 3
75 A critical review of Glaser and Gyourko’s Paper
76 Urban Containment Boundaries http://reason.org/files/c5ba9be86e1bda65352dc80e67a46c5a.pdf pg 4
the UCB. I examine the UCB more closely in the upcoming section on Smart Growth; also examined is what the practice means for cities such as Portland and Vancouver now and in the future. Before I do that, I will identify an emerging viewpoint on the loss of housing diversity in cities.

Later, I look at an innovative approach to zoning in Portland, Oregon. The local government in Portland led the approach when they created an infill toolkit that permits greater flexibility in their Zoning Bylaw. The flexibility promotes multi-family housing development in traditional single detached housing zones and shows promise for adding affordable housing in the city.

2.3. Smart Growth and the Effect on Affordability

This section will describe the “Smart Growth” movement and planning strategy in North America, and how it may affect affordable housing. This section is important to contextualize my work because any initiatives for housing development, and affordable housing development, in Portland, Vancouver, or Whistler will fall under the planning principles of smart growth. The table below shows the main planning principles of smart growth.

Table 2: Smart Growth Planning Principles

<table>
<thead>
<tr>
<th>1. Mix land uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Take advantage of compact building design</td>
</tr>
<tr>
<td>3. Create a range of housing opportunities and choices</td>
</tr>
<tr>
<td>4. Create walkable neighborhoods</td>
</tr>
<tr>
<td>5. Foster distinctive, attractive communities with a strong sense of place</td>
</tr>
<tr>
<td>6. Preserve open space, farmland, natural beauty, and critical environmental areas</td>
</tr>
<tr>
<td>7. Strengthen and direct development towards existing communities</td>
</tr>
<tr>
<td>8. Provide a variety of transportation choices</td>
</tr>
<tr>
<td>9. Encourage community and stakeholder collaboration in development decisions</td>
</tr>
<tr>
<td>10. Make development decisions predictable, fair, and cost effective</td>
</tr>
</tbody>
</table>

Smart Growth as a movement and strategy promotes compact development and development on an infill site or adjacent to a prior developed area rather than on new undeveloped areas. Smart Growth also promotes the use of an urban containment boundary, defined earlier as limiting outward growth of urban development.

Critics of Smart Growth make assertions similar to those who criticize Euclidian Zoning detailed in the previous section. Critics state that Smart Growth planning policies place undue restrictions on where and how housing can be built and therefore interrupt the supply of housing which causes unaffordability. The restrictions that Smart Growth critics are referring to include urban growth boundaries and open space requirements according to researchers Addison, Zhang, and Coomes in their research publication “Smart Growth and Housing Affordability: A Review of Regulatory Mechanisms and Planning Practices.” The researchers suggest that additional costs are incurred in Smart Growth developments such as environmental cleanup or tearing down of derelict buildings on infill sites, or administrative costs such as lengthy rezoning application timelines, greater neighbourhood consultations. Addison, Zhang, and Coomes suggest that developers may transfer these costs to homebuyers, or purposely create more expensive houses to market to a higher income group in order to easily transfer the high costs.

Proponents of Smart Growth suggest the strategy provides new opportunities for affordable housing because mixed use and compact communities provide more transportation options such as transit availability and amenities in a walkable distance. The need for a private automobile and the associated costs are reduced by

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80 Smart Growth and Housing Affordability A Review of Regulatory Mechanisms and Planning Practices, pg 218
81 Ibid
82 Ibid
83 Affordable Housing and Smart Growth: Making The Connection pg. 20
mixing land uses.\textsuperscript{84} Mixing land use also allows lower income residents to access a neighborhood that is better connected to job opportunities and possible training or job coaching facilities; these resources can be greatly limited when land use is segregated.\textsuperscript{85} Increasing the development of townhouses, duplexes, and apartments meets the goals of Smart Growth by being more space efficient and in providing housing diversity, and also counters traditional zoning practice by promoting housing diversity.\textsuperscript{86}

All of these dimensions of Smart Growth are aimed at creating affordable housing. However, in practice, creating mixed-use, transit friendly and walkable neighborhoods has not always created affordable housing. In relation to my research, Vancouver and Portland both recognize the need to limit sprawl because of environmental concerns such as climate change and the financial burden of sprawling development. So, my case studies will reflect the need to create housing affordability under this planning theory. As I mentioned in the introduction, the case studies selected both are in the central cities of Vancouver and Portland, where they can have the greatest implications; however, suburban municipalities can also take advantage of these strategies because they too reap the benefits of Smart Growth such as compact communities, multi-modal transportation, and optimizing use of existing services within communities.

2.4. Summary

This literature review explained that there are many interpretations of housing affordability and there are different target groups within them. I examined current housing affordability measurement methods, and the organizations who use them, in order to guide my own research. Zoning was examined as a land use practice,
but the review found that the practice can create a rigidity that prevents the development of affordable market-rate housing, such as the Missing Middle housing forms. Finally, I defined Smart Growth as a land use practice and examined how it has been criticized for making cities less affordable because of its restrictive policies. The main point from this section is that the areas where I am studying affordability take place in Smart Growth environments and I propose to find solutions for affordability there.

Now that I have set up the context in which I will research housing affordability, I present my research argument on methods to create affordable housing for the middle class and the potential pitfalls on using regulatory tools.
Chapter 3.

Research Argument

3.1. Research Argument: Promoting Affordability Through Context-Based Design Rather Than “One-Size Fits All” Regulation

It is the position of my research that affordability strategies that encourage innovation within their geographic and political context, or partner multiple stakeholders with the goal of providing affordable housing should be given first priority over a more regulatory, one-size fits all, approach. While I intend to further explore and define those strategies in this thesis, strategies considered to be inclusionary through design should understand the local context and will include flexible and neighborhood specific land-use planning, the legal means to restrict sales prices of homes, cost saving measures in construction, and innovative financing measures. Design approaches to affordability will utilize partnerships amongst municipalities, non-profits, and private sector developers to fully utilize their assets such as land, equity, or development expertise. When using partnerships, the private sector developer should be able to maintain their business model and profits in this approach.

Contrarily, regulatory tools such as Inclusionary Zoning (IZ) are not context based, can be too specific or prescriptive to practice broadly, and have difficulty in responding to unique city needs such as affordable housing for a specific group. Regulatory tools can limit or reduce a negative practice from occurring, but may not address the entire practice of developing non-affordable housing. Furthermore, as I later discuss, regulatory tools put in place to limit the production of non-affordable housing, may be harmful by having economic side effects, and do have limits to their application. In this section, I briefly examine the use of IZ, which requires new housing development to include some proportion of affordable units. Again, IZ does not
address the practice of developing expensive housing; IZ only requires a certain percentage to meet an affordability threshold. This section will detail the limitations of IZ as noted in other studies, the debate that scholars are having on the severity of those limitations, and the practice of IZ in the City of Vancouver.

To summarize, I do not suggest a complete removal of regulation in the housing market. However, when the goal is to provide affordable housing for AMI earners, in the absence of funding from senior-level governments, then one should first look to prior innovations in housing development along with partnerships that helped to facilitate them.

3.1.1. Inclusionary Zoning Defined

Inclusionary Zoning (IZ) is a policy tool that is enacted by local governments to provide more affordable and mixed-income housing in municipalities, and in practice can address the exclusionary nature of zoning. The tool has been enacted in Canada in several major cities such as the City of Vancouver, Montreal, and Toronto. The policy either encourages or requires housing developers to build or design a predefined percentage of dwelling units to be affordable; IZ can also have alternative compliance methods such as paying a fee-in-lieu, a land donation, or construction off-site. A fee-in-lieu alternative allows a developer who is subject to IZ on their project to give a pre-determined fee (based on number of dwelling units or square footage of building) to a municipality or housing trust fund. A land donation allows a developer to give ownership of a parcel of land that was in their inventory to a municipality that can develop it or sell it again. The third alternative allows a developer to build affordable housing off-site, which can be advantageous because construction can

88 ibid
89 Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto? pg 16
90 ibid
occur in an area with lower land value or in a designated priority area.\textsuperscript{91} IZ policy is generally used in “hot” development markets with a lot of building activity or growing suburbs such as Vancouver, Toronto, or Calgary where there is significant need for more affordable housing. \textsuperscript{92}

\subsection*{3.1.2. What are the barriers and limitations of Inclusionary Zoning?}

During my review of IZ, supporters often stated at the end of their research that IZ policy cannot solve all of the affordability problems in a city, and must be part of a larger strategy that includes funding from senior levels of government.\textsuperscript{93} \textsuperscript{94} Housing markets go through periods of high and low activity; when there is low activity, then many projects that were subject to IZ policy can be put on hold.\textsuperscript{95}

Cities offer a fee-in-lieu alternative to a builder which is attractive because they will not have to build the affordable housing themselves, but this has been shown to be one of the biggest weaknesses of IZ policy; A municipality must charge a sufficiently high fee-in-lieu charge to actually build the future housing.\textsuperscript{96} It should be noted that many municipalities may not have the same development expertise to be as cost-effective or efficient as the private sector.

The fees collected are pooled for a period of time into an affordable housing trust fund managed by the local government, but during that time other priorities make take precedence over middle-income housing shortages of today.\textsuperscript{97} Furthermore, when pooling funds for an affordable housing initiative, a local government will have to compete with the private market in order to find land that is

\begin{itemize}
  \item \textsuperscript{91} ibid
  \item \textsuperscript{92} Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto? pg 52
  \item \textsuperscript{93} Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto? pg 53
  \item \textsuperscript{94} Mukhiya, Vinit; Das, Ashok. “Can inclusionary zoning be an effective and efficient housing policy? Evidence from Los Angeles and Orange Counties.” Journal of Urban Affairs. 2010. Web. pg 231
  \item \textsuperscript{96} Can inclusionary zoning be an effective and efficient housing policy? Pg 235
  \item \textsuperscript{97} CAN INCLUSIONARY ZONING BE AN EFFECTIVE AND EFFICIENT HOUSING POLICY? pg 235
\end{itemize}
suitable for development.\textsuperscript{98} Once the land has been purchased, an affordable housing development may also be subject to neighborhood opposition.\textsuperscript{99} Appendix 1 goes on to detail several other difficult issues that local governments need to address when implementing IZ. Because of these limitations many researchers and policy makers call for alternative courses of action to build more affordable housing, and this is something this thesis intends to examine.

**Inclusionary Zoning in Vancouver, BC**

The City of Vancouver created an IZ policy in 1988 when senior levels of government provided funding for middle-class and social housing, but funding levels have decreased over time.\textsuperscript{100} Vancouver’s IZ policy is activated when a developer initiates a rezoning of a large neighborhood sized development (200 or more units). The city requires the developer to set aside a negotiated amount of land for future affordable housing development.\textsuperscript{101} Since the late 90s, funding from senior levels of government has not been available so housing developers are given a fee-in-lieu option which has led to mixed-to-poor results.\textsuperscript{102} By 2008, the IZ policy had been in place in Vancouver for 21 years and had produced 1,427 affordable suites funded by the provincial government. The city has been able to fund 220 units through its own sources.\textsuperscript{103} The City of Vancouver has also been able to hold other land parcels in its inventory such as through the rezoning of the River District in Southeast Vancouver, which awaits senior government funding or with the option to sell to the private market.\textsuperscript{104} It should be noted that by 2008, BC Housing committed to funding 12 developments in the City of Vancouver that totaled 1,000 new affordable units.\textsuperscript{105} Nearly all of the units are earmarked for social housing and will be run by non-profits

\textsuperscript{98} Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto pg 34
\textsuperscript{99} ibid
\textsuperscript{100} Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto pg 24
\textsuperscript{101} Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto? pg 22
\textsuperscript{102} Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto?pg 33
\textsuperscript{103} ibid
including Atira Women’s Society, McLaren Housing, Rain City Housing, and other organizations based in Vancouver, BC. So, the City of Vancouver has used the Inclusionary Zoning tool to effectively secure sites for affordable housing development. The city has relied on provincial funding to produce 2,427 units (approximately) in its 27 years, which is an average of 92 units per year along with 220 of their own. Notably, the areas set aside by IZ policy have been oriented towards social housing rather than middle-class housing to meet the BC housing HIL requirements.

**Market Externalities of Inclusionary Zoning**

Much literature has been written about whether more expensive housing is built in order to compensate for an IZ requirement. Researchers and policy makers debate the claim that building activity has decreased in regions with IZ policy, which can ultimately stymie any affordability goals. There is also a debate about who pays the extra cost of developing housing that may be not be profitable. A concern raised is that a builder will transfer the cost to homebuyers, or build more luxury housing and market that housing to a wealthier group. Supporters of IZ argue that the cost is transferred to the landowner who is offered a lower price due to the potential for lost revenue of the developer and therefore have no impact on housing affordability.

The Canadian Homebuilders Association, an industry association, published a paper reflecting on developers’ experiences with IZ and how it negatively affects their business model, going as far as to suggest that the density bonuses handed out as incentives for IZ participation can be contrary to Official Community Plans and good neighbourhood design.

Researchers have studied these externalities for the past 20 years and this research will likely continue into the future. The lack of certainty about these effects

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106 ibid
107 Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto? pg 20
108 CAN INCLUSIONARY ZONING BE AN EFFECTIVE AND EFFICIENT HOUSING POLICY? Pg 233
further causes confusion and hesitancy about the application of IZ policy in cities. I believe that the regulatory nature of IZ puts the entire onus on the developer to absorb costs, negotiate a density bonus, pass costs onto the landowner, avoid construction, pass costs to buyers, or not comply with the policy. The remainder of my research examines three cases of affordable housing successfully brought forward by using local context and advantages to design affordability into development.
Chapter 4.

Research Design and Analytical Framework

4.1. Research Objectives

In order to answer my research question “How have private sector developers and local governments worked together to build affordable, market-rate, housing in the Pacific Northwest?” I have developed five research objectives. These objectives also ensure that I am able to describe critical aspects of each case study. My research objectives are as follows:

**Objective #1:** Identify construction innovations, policy measures, unique partnerships, financing mechanisms, or other features put forward to make this housing project affordable.

**Objective #2:** Examine the relationship and linkages between these housing projects and the Smart Growth BC affordability strategy, and the Mayor’s Task Force Strategy. The Missing Middle Housing Concept is addressed in the House-Plex case study specifically.

**Objective #3:** Interview key project stakeholders to gain an understanding of whether they view each project as a successful affordability initiative, whether they believe the project can be scaled up, and how it can be scaled up.

**Objective #4:** Gain an understanding of what limitations or barriers have existed to building or implementing this type of housing project in the past, and what possible strategies exist to facilitate more of such projects in the future.

**Objective #5:** Identify what policy tools and agreements a Housing Authority can make to keep housing that is built affordable, affordable permanently.
4.2. Case Study Selection

The two case studies that I chose to research are the following:

1. A condominium development in Downtown Vancouver which was a partnership with a private developer, Westbank, and three non-profits, Vancity Credit Union, Portland Hotel Society, and Habitat for Humanity.
2. The construction of diverse multi-family housing forms such as "House-plexes" which also make use of flexible zoning policy in the City of Portland, Oregon.

The case studies I selected met three qualifiers in order to respond to my research question. First, a case study must come from an existing affordability strategy designed for the Metro Vancouver region or in Portland, Oregon. Second, the case studies must research a housing development that currently exists so I am able to bring forward the sales or rental price of the dwelling after construction. Thirdly, the two case studies are within reach of Vancouver, BC so that I could easily access them.\textsuperscript{110}

The selection of two case studies allowed me to examine several potential strategies for affordable housing development; I detail the affordability strategies in the next section. Two case studies do not exhaust all strategies for affordable housing, but will allow my research to be manageable in scope. By using all of these qualifiers, I have gained enough information to articulate each case study thoroughly and reasonably draw conclusions from them.

The case studies are followed by an analysis of the Whistler Housing Authority to examine what tools or strategies it possesses to keep housing affordable permanently. The housing authority analysis will relate directly to the case studies that I researched to see how those initiatives can be kept affordable. The case study

will conclude by asking, “how can the use of a housing authority be scaled up to be more prevalent in our Pacific Northwestern Cities?”

To help select appropriate case studies, I examined two reports that have endorsed strategies to build affordable market-rate affordable housing. The first report, published by Smart Growth BC in 2008 is titled “Creating Market and Non-Market Affordable Housing: A Smart Growth Toolkit for BC Municipalities,” and features eight different strategies to build affordable housing.111 The strategies and their relationship to the case studies are listed in Table 3. The second report used to justify my case selection is the Mayor’s task Force on Housing Affordability report, created in 2012.112 This report features several additional strategies to build affordable housing. The table below shows both sets of strategies, Smart Growth in green and the City of Vancouver task force suggestions in blue. Each strategy guideline is on the left hand side, and on the right is the example case study that corresponds to it.

Table 3: Affordable housing strategies and the related case studies

<table>
<thead>
<tr>
<th>Smart Growth BC, Affordable Housing Toolkit(^{113})</th>
<th>Related Case Study</th>
<th>City of Vancouver, Mayor’s Task Force on Affordability(^ {114})</th>
<th>Related Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Inclusionary Zoning N/A</td>
<td>Increase supply and diversity of affordable housing</td>
<td>Related Case Study #2: Infill Design Toolkit, Portland</td>
<td></td>
</tr>
<tr>
<td>Use of secondary suites N/A</td>
<td>Enhance the city’s and the community’s capacity to deliver affordable rental and social housing</td>
<td>Related Case Study #2: Infill Design Toolkit, Portland</td>
<td></td>
</tr>
<tr>
<td>Density bonusing N/A</td>
<td>Protect existing social and affordable rental housing and explore opportunities to renew and expand the stock.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Resale price restrictions Case Study #1: 60W Cordova, Vancouver</td>
<td>Streamline and create more certainty and clarity in the regulatory process, and improve public engagement</td>
<td>Related Case Study #2: Infill Design Toolkit, Portland</td>
<td></td>
</tr>
<tr>
<td>Creation and use of a housing fund N/A</td>
<td></td>
<td></td>
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<tr>
<td>Land banking N/A</td>
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</tr>
<tr>
<td>Creation of a housing organization/authority Case Study #2: Infill Design Toolkit, Portland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectively utilizing partnerships. Case Study #1: 60W Cordova, Vancouver</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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\(^{113}\) Bold Ideas towards an Affordable City

\(^{114}\) Creating Market and Non-Market Affordable Housing: A Smart Growth Toolkit for BC Municipalities.
The Smart Growth affordable housing guide directly mentions the need for a housing authority, while the Vancouver Mayor’s Task Force recommends methods to preserve affordable housing stock. As I mentioned earlier, I respond to this by presenting the Whistler Housing Authority and contextualizing it with the two previous case studies that I have now detailed.

Next, I move on to the methods of gaining critical information on the case studies and disseminating that data to respond to my research objectives.

4.3. Research Methods

Now that I have detailed the case studies I have chosen and my research objectives, I will now discuss my methods in gaining research data.

Content Analysis

The research I conducted began with an analysis of the housing developments including permit applications, newspaper articles, and the housing policies of the respective city where each housing development is located. For each case study I examined regional / municipal government reports, real estate boards, and provincial / state government websites. I also visited the city hall of Portland to conduct a content analysis of all building activity that corresponds to the Infill Design Toolkit and to a particular development, Pardee Green, which uses the principles of the toolkit. I was able to gain all building permit data to assess the affordability, at an aggregate level, of the housing program. For the Whistler Housing Authority, I pulled documents from their website that detailed the history of the organization, the tools that they used, and the resulting affordable dwelling units produced.

Interviews with Local Experts

After the content review, I interviewed key stakeholders in each case study including city planners, housing developers, the financing team, and the Housing Authorities in Whistler and in Portland. The interviews were semi-structured to gain
an understanding of the nature of the housing project, their viewpoint on the realized affordability of the housing project, and their viewpoints on the affordability initiatives. I made use of the snowball interview method to connect with other potential stakeholders who may have further knowledge of each case study, as proposed in *Fundamentals of Social Research*. 115

**Pro Forma Analysis**

During the interview process, I asked the developer for access to their Pro Forma. The analysis of the pro forma allowed me to identify specific costs that the developer incurred when constructing the house. I examined the cost per square foot development and compared it to a benchmark cost drawn from Butterfield Cost Consultants and the International Code Council. Relaxations of policies and regulations were identified which included fee waivers from the local government, an important construction innovation, and alternative financing terms.

**Site Plan Analysis**

I asked the interviewee to help me identify what physical features on the site plan allowed the project to become more affordable. The site plans allowed me to understand how the development suits the applicable zone or varied from it to develop affordable housing. Site plans for infill housing in Portland were analysed to discover how the zoning allowed flexibility on site and how other initiatives from the city promoted the possibility of affordable housing through design. The site plan for 60W Cordova was examined to reveal the method whereby Westbank, the developer, maximized units per floor, and the variances the City of Vancouver permitted to allow them to do so.

**Field Visit**

I visited the location of each case study in order to make visual observations and take photos to identify specific features of each development. For the Infill Toolkit

in Portland, I took photos to illustrate how the higher density housing appeared next to a single-family home, how the site layout accommodated parking or not, and to see how a mix of housing looked in practice. The 60W Cordova site visit allowed me to see how the building compared to the neighbouring buildings and note any significant features on the street facing façade of the building.
Chapter 5.

Affordability strategies in the Pacific Northwest that are Inclusionary through Design

In my introduction and research argument, I identified two different methods of providing affordable housing, through one-size fits all regulation or context-based design and I decided to further explore the latter method. Now I begin to describe two case studies that created affordable housing due to specific partnerships, innovations in policy, and construction practices. The analysis of the Whistler Housing Authority is in another chapter because it provides a future policy direction, and because it responds to the case studies presented in this chapter. Specifically, the WHA demonstrates a model mechanism to correct a challenge I identify in the following two cases: how to keep the affordable housing initiatives affordable for the long-term.

5.1. Partnerships and Financing for affordability at 60W Cordova

5.1.1. Introduction and Link to Affordability Theories

This section will describe an innovative downtown Vancouver development that partnered Vancity Credit Union and Westbank Developments. This development was purpose-built to meet the needs of the area median income of a Vancouver resident. The median income in the city at the time of development was $71,740 (2012). The partnership and the construction innovations resulted in 108 units selling from $280,000 to $300,000.

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118 "Vancity Joins with Luxury Developer to Make Home Ownership Affordable."
My analysis of this case study is linked to the Smart Growth Affordability Toolkit, which illuminated partnerships between non-profits and for-profit developers as an effective affordable housing strategy when done correctly.\textsuperscript{119} For the sake of this discussion, Vancity is considered to be the non-profit but in reality it is a member-owned financial institution that exists for the benefit of its members. The purpose of these partnerships is to combine the development acumen and expertise of the for-profit developer (private sector) with non-profit (public sector) resources and accountability to construct affordable housing.\textsuperscript{120} The key ingredient of this partnership is ensuring that the for-profit developer makes a profit due to a market-rate portion of the project, or because they incurred lower costs and can accept lower revenues.\textsuperscript{121} A requirement of this affordability initiative is a clear understanding of goals between the partners, and the non-profit will decide the desired level of affordability and the method to achieve it.\textsuperscript{122} A successful partnership between the local government and developer can generate housing that the market cannot ordinarily deliver, and without government subsidy.

The following case study proceeds with a project overview, which includes the application to the City of Vancouver and details of the construction. I then focus on the partnership between Vancity and Westbank. Next, I report the viewpoints from project stakeholders on whether 60W Cordova is a successful housing affordability project and whether this project can be repeated and to what degree. The stakeholders for this project include representatives from the landowner and lender, Vancity and The Citizen’s Bank of Canada; the developer, Westbank; and planners from the City of Vancouver.

\textsuperscript{119} Smart Growth BC Affordability Toolkit. Pg 69
\textsuperscript{120} Smart Growth BC Affordability Toolkit. Pg 69
\textsuperscript{121} ibid
\textsuperscript{122} ibid
5.1.2. Project Overview

60W Cordova is a 10-storey, mid-rise project situated in the historic neighborhood of Gastown in Downtown Vancouver. The entire Gastown neighbourhood was zoned Heritage Area 2 before any application was made, so the previous use of the land, a surface parking lot, did not need to be rezoned because a mixed-use building fit the zone. The Gastown neighbourhood is amenity rich with many recreational activities nearby, restaurants, medical centres, and grocery stores in walking distance. The Waterfront Skytrain station is in walking distance, featuring transit to the North Shore, YVR Airport, and all other major centres in the region.

A development permit and building permit were the permissions required from the city to develop the project. The owner of the land was Vancity Credit Union who then sold it to Westbank Developments. The pro forma for the development is provided as Appendix B detailing costs and expected profits of the project. The 109 units in the development are either studios, one-bedroom units, or two bedroom units. The size of the units ranges from 560-790 square feet, so quite modest and small, but contribute to greater affordability because of less sellable space per unit for a potential buyer. Operating costs of the units are reduced because of solar hot water being provided to the units from the roof of the building rather than through gas heating or other conventional electrical system. Maintenance and strata costs are reduced because the owners of the building are required to help with maintenance of the building as part of their strata agreement.

Twelve units were deeply subsidized at a rate of 40% below market value. This subsidy was possible because Vancity sold the land at a rate to reflect reduced overall profitability from the lower priced units. The average price of these 12 units was $214,000 for two-bedroom units and the target income for these homes was

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123 Interview with Damon Chen. Westbank.
124 Vancity Project Overview
125 Interview with Susan Regan. 2015
$46,000. A covenant was placed on these 12 units (managed by Habitat for Humanity and Portland Hotel Society) that required the resale to be tied to the consumer price index (CPI) which is a mechanism to limit large equity gains upon the sale of these units. The CPI measures the change of the cost of goods over time and calculated by Statistics Canada. The CPI is a benchmark that many different items with monetary value are compared against in order to maintain a regular appreciation while not mitigating purchasing power for consumers; examples of CPI benchmark items include: wages, rental payments, leases, or spousal support payments. The CPI-tied rate was applied only to the 12 subsidized units because the developer, Westbank, felt that it would be too risky, and therefore reduce sales potential, on all of the units in the development.

Vancity and Westbank established a target demographic of buyers to live in the 96 market-rate units. The target demographic included people who live, work, or volunteer downtown and have been consistent with their rent payments, but are unable to purchase affordable housing in the area. Westbank commented that this was a risky proposal to begin with, but they ultimately were able to sell the units to their target buyers. However, Portland Hotel Society (PHS) faced a bigger challenge when trying to market the 12 subsidized units to those who earn less than $46,000 per year and are able to keep up with mortgage payments. Ultimately, PHS was able to sell their units and as of 2015, the buyers have not resold.

Zoning Requirements

Height is a major issue for new developments in Gastown because the building should maintain the historic look, a “sawtooth” feel, which varies the heights of the
buildings that are next to each other. Westbank attempted to gain the greatest density, and therefore height, in order to maximize their sales on this project; but were not able to because of this requirement. This did not create a major flaw in the target for affordability because Vancity, the landowner, agreed to sell the land at a value to match the density awarded.

Figure 7: 60W Cordova from Cordova Street

As seen in Figure 7, The building has a grey façade and features small, Juliet balconies, which face the street. The front façade also features silhouetted figures performing acrobatics on a pink, purple, and blue background and are visible from the street. There are also three commercial units at grade with the main access door between two of the commercial units. The rear of the building features a landscaped amenity space available for residents, and the rear facing units get larger balconies. The roof also has an enclosed amenity room and a garden. The interior of the building

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136 Interview with Susan Regan. Vancity.
137 Photo taken by Terry Sidhu
features laminate and vinyl counter tops and cabinets. The floor material is engineered wood, and the bathrooms are tiled.

**Meeting the Area Median Income**

In order to qualify this project as affordable for the average Vancouver resident a mortgage analysis is needed. In 2011, the Canadian census reported that the median income was $78,396 for ownership households after tax.\textsuperscript{138} This means that the average household could afford $1960 / month in housing costs without paying greater than 30% of their household income in total. The analysis, in Table 4 below, finds that housing in 60W Cordova would be affordable for the middle class or median income earners at the time of initial sales. For my analysis, I used $300,000 as the sales price, which represents the highest sales price offered when the development was completed. The terms of the mortgage are similar to the Metro Vancouver Housing Book, Section 1.3, which analyses affordability levels in the Metro Vancouver Region periodically.\textsuperscript{139} The realty service, BCcondos.net provided the 2015 strata fee of $250 per month as part of a sales listing.\textsuperscript{140}

**Table 4: 60W Cordova Mortgage Calculation.**

<table>
<thead>
<tr>
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<tr>
<td>Monthly Interest Rate</td>
<td>0.29%</td>
</tr>
<tr>
<td>25 Year Term (months)</td>
<td>300</td>
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<td>Monthly Payment For Mortgage</td>
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<tr>
<td>Strata Fee</td>
<td>$250.00</td>
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<tr>
<td>Property Tax</td>
<td>$166.67</td>
</tr>
<tr>
<td>Total Mortgage and Payments</td>
<td>$1,768.35</td>
</tr>
</tbody>
</table>

**Affordability Assessment**


60W Cordova was successfully able to implement many affordability strategies to make the sales price for all units affordable to first-time homebuyers, and to further target a demographic that lives, works, or volunteers downtown. Vancity ensured affordability for first-time homebuyers by creating a mortgage option that would work for those buyers who kept up with their rental payments in the past, but were unable to secure a down payment needed for a mortgage. In these two aspects, 60W Cordova should be considered a successful affordable housing initiative when the housing was first offered. However, this sales price for the market-rate affordable units did not remain affordable in the long run as many buyers of the non-subsidized units opted to resell at a higher rate after a period of one year. The non-profit units managed by PHS and H4H were given a permanent resale restriction.

5.1.3. Affordability Strategies: The Use of Partnerships and Financing

Collaborating for Affordable Housing

Collaborating with a private organization comes with a major advantage of cost savings. Westbank, being the private partner in this development found many ways to cut costs during the development and sale of the units in 60W Cordova. The interior finishing of the units was provided through a distributor that Westbank knew and they were able to make savings by buying in bulk, but it did not diminish quality.141 Secondly, Westbank did not market the development in a contemporary manner that requires a marketing team, but worked with Vancity to place posters in Downtown Vancouver, and by using Vancity’s website.142 Damon Chan of Westbank stated that the goal of the project was to show that affordable housing can still be built in the City of Vancouver and without poor design, drab exteriors, and the lowest quality interiors in order to do so, and this goal was met in 60W Cordova.143

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142 ibid
143 Interview with Damon Chan, Westbank,
The City of Vancouver contributed to this housing development by permitting significant relaxations and variances to their zoning by-law in the name of creating affordable housing. Notably, Westbank was able to negotiate the parking requirement down to only 18 stalls for the entire building. The HA-2 zone could require as many as 76 parking stalls for this development, which cost $20,000 - $45,000 per stall according to Metro Vancouver. The required parking stalls could have added an additional $1,740,000 based on a rate of $30,000 per stall. The $30,000 cost could have been passed on to the purchaser of a dwelling unit in 60W Cordova. The City of Vancouver also approved a slightly different design than what is required in the zoning by-law and Gastown design guidelines (see Figure 8).

![Floorplan Image](http://bccondos.net/66-cordova)

**Figure 8: 60W Cordova Floorplan**

The development therefore required a variance from the acceptable massing of Gastown Buildings to make the most efficient use of the floor plate on the site. The floor plate shaped as a triangle allowed Westbank to maximize the number of

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144 Vancity Presser.
145 Metro Vancouver Apartment Parking Study.
147 Interview with Damon Chan, Westbank. August 4, 2014.
units per floor, but without compromising the access to natural light and views. The floor plan displayed to the left illustrates the triangle floor plate.

Habitat for Humanity (H4H) was a partner in the 60W Cordova project and was selected to manage and sell 4 of the 12 below market units. The H4H organization has developed housing in Vancouver and Victoria previously that is usually in the form of townhouses, single-detached homes, or duplexes. H4H required that volunteer families who will move into the housing project provide “sweat equity” and help with construction of the units. However, Susan Regan of Vancity explained that a project of this scale with many different features such as solar hot water and the timeline expected for completion made it difficult for volunteer families to complete their sweat equity requirement. Nonetheless, H4H allowed families to move into the homes without a down payment and structures mortgage payments to be less than 30% of their household income. To maintain low costs in the future, the volunteer families and all other residents must help with future maintenance of the development in order to keep strata fees low and the building in good shape.

Vancity provided two critical contributions to this partnership and to this project. The first is the land that Vancity had in its inventory through a prior foreclosure. This land is very valuable considering the Downtown Vancouver location, which could have been held, then sold for a very profitable rate while meeting any for-profit organization’s goal of maximizing value for shareholders. Susan Regan, Senior Account Manager at the Citizen’s Bank of Canada, stated that the sale made sense from a business or lending point of view because Vancity was able to sell the land parcel they held at a rate that covered their loan-loss provision. The loan-loss provision is an expense that Vancity or any other financial institution sets aside in the

148 Ibid
150 Interview. Susan Regan. 2015
152 Ibid
153 Interview. Susan Regan, Vancity Credit Union. 2015
case of a loan default, which did occur in this situation with the previous landowner.\textsuperscript{154} Vancity also decided 60W Cordova was a sound investment because of the environmental benefits that come with having workforce affordably housed close to their work, namely the lower greenhouse gases that come from emissions resulting from long commutes to work.\textsuperscript{155} Vancity arranged to sell the land after the development permit was complete so the figure would correspond to the approved density and therefore to the price of providing the affordable units.\textsuperscript{156} The land sale in a market transaction is often based on an appraised value of the maximum value of the land, which is then sold at a developer's risk of what they can gain in the rezoning process.\textsuperscript{157}

The second critical asset that Vancity provided to Westbank was a 100\% land and construction financing loan, which means that Westbank did not have to put any of their own equity into the project.\textsuperscript{158} Vancity provided this financing on the condition that Westbank would build affordable housing that met Vancity's standards.\textsuperscript{159} This agreement allowed Vancity to shape the goals for affordability in the project. The interest rate on this financing term was 0\%. A zero interest rate ensured that Westbank could complete their project without losses due to high interest that could accrue as a result of delays in gaining a permit or because of construction errors. Vancity provided the favorable financing because Westbank agreed to purchase the property above the appraised value and cover the loan-loss incurred by the previous bankruptcy.\textsuperscript{160}

\textbf{Vancity and The Role of Mortgages for Affordability}

Providing mortgages for buyers had a considerable role to play when providing affordable housing because the terms such as a minimum down payment,

\begin{footnotesize}
\begin{itemize}
\item 154 ibid
\item 155 Interview, Mandeep Sidhu. 2015
\item 156 ibid
\item 157 Ibid
\item 158 ibid
\item 159 Ibid
\item 160 Interview, Susan Regan. 2015
\end{itemize}
\end{footnotesize}
interest rates, or mortgage term (years) can disqualify people of a certain income from being able to purchase a home. Vancity Credit Union recognized this problem and began building programs for their members who may not qualify under these normal conditions. A statement from the Vancity website provides the rationale:

Everyone deserves a chance to own a home. Home ownership can offer greater stability and quality of life, and an opportunity to build greater wealth over the long term. Increased home ownership also creates healthier, more engaged communities, so it benefits everyone. 161

Embracing this statement, Vancity developed two innovative mortgage programs aimed at getting low-income earners and long-term renters into their first homes. First, the “Down Payment Helper Program” allows Vancity members, who qualify, to attain 50% of their down payment from the credit union in exchange for a higher interest rate on their mortgage. The applicant for this mortgage needs to bring 2.5% of the total value of their potential home and needs to perform a cash flow analysis for future earnings with a Vancity mortgage lender; the applicant will also need to be a Vancity member at the time. 162 The second program is the “Springboard Program,” which increases the financing to pay for 100% of the down payment of a home that is valued at $300,000. 163 In order to qualify, an applicant will need to meet the requirements of the down payment helper. This requires proving that prior rental payments have not been missed, working with a financial coach, having an income or pension, that no prior bankruptcies have been declared, that one is a Canadian citizen or permanent resident, and the new total payments cannot exceed the applicant’s prior rental payments by over 25%. 164

These innovative mortgages can be considered “unconventional” mortgages and have been criticized by those examining the “sub-prime” housing crisis in the United States as unfairly encouraging low-income earners to take on more debt than

161 Vancity Springboard Program https://www.vancity.com/Mortgages/TypesOfMortgages/SpringboardProgram/
164 ibid
they can really afford.\textsuperscript{165} Vancity and Ryan Mckinley, a senior mortgage development manager at the credit union, stand behind their products because they work with clients to come up with a repayment plans that works for the applicant along with several other requirements beginning with a thorough background check on applicants to ensure they can possibly repay debts.\textsuperscript{166} Mckinley also explained that the down payment helper and springboard mortgages were a staff pilot project on 60W Cordova.\textsuperscript{167} Applicants must also take financial literacy courses and work with a coach to calculate appropriate payment plans.\textsuperscript{168} Vancity believes that these mortgages were necessary to get their target demographic into homes and this will have spin off effects as new owners earn equity and gain more financial security in the long run whether they stay in 60W Cordova or not.\textsuperscript{169}

\textbf{Restrictive Resale Covenant}

During the design phase of 60W Cordova, Vancity and Westbank agreed to place a restriction on the mortgage of the market-rate units. The restriction lasted for one year and had two principles: that any homeowner must not sell their dwelling unit for that period (an “anti-flipping” regulation), and the owner is not able to rent out the suite. The restrictions appear on the land title that is held in the British Columbia Land Titles office; the land title is a legal record of who owns a piece of land. Upon any sale or legal change to the property, the land title must be reviewed by both parties and is processed and approved by staff at the BC Land Titles office. Local governments are able to apply restrictive covenants on properties even when they do not have a role or stake in the development; the legal ability to apply covenants is given to local governments under the Local Government Act, Section 219. The legal framework for the application of covenants is provided as Appendix C.

\textsuperscript{166} Interview – Ryan Mckinley, Vancity. 2015  
\textsuperscript{167} ibid
\textsuperscript{168} ibid
\textsuperscript{169} Interview – Susan Regan. Citizens Bank.
The purpose of the resale restriction was to limit speculation on the affordable units offered from those who do not live in downtown Vancouver, and to meet Vancity's goal of providing affordable home ownership options, thus prohibiting a buyer from purchasing the unit and renting it out.\textsuperscript{170} The parties involved believed that these measures would allow them to limit their market to downtown-dwellers and reduce the possibility of speculation; as we found out, the restrictions did not prove to be effective in the long run. The rental restriction was largely unmanaged by any entity for the one-year period.\textsuperscript{171} The 12 units owned by Portland Hotel Society and Habitat for Humanity will have a permanent restriction to sell only at the current CPI rate, as mentioned in the project overview.

Allison Dunnet, a housing planner at the City of Vancouver summarized the affordability initiatives by stating, “the biggest success of 60W Cordova is the legacy that it leaves behind, which are 12 affordable home ownership units in a transit-friendly, walkable environment where parking is not needed.”\textsuperscript{172} The second legacy that 60W Cordova leaves behind is that it shows a market of homebuyers who are interested to take on mortgages and purchase property when covenants that restrict equity gain and resale restrictions are required.\textsuperscript{173} Dunnet believes that 60W Cordova will help non-profit builders, social enterprises, and the City of Vancouver to explore and justify more innovate housing models that will have more transparent and lasting affordability conditions.\textsuperscript{174}

\textbf{5.1.4. Research Results: Stakeholder Interviews and Content Analysis}

In this section, I present the viewpoints of project stakeholders on the weaknesses of the project and the replicability of the project.
Barriers and Limitations of the Affordability Tool

Long Lasting Affordability

As I mentioned in the Affordability Strategy section, the market-rate affordable units in 60W Cordova came with a resale restriction and a clause to limit rental possibilities entirely for a period of one year. Ultimately, the one-year sale restriction hindered affordability for the long term because many buyers of the development sold their units and earned a profit ranging from $76,000–$84,000 after just over one year, Table 5 showing resales is provided below from BCcondos.net. Anecdotal evidence from The Tyee, a local newspaper, suggested that 16% of the units were no longer owner-occupied after the one-year period.\(^{175}\)

Table 5: 60W Cordova sales after one-year restriction elapses.\(^{176}\)

<table>
<thead>
<tr>
<th>#</th>
<th>Suite</th>
<th>Street#</th>
<th>Street Name</th>
<th>Bed</th>
<th>Bath</th>
<th>Sqt.</th>
<th>Sold Price</th>
<th>Sold Date</th>
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<td>66</td>
<td>CORDOVA</td>
<td>2</td>
<td>2</td>
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<td>1</td>
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<td>1</td>
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<td>May / 15</td>
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<td>66</td>
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<td>1</td>
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<td>1</td>
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<td>611</td>
<td>$330000</td>
<td>Oct / 13</td>
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</table>


The one-year resale restriction was considered risky by Westbank because it would limit the number of potential buyers interested in purchasing a unit in 60W Cordova. This perceived risk is why stronger tools such as a restrictive covenant with a term of 20-50 years was not implemented, nor was a CPI tied appreciation to all units in the development. Damon Chan, the lead development manager for 60W Cordova, explained that the City of Vancouver did not want to experiment with other options such as a longer resale restriction because of concerns that buyers would move out and rent their units despite the mortgage restriction, and due to concerns over who would manage the units because there is a cost to doing this. The question of who should manage the covenant and what is the most effective way of doing so needs to be answered, and will be explored later in this thesis by examining housing authorities.

Mandeep Sidhu from Vancity commented that the one-year resale restriction would have to be reconsidered, but ruled out the possibility of a resale requirement that limits sales to below market rates. This requirement would mimic another Vancity financed development in the Univercity neighbourhood of Simon Fraser University, but that project called “Verdant” is under the jurisdiction of the Simon Fraser Community Trust and there is no similar body for 60W Cordova. H4H and the Portland Hotel Society manage the resale of the 12 social housing units so they remain affordable permanently. The concept of a housing trust will be examined in greater detail later in this study.

Allison Dunnet qualified some of the criticism of 60W Cordova as a misunderstanding of the project’s goals. Dunnet commented that “people didn’t have clarity about what 60W Cordova was offering.”

177 Interview. Damon Chan, Westbank Developments. 2015
178 Interview. Damon Chan, Westbank Developments, 2015
179 Interview. Mandeep Sidhu, Vancity Credit Union. 2015
180 Ibid
affordable units available: 1) units offered below market value due to the developer’s ability to pass on cost savings to the first buyers and restricting sales/rentals for one year and, 2) deeper affordable units secured in perpetuity as affordable home ownership units. 181 The complexity of this two-tiered affordability may have influenced poor reviews of 60W Cordova by critics of the project.182 Nathan Edelson, a former City of Vancouver planner who is familiar with this project, has been critical about the lack of long-term affordability in 60W Cordova. Edelson stated the use of public dollars should not benefit one “lucky” group of citizens and no one else. 183

**Incentivizing a Private-Sector Developer to Create Affordable Housing**

Damon Chan commented on what drives his firm, Westbank. “We develop things like Fairmont Pacific Rim which we make a ton of money off, but through that we have staff and experience and understanding on how to build things...and we apply that to things like affordable housing that we don’t make much money off of. So, instead of donating money to charity, why don’t we build something that we think is more valuable to the city?”184 This is the viewpoint of a unique builder in Vancouver, but the current business model for housing development targets profit maximization as the primary goal, and this often compromises the goal of affordable housing. Lack of interest from private sector developers is a clear barrier to further development of these projects. However, as the Smart Growth guide explained, when there is an opportunity to build housing at the market-rate, or what the market can bear, in combination with affordable housing facilitated by a non-profit, then it is more likely that private sector developers will participate. Susan Regan also noticed a trend that many developers in the City of Vancouver are seeking better business relationships with the city, so they develop a greater spectrum of housing including more affordable forms.185

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181 Interview. Allison Dunnet.
182 ibid
183 Interview. Nathan Edelson, 42nd Street Consulting. 2015
184 Interview. Damon Chang. 2015
185 Interview. Susan Regan, Vancity. 2015
Limited Land Available

One must consider the limited land available when attempting to duplicate a housing model like 60W Cordova. Vancity was holding this land and sold it to match their mandate of socially responsible investments. Typically, a traditional financing provider would have sold the property at market rate to maximize value for their respective organization. Vancity also does not hold large quantities of land in their inventory. Furthermore, non-profits interested in purchasing land for affordable housing must compete with the private sector. These barriers can be enough to stop the replication of a project that provides affordable housing using similar mechanisms as 60W Cordova on a large scale. However, there can be other options for acquiring land for affordable housing purposes, such as land that is currently owned by social purpose agencies, non-profits, and the land owned by a city. I examine these possibilities later in this section.

How to improve upon the 60W Cordova Model

Despite the affordability of 60W Cordova being lost over a period of one year, the project was able to successfully experiment with many tools to lower the purchase price to an affordable level. With this in mind, I continued my interview with the project stakeholders to learn how to replicate 60W Cordova with the goal of maintaining long-term affordability.

Programs offered by Vancity

Vancity is currently involved in several programs to finance more affordable housing because it is in their mandate. A significant way that Vancity invests in affordable housing is through its Impact Real Estate (IRE) team. The IRE team works to facilitate more affordable housing whether rental or home ownership by providing management advice, project consulting and financial solutions at every step of a real estate development. The IRE team has supported a number of projects and worked with Vancity to provide favorable financing to support non-profit housing.\footnote{Interview. Mandeep Sidhu. Housing Officer. Vancity. 2015}
shows that Vancity has financed renovations for non-profits along with financing for new construction is provided as Appendix D.

Vancity, as a lender, can act as a powerful agent to provide reasonable and accessible financing when a non-profit or social enterprise considers developing affordable housing. As mentioned in Section 5.2.3. Affordability Strategy, Vancity provided 100% financing for this project. Lenders will not often give this financing term because it is very risky and does not commit the developer to the project without their own equity being held. In a typical situation, a lender will require a developer to provide equity into a project so they are committed to the success of a project and the risk of failure or bankruptcy is not given entirely to the lender. The equity required may depend on the riskiness of the project, whether there is a good market of buyers, and a previous relationship that may exist between the two entities. Lenders are also required to purchase insurance for any circumstance in which they approve greater than 80% financing for a development, so this is another disincentive for this scale of financing. Vancity was willing to provide 100% financing because of the existing relationship with Westbank who had worked with the credit union in the past.187

To provide better financing, Vancity has worked with the City of Vancouver who provided a loan guarantee for previous affordable housing projects.188 Many non-profit housing projects are considered risky because they do not intend to make a profit, or the profit is minimal. This lack of profit does not work with many lending models because there is no guarantee that the non-profit can repay the loan. Lenders analyze pro formas of developments, which shows the potential revenues minus costs of developing a housing project. If the project does not seem profitable, then it is hard to justify the loan. Appendix E details the methods that lenders use to finance a housing project more fully. The City of Vancouver can partake in this process by providing a loan guarantee on behalf of the non-profit. Susan Regan explains that when non-profits make a solid case for an affordable housing initiative, then Vancity

188 Ibid
is able to put together a feasible loan package and ask the City of Vancouver to participate as a loan guarantor. Furthermore, BC Housing and the CMHC can also provide loan guarantees for these projects.

The sale of the homes is the final piece when considering how to scale the initiative up. Innovative mortgage techniques can help AMI earners access ownership opportunities, as long as the CMHC supports them. However, the practice should be scrutinized to stop people who cannot afford mortgage payments from getting them.

**Empowering Non-Profits to Develop Affordable Housing**

Non-profits in the city of Vancouver are realizing that they can utilize their land in order to re-invest in their programming and provide affordable housing. In 2015, Westbank partnered with First Baptist Church in Vancouver’s West End neighbourhood to redevelop the church site to include a 58 story tower in exchange for a new church and social rental units that will be owned and operated by the church. Church sites, and sites owned by non-profits, can use Vancity’s Impact Real Estate program to help create an idea for development. The IRE program has a mandate of educating non-profits on what their options for the future are, including: Selling their site at market value, building rental housing for their members while offering market units, and rebuilding their church or non-profit building while also offering market-rate condos on site.

There are non-profit developers in Vancouver to note such as Catalyst Developments, Terra Housing, More than a Roof Housing, and Innovative Housing Consultants that also empower the non-profit housing sector. These organizations can act as consultants to help non-profits realize the value of their land assets and redevelop. They can also be funded by sources such as the City of Vancouver, other levels of government, or through fundraising efforts. These non-profit developers can

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189 Ibid
191 Interview. Manddeep Sidhu, Vancity. 2015
partially answer the question of how to incentivize homebuilders to participate in affordable housing ventures, which was mentioned in the Limitations and Barriers section.

City of Vancouver Assets, Policies, and Pilot Projects

A new and experimental policy in the City of Vancouver is the Interim Rezoning Policy (IRP). The policy was created as part of the Vancouver Mayor’s Taskforce on Affordability with the intent to encourage innovative new affordable housing options along arterial streets in Vancouver with access to frequent transit.\(^{192}\) The IRP permits new 3.5 story to 6 story buildings to be built under an iterative or “spot” rezoning application; the developer is able to be creative in building form and the method to reach affordability.\(^{193}\) Each building proposed for development is reviewed to match the form and character of the surrounding area. Most importantly, each building must demonstrate that it will be priced 20% below market or will be 100% rental. The IRP however is a pilot program capped at 20 buildings and is then up for review by city council.\(^{194}\) To date, three projects have made proposals under the policy including a housing co-op, a seniors housing development, and a rental building. A map of the proposed IRP development areas is provided below in Appendix F, along with current the current applications under the Interim Rezoning Policy.\(^{195}\)

False Creek South should be considered an opportunity area in the City of Vancouver. The area currently features 6,000 residents who live in co-ops or subsidized rental buildings under city-lease. The leases for separate properties will expire in 2036-2044 with the land value expected to increase greatly since the 1970 agreement.\(^{196}\) The residents of False Creek South, who include Nathan Edelson, have

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193 Ibid
194 Ibid
been very proactive in planning for the future with the “Re*plan” committee of citizens who understand the need for redevelopment, but aim to have the redevelopment help the existing community.\textsuperscript{197} The Re*plan committee suggests using new market-rate developments to help renovate existing affordable buildings, and to establish a land trust in the community to keep the properties affordable and to extend the lease for a period of 99 years.\textsuperscript{198} A map of the False Creek South opportunity area is provided as Appendix G.

Edelson explained that the City of Vancouver holds the power to sell or lease parcels of land that can create the best opportunities for affordable housing such as using the more desirable areas (areas with views) to sell at market rate and then use that return to develop affordable housing.\textsuperscript{199} With the City of Vancouver owning parcels of land in False Creek South, they can actively search for private sector partners to develop housing using the same methods to cut costs and provide affordable home ownership options for first time buyers similar to 60W Cordova.

Damon Chan commented that it is very possible for the city to realize the value of their land, partner with non-profits and for-profit developers, and utilize innovative tools to ensure affordability and leave a legacy for affordability.\textsuperscript{200} Chan pointed to the Vancouver Housing Authority (VAHA) which intends to do this but must still comply with the Vancouver Charter, which does not allow a development to have complete flexibility to waive development costs charges, property taxes, fees associated with gaining a permit for development, or a discretionary review process.\textsuperscript{201} However, Chan also believes that the City has other tools available to create affordable housing such as lowering Development Cost Levies (DCLs), lowering other fees, or waiving property taxes during construction if a project is meant to purposely build affordable housing.\textsuperscript{202}

\textsuperscript{197} Ibid
\textsuperscript{198} Re*plan False Creek South Pg 3
\textsuperscript{199} Ibid
\textsuperscript{200} Interview. Damon Chan, Westbank. 2015
\textsuperscript{201} Ibid
\textsuperscript{202} Interview with Damon Chan, Westbank,
The Legacy of 60W Cordova

A legacy that this project left was showing the city and developers that buyers are willing to accept resale covenants that may limit their future equity in exchange for secure affordable housing. As Damon Chan from Westbank Developments noted, one reason that they did not include a longer resale covenant or one that limits equity was the risk that there would be no buyers. This project challenged that notion and the Vancouver planner believes that resale covenants can be applied further. Dunnet notes that the city will be involved with ventures like 60W Cordova when the developer is “on the hook,” or held accountable for the development. Developers are accountable when they are developing the site with their resources, are forward with their intentions of the level of affordability and their method of reaching it, and also being there to help market the affordable units. Under these conditions, the City of Vancouver is willing to help facilitate the project.

5.1.5. Summary

This case study illuminated many effective methods that a developer can use to lower the costs of constructing a home. The methods include building less parking and getting a financing rate that does not accrue large costs over the time of development. Where 60W ultimately fell short was ensuring that the project will be affordable permanently. The project did experiment with restrictive covenants and it showed that buyers are willing to accept the restrictions in order to move into secure and affordable housing. If this project is to be replicated, the restrictive covenant can ultimately limit the equity that any buyer can gain at any time. Research needs to be done to see what restrictions or limitations buyers are willing to accept when they access affordable housing. This case study is a good example of what role a housing authority can play, and Vancouver now has one with VAHA, but as of 2016, is still in early stages of work.

203 Interview. Allison Dunnet. 2015
5.2. Infill Development in Portland with The Infill Design Toolkit

5.2.1. Introduction and Linkage to Affordability Strategies

This case study describes The Infill Design Toolkit (or Infill Toolkit) as a housing initiative launched by the City of Portland in 2008.204 Broadly speaking, infill development is building housing in established neighbourhoods within a city, rather than building outwards at the edges of a city. This case study will focus on the Infill Toolkit as a whole, and Pardee Green, an affordable housing project that is a product of the flexibility and innovation offered by the toolkit. This case study presents opinions on the Infill Toolkit from the following project stakeholders: Bill Cunningham, the primary author of the toolkit; Kathy Armstrong, Deputy Director of the Proud Ground Community Land Trust; Eli Spevak, a housing developer for Orange Splott Ltd; and members of Communitecture, and architecture team familiar with infill housing in Portland. I also attended a stakeholder meeting for a current project reviewing infill housing and zoning practices in Portland, so I discuss the ideas and topics brought up during that meeting on September 15, 2015.

The Infill Toolkit was created in 2006 when the regional government of Portland Oregon convened an affordability task force that recommended building more housing choices in neighbourhoods, improving the regulatory process for affordable housing projects, and relaxing standards that make neighbourhoods exclusionary such as rigid design and parking requirements.205 A summary of what the Infill Toolkit does is shown in Figure 9 below.

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Infill development can take place on vacant lots, lots with abandoned buildings, or large lots that are generally underutilized. The toolkit has three corresponding zones, the R1, R2, and R3 zones that are present in inner neighbourhoods close to the city core as well as outer neighbourhoods built post-WWII. The figure shown below illustrates the tools and strategies employed by the Infill Design Toolkit.

The Infill Toolkit goals are comparable to the following Vancouver Mayor’s task force on affordability recommendations: To “streamline and create more certainty and clarity in the regulatory process, and improve public engagement” and “Increase the supply and diversity of affordable housing.” Bill Cunningham, a senior planner in Portland, suggested the primary goal of the toolkit is to accommodate higher density without compromising good design, and providing a method of doing so that was clear and transparent for builders.\textsuperscript{206} The Infill Toolkit offers several strategies to streamline the regulatory process, and make the permit approval process less discretionary and more straight forward. The zones offer flexibility in terms of minimum parking requirements, the housing form, and the density (number of units provided) in order to provide the best fit for context-sensitive infill development that is also profitable for a builder. The Infill Toolkit features “prototypes,” or site plans available to prospective builders to show models that are

\textsuperscript{206} Interview. Bill Cunningham, City of Portland. September 2015
approvable by the city. Finally, the Infill Toolkit itself serves as a troubleshooting guide for builders on how to develop their sites, potential problems that may occur, and points of reference for builders who may be engaged in public consultation if they chose to go through a rezoning of a non-designated site. It is important to note that public consultation is not a part of this process because the developments do not entail rezoning; the land is zoned for R1, R2, or R3 residential developments. All of these strategies combined will streamline the regulatory process for builders while also creating multi-family infill housing for the City of Portland.

The Vancouver Mayor’s Task Force for Affordability also suggested there should be increased housing choice in low-density residential areas, and greater use of townhouses, row houses, and stacked townhouses that might be appropriate in single-family neighbourhoods. The Infill Toolkit responds by permitting townhouses, plex housing, narrow-lot subdivisions, and low-rise apartments in single-detached areas. This recommendation is similar to the goals of the “Missing Middle” concept brought up in the literature review. In this case study, I only focus on attached housing forms that are more space efficient and generally more affordable.

The Smart Growth Toolkit, as an affordability strategy, recommended the use of a housing organization or authority to manage affordable housing in a city or region. The guide defined a housing authority as an entity as part of a governmental body, or acting alone, dedicated to providing and managing non-market housing stock that is for rent or purchase by qualified individuals or families. In this case study, I bring forward the organization “Proud Ground” which maintains several housing developments in the city and ensures that they are permanently affordable for prospective buyers. Proud Ground is a Community Land Trust, which operates under the model of owning property or land in order to ensure that it is affordable and accessible for moderate and low-income earners in Portland. A table displaying all

207 Vancouver Mayor’s Task Force for Affordability. Pg 10.
208 Smart Growth Affordable Housing Toolkit pg 63
Proud Ground housing developed under the R1 and R2 zones is provided in Appendix H.

The remainder of this case study details the history of the Infill Design Toolkit and provide reasoning for the launch of the housing program, which is to allow well designed affordable housing forms in established neighbourhoods. I give special attention to the challenges of developing infill housing, and how the Infill Toolkit responds to it. As a specific example of the principles of the Infill Toolkit, I describe the development “Pardee Green” a purpose built affordable housing initiative in Southeast Portland. Next, I detail the affordability features that the Infill Toolkit provides and the strategies specific to Pardee Green, followed by a section on limitations and barriers. Finally, I share the viewpoints of key stakeholders on the Toolkit and the Pardee Green as affordability initiatives, and whether they can be scaled up and how.

5.2.2. Program Overview: The Infill Toolkit

Geographically speaking, Portland does not have many restrictions on outward urban growth other than the Pacific Ocean, which is to the west of the city. However, Portland has purposely restricted developable urban land through an Urban Growth Boundary that was set in 1979. The UGB boundary has been accused of creating a housing affordability problem, but research shows that high housing prices can be caused by a number of factors such as greater job opportunities, a higher quality of life, and the diversity of amenities available such as transit and walkable neighborhoods. Since that boundary was established, urban growth and development in the county (Multnomah County) has been limited to inside that ring which extends northward to Vancouver, Washington. Appendix I provides a map of the Urban Growth Boundary in Multnomah County. Portland has since developed within that boundary, and has put forward many initiatives to develop underutilized

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210 Growth management and Housing Prices: The Case of Portland, Oregon. 1999.
211 Ibid
areas, maintain a high quality of living, and preserve housing affordability for its residents. The Infill Toolkit responded to the UGB by promoting more space-efficient and dense housing options and responds to problems that occur with infill development such as poor design that disrupts the established character of a neighbourhood, and issues that cause existing residents to oppose new development. Bill Cunningham stated, “The Toolkit was intended to suggest constructive ways of improving the design of development and included ideas for strategies that address common neighborhood concerns, such as privacy impacts, building bulk/scale, etc.”212 The next section describes key methods that the Infill Toolkit directs builders to respond to neighbourhood concerns.

**Responding to Neighbourhood Context with Infill Housing**

The Infill Toolkit provides design guidelines and suggestions to ensure that new developments will contribute to positive aspects of the community character rather than alter it; the positive aspects can refer to features such as street-trees or street facing balconies.213 The Portland Planning staff approached the recommendations for design guidelines by looking at the patterns of the existing neighborhoods to replicate features such as street-oriented homes and green street edges with gardens and lawns.214 The design guidelines are provided to applicants when considering building in the R1, R2, or R3 zone, and are written into the zone itself, and planning staff review whether these goals have been met in a checklist approach rather than through a case-by-case discretionary review.215 In response to the established patterns, the Infill Toolkit recommends maintaining green frontages rather than vehicle parking, maintaining consistent setbacks, dividing larger housing units up with architectural breaks or landscaping features, maintaining a backyard that does not intrude on adjacent properties, and having separate units face the street when on the corner of the block.216 All of these guidelines promote the existing

212 Interview. Bill Cunningham, Planner. City of Portland. September 2015
213 The Infill Design Toolkit: Medium Density Residential Development pg 6
214 Infill toolkit pg 2
215 Interview, Bill Cunningham
216 Infill toolkit pp: 4-13
patterns of development of the street, which can be referred to as “street rhythm.” These guidelines serve to promote quality design in neighbourhoods, but also encourage developers to consider site context and not infringe on current homes. The design is a key method to ensure that neighbours will not oppose new development, and mitigate the goals of the infill development program such as revitalizing neighbourhoods, providing housing diversity, and providing affordable housing options. Two example design guidelines are provided in Appendix J.

**Zoning Requirements**

The Infill Toolkit applies specifically to the multi-family housing that can be built in the R1, R2, and R3 Zones. These zones are different from typical zones because they allow a wide variety of building types so a builder can find an arrangement that works best for the site. In order to reduce building size, the zone prescribes a maximum density based on square footage, and a minimum square footage so a builder does not under develop the site either. For example, the R1 zone allows 1 unit per 1,000 square feet of site area at the maximum, but also requires 1 unit per 1,450 square feet of site area at the minimum; the height is a maximum of 45 feet including the roof.217

Bill Cunningham led the approach to adding greater density in established neighbourhoods and stated, “Figure out what you want to see built, and then revise your regulations to make these outcomes the “easy thing” to do. Compatibility and density do not have to be opposing concepts. Even low-rise, predominantly single-family housing areas can accommodate a range of additional housing types that can fit into the established scale and characteristics of neighborhoods.”218 The zone recommendations include regulation to minimize site area used for impervious surfaces such as driveways.219 The Zoning Code will ensure parking is placed at the

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217 Infill Toolkit, Introduction. Pg VIII
219 ibid
rear of the building, and each site has outdoor space. Meeting these requirements is made possible by relaxing or adding flexibility the other features of the zoning requirements such as density, parking, and tenure. A summary of the R1-R3 zones is provided as Appendix L.

**Affordability Assessment of the Infill Toolkit**

Since the launch of the Infill Toolkit and corresponding zones, there has been more than 1000 multi-family dwelling units produced. Using building permit data provided by The City of Portland, I examined trends in the infill development that relate to affordability such as the sales price, square footage of the unit, the building form, and whether the tenure is rental or ownership. For my analysis, I only included attached housing forms such as duplexes, triplexes, quadruplexes, townhouses, apartments, or strata units sharing one lot because they are generally more affordable. The results are listed below in Table 6 and a full table is presented in Appendix M.

**Table 6: Infill Housing in Portland, 2008-2015. (R1-R3 Zones)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Sales Price: $281,344.90</td>
<td></td>
</tr>
<tr>
<td>Percentage of units that are rental: 43%</td>
<td></td>
</tr>
<tr>
<td>Percentage of units that are ownership: 57%</td>
<td></td>
</tr>
<tr>
<td>Average square feet per unit: 1767 ft²</td>
<td></td>
</tr>
</tbody>
</table>

To assess the affordability of the infill development, I used the area median income of homeowners of the City of Portland as of 2013, which is $79,622. With this figure, a potential buyer can afford to pay $1,995 and not pay greater than 30% of their income on household costs. For my analysis, shown in Table 7, I used $281,870, as the average sales price. The terms of the mortgage assume the following,

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220 ibid
222 Portland Building Permits Data. TRACS System. 2008-2015
a 10% down payment, 3.5% mortgage rate (Trulia), $2,500 in property tax, and $240 in strata fees.224 A limitation of my study is that the rental rates for developments that correspond to the Infill Toolkit are not available, so I can only calculate the affordability for homeowners. Note that the area median income of renters in Portland is $35,986 per year.225

Table 7: Affordability Assessment for R1-R3 Multi-family Developments

<table>
<thead>
<tr>
<th>Sales Price</th>
<th>281,344.90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down payment (10%)</td>
<td>28134.49</td>
</tr>
<tr>
<td>Amount Remaining</td>
<td>253,210.41</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>3.5%</td>
</tr>
<tr>
<td>Monthly Interest Rate</td>
<td>0.29%</td>
</tr>
<tr>
<td>25 Year Term (months)</td>
<td>300</td>
</tr>
<tr>
<td>Monthly Payment For Mortgage</td>
<td>1,267.63</td>
</tr>
<tr>
<td>Strata Fee</td>
<td>240</td>
</tr>
<tr>
<td>Property Tax</td>
<td>208.33</td>
</tr>
<tr>
<td>Total Mortgage and Payments</td>
<td>1,715.96</td>
</tr>
</tbody>
</table>

Given the monthly payment rate of $1,715.60, the multi-dwelling forms developed using the Infill Housing Toolkit are shown to be affordable because buyers will pay less than the $1,990 affordability benchmark.

I now examine one development, Pardee Green, which utilized the principles of the Infill Toolkit to provide affordable housing. This development goes one step further than following the recommendations of the Infill Toolkit by using a local land


225 State of Housing in Portland
trust to provide affordable homeownership options for those earning less than the area median income.

5.2.3. **Project Overview: Pardee Green**

![Figure 10: The Pardee Green Development in Southeast Portland](image)

Pardee Green (Figure 10) is an affordable housing development in Southeast Portland managed by Proud Ground to maintain permanent affordability of the homes. The City of Portland was the original landowner and sold the land to Albina Construction LTD. A condition of the sale was that affordable housing be built for low and middle-income earners in the City of Portland. The developer, Albina Construction LTD., responded to the affordability requirement by including Proud Ground in the rezoning application.

The site was zoned R1: Multi-Dwelling, which provides for a maximum of 4-storey buildings, and a density of 43 units per acre; no density bonus was applied for on this site. Albina Construction contracted Communitecture, a local sustainable architecture firm, because of a prior relationship. Mark Lakeman and the Communitecture team designed the site to feature 10 units, 5 of which are

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228 Ibid
229 Interview. Mark Lakeman, Communitecture. September 2015
townhouses and the remainder in the form of detached cottages that share a strata lot and yard (unlike traditional single detached homes) because the city wanted to see a design that promoted neighbourly interactions; The unit sizes range from 1700-2000 square feet.\textsuperscript{230} The homes are designed to be family friendly and so 6 of the units have 3 bedrooms, and 4 units have 2 two bedrooms.\textsuperscript{231} Figure 11 shown below illustrates

![Pardee Green Site Plan](image)

**Figure 11: Pardee Green Site Plan**\textsuperscript{232}

The units met the design goals of the Infill Toolkit, the R1 Zone, and the goal of promoting interaction by orienting all units towards a shared courtyard and placing car parking at the side of the site. The site is also placed next to the 17 Bus line which is a direct route to downtown Portland, and is 1.5 miles from the Green MAX line which is the Light Rail Transit (LRT) line in the city. The site is also near a bicycle path and in walking distance of grocery store.

Pardee Green and Woolsey Corner are two sites designed by Communitecture and held by Proud Ground, which took advantage of the R1 and R2 zones in Portland. Using the zones and the toolkit as a premise, they were able to create a mix of townhouse units and smaller housing forms that met their goal for good design, which

\textsuperscript{230} Ibid
\textsuperscript{231} Ibid
\textsuperscript{232} Pardee Commons Site Plan
featured common green space, attractive exteriors and facades, and a development that fostered neighbourly interactions.233

To be ecologically friendly, Communitecture designed the housing to meet Oregon State’s green building and energy standard, High Performance Homes Certification.234 This certification has requirements for building material, energy use of the homes, and use of renewable energy.235 The certification was met on this project.

In order to meet the goal of building permanently affordable housing, Albina Construction LTD. was required to partner with the community land trust, Proud Ground. Proud Ground holds the land in perpetuity, but allows buyers to own their own homes through a legal procedure called a “Land Lease Agreement.” By owning the land, Proud Ground has ensured that the next buyer of a home can still purchase the home at a below market level.236 The buyer is entitled to 25% of the total appreciated value since they entered into an agreement with Proud Ground.237

**Affordability Assessment of Pardee Green**

From the outset, Pardee Green was designed to be an affordable housing development. According to Mark Lakeman, the project architect, the City of Portland gave a subsidy to the project that totalled $500,000, but the city provided no other subsidy or provision to help the developer.238 The developer was able to work within the R1 Zone to provide 10 units priced at the following rates (Table 8):

**Table 8: Pardee Green Specifications and Sales Price**239

<table>
<thead>
<tr>
<th>Address</th>
<th>Unit Type</th>
<th>Permit Issue Date</th>
<th>Square Feet</th>
<th>Zone</th>
<th>Sales Price</th>
</tr>
</thead>
</table>

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233 Ibid
234 Pardee Green Rezoning
237 Ibid
238 Interview. Mark Lakeman, 2015
To assess the affordability of Pardee Green, I used the area median income of those earning 80% of the area median income in Portland which is $52,950.240 With this figure, a potential buyer can afford to pay $1,323 and not pay greater than 30% of their income on household costs. For my analysis, I used $123,457, as the average sales price. For the mortgage calculation I assume a 10% down payment, 3.5% mortgage rate (trulia), $2,500 in property tax, and $240 in strata fees.241

Table 9: Pardee Green Affordability Assessment

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Price</td>
<td>123,457.50</td>
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<tr>
<td>Down payment (10%)</td>
<td>12,345.75</td>
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<tr>
<td>Amount Remaining</td>
<td>111,111.75</td>
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<td>Interest Rate</td>
<td>3.5%</td>
</tr>
<tr>
<td>Monthly Interest Rate</td>
<td>0.29%</td>
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<tr>
<td>25 Year Term (months)</td>
<td>$300</td>
</tr>
<tr>
<td>Monthly Payment For</td>
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<tr>
<td>Mortgage</td>
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<tr>
<td>Strata Fee</td>
<td>$240</td>
</tr>
<tr>
<td>Property Tax</td>
<td>$208.33</td>
</tr>
<tr>
<td>Total Mortgage and</td>
<td>$1,004.58</td>
</tr>
<tr>
<td>Payments</td>
<td></td>
</tr>
</tbody>
</table>

This analysis shows that Pardee Green can provide affordable homeownership for those who earn 80% of the Area Median Income, or can pay $1,320 monthly.\(^{242}\) Furthermore, those who earn 60% of the Area Median Income can also consider Pardee Green affordable. The 60% AMI corresponds to $39,720 in Portland, which allows for a maximum monthly payment of $1,004.58 per month.\(^{243}\) Figure 12, summarizing sales prices and affordability of Pardee Green, Infill Development, and the general sales is below.

\(^{242}\) State of Housing in Portland. Pg 46
\(^{243}\) State of Housing in Portland. Pg 45
Now that I have evaluated the affordability of the developments corresponding to The Infill Toolkit (R1-R3 Zones) and Pardee Green as one particular infill development, I will examine each facet of the two housing initiatives to understand what exactly makes them affordable.

5.2.4. **Affordability Strategy: Innovative Infill Housing**

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244 Photo taken by Terry Sidhu. September 2015
Promoting Multi-family Wood frame Building Forms

The first defining affordability strategy of the Infill Toolkit is the promotion of several multi-family housing forms designed to add density to a single-family neighborhood. The housing forms include stacked, houseplexes, cottage clusters/common green housing, narrow lot homes, low-rise apartments, mid-rise walk-up apartments (on larger sites), and several variations of townhouses including stacked, courtyard, and rowhouses with separate lots. A sample houseplex in Portland is shown above as Figure 13.

The Houseplex and the Courtyard Townhome have several features that allow them to be affordable by design. A significant affordability feature of the houseplex and the courtyard townhome is their modest nature that supports woodframe construction rather than concrete. The estimated cost per square foot is $125 when parking is at grade, or $162 when over a common parking structure.245 A concrete structure that is below 12 stories with above ground parking starts at $234 per square foot.246 Portland does not regulate building material for their infill homes, but the higher cost of concrete construction may not be offset by a modest unit yield of 4-10 units that can be built in a houseplex or courtyard townhouse. However, a builder may choose the concrete form if he or she determines they can sell the housing units at a higher price in the form of a luxury development. Figure 14 below shows estimated costs of constructing housing depending on the material.

Increased Flexibility in Zoning

The Infill Toolkit features flexibility in its corresponding zones: R1, R2, and R3 to promote diverse housing forms that can be more affordable than traditional single-family homes. These zones do respond to the criticism of traditional zoning that I wrote about in Section 2.2: Limiting Affordable Housing with Restrictive Land Use and Zoning policies. Some criticisms that I previously brought forward about traditional zoning that can limit housing forms like those in The Infill Toolkit include requirements for minimum lot sizes, maximum building size, minimum parking stalls, restricting tenure to ownership only, and limiting the form to detached housing only. The quasi-ownership allows a buyer to live in one unit of a triplex, quadruplex, or home with a coach house and earn rental income from the remaining units to help pay off the mortgage. Of course, buyers can also purchase just one unit of a plex home, and at a lower price than the whole development. This flexibility is key to providing housing for those who have different income levels, but want to stay in more central neighbourhoods. The Infill Toolkit offers flexibility to the builder to decide between splitting up a lot for narrow lot homes, building a triplex or quadruplex, townhouses, or low-rise 2-3 storey apartment buildings.

High parking requirements have been mentioned as part of the Metro Vancouver parking study and in the previous case study as adding cost to housing

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development, but they become more of an issue on an infill lot. The requirement for parking can drastically reduce the amount of dwelling units developed on a lot if surface parking is considered. Eli Spevak, an affordable housing developer in Portland, suggested that excessive parking requirements can lead a developer to build a bad design, or consider the expense of structured (covered) parking.248 The Infill Toolkit responds to the rigid requirement by reducing the minimum requirement to 1 stall per dwelling unit, and also having no minimum when within 500ft of a frequent transit service.249 The planners at the City of Portland also zoned many lands near frequent transit networks to be R1, R2, or R3 to make the parking relaxation more accessible.250

The flexibility in zoning requirements can lower the barrier of entry for more builders. Eli Spevak commented that smaller developers “often have to wear several hats and play different roles that they might not be qualified for,” but now they have greater access to the more complicated infill housing other than single detached houses.251 A greater diversity of builders can also encourage diverse housing outcomes as smaller builders may wish to cut as many costs as possible and build more modest housing. The flexibility notably appears when a developer puts together a proposed pro forma to see how they can make a profit because of site flexibility and still keep affordability intact. When a zone or a review process adds more requirements onto a site that diminishes developable area, the developer may take alternative routes to ensure there is a profit such as maximizing square footage or adding luxury features to sell to a higher class. I have provided a sample pro forma as Appendix N to show how this may play out.

A final note to make on the zoning if the infill forms was that the city did the public consultation ahead of time to determine the most appropriate zoning, whether R1, R2, or R3. This up-front work eliminates the need for the numerous rezoning

249 Infill Toolkit: R1, R2, R3 Zone Requirements.
250 Infill Toolkit. Pg 7.
251 Interview, Eli Spevak.
hearings and public consultation when each development requires a developer-initiated rezoning. Such consultation for “spot rezonings” can be onerous and limit development in many different cases.

**Planned Unit Development Process**

The majority of infill multi-family housing development from 2008 and onwards has been in the R1, R2, and R3 zones and without rezoning. However, there are instances where the developers have developed other sites for infill housing by using a process called a “Planned Unit Development,” or “Planned Development Process.” This process allows creative, or non-conforming development to occur in a pre-dominantly single family neighbourhood while using discretionary review to make sure that it meets the existing neighbourhood characteristics. An applicant does not necessarily need to provide affordable housing as a dimension of their development to make a planned unit development proposal. This process allows developers to propose housing types and lot dimensions not allowed under base regulations. This process is different from a rezoning because there is no particular zone that the applicant is targeting. This process does not ensure affordable housing, but does allow multi-family housing development in areas that do not correspond to official community plans or zoning districts.

**Use of Development Prototypes**

In 2007, the City of Portland initiated a design competition that invited designers, architects, planners, and other building professionals to share ideas on the best ways to orient townhouse units around a shared courtyard. The winning designs would find a way to create a quality living space that was at a higher density than traditional single-detached homes, and fit in an infill environment. The design competition winners would be included in The Infill Toolkit to serve as solutions for

253 ibid
255 ibid
challenges such as balancing parking needs with pedestrian-friendly design, creating usable open space, and maintaining density. The Infill toolkit provides the guiding criteria for a potential winning submission to the design competition:

- Meet City regulatory requirements;
- Be financially realistic;
- Minimize the prominence of vehicle areas, while limiting impervious surfaces, and providing one parking space per unit;
- Provide usable outdoor space;
- Respond to typical neighbourhood contexts; and
- Include configurations conducive to ownership housings (such as by allowing units to be on separate lots).

The designs submitted by participants in the competition were subject to review by city departments in Portland such as planning, development services, and transportation. The winning designs met regulatory requirements and would be approvable in the City of Portland, but subject to certain caveats such as additional review in certain historic neighbourhoods.

Prototypes are an affordability initiative because they show builders what approvable sites looks like. Since this information is open to the public, it lowers the barrier of entry to new builders in the same way that the zoning flexibility does. The builders can copy designs, or show it to designers to make minor modifications. The review period for a housing development can be shortened, and a builder can save costs of hiring a designer or an architect in this case.

There is only anecdotal evidence on the number of builders that make use of the designs, however non-profit builders can benefit when they cannot afford top architects or designers. Bill Cunningham, a community planner in Portland, pointed out “Svaboda Court,” an infill development in Southeast Portland developed by Proud Ground. Shown below is the site plan for Svaboda Court (Figure 15), and it

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256 ibid
257 Infill Design Toolkit, Prototypes. Pg A-20
259 Ibid
260 Ibid
corresponds to the “Big Cottage Court” prototype designed for outer Portland Neighbourhoods that are characteristically very deep.\textsuperscript{261} The prototype shows a parking plan (shown as triangles), site dimensions, and landscaping features.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{svaboda-court-site-plan.png}
\caption{(Left) The site plan for Svaboda Court in SE Portland. The townhouse units have a common driveway and feature common greenspace. (Right) The Big Cottage Court Infill Development Prototype\textsuperscript{262,263}}
\end{figure}

\section*{Location Efficient Housing}

In my literature review, I wrote about the Housing + Transportation (H+T) Index which includes the cost of transportation when attempting to identify households as unaffordable. The H+T index advocates for “Location efficient housing,” or housing with the lowest associated transportation costs.\textsuperscript{264} The key method the H+T uses to determine the affordability of housing is whether a resident

\begin{flushright}
\textsuperscript{261} ibid
\textsuperscript{262} “Svaboda Court Lot Layout.” n.d. Svaboda Court. \url{http://svabodacourt.org/lot-layout/}.
\textsuperscript{263} Infill Design Toolkit, Prototypes. Pg. A-21
\textsuperscript{264} Housing and Transportation Index: Location Efficiency
\end{flushright}
pays 45% of their household income on transportation and housing expenses combined. The majority of the R1-R3 zoned lands are along arterial roads or within a few blocks of them primarily to ensure that parking requirements would not be stringent on the developments; however, by placing the zones near transit the medium density homes also became location-efficient. Bill Cunningham described access to transit as being instrumental to the development of well-designed infill housing, and I will later describe in the “Scaling” section that greater transit access will be important to develop the low and medium density housing types.

**Partnering with Community Land Trusts**

Proud Ground, as described earlier in this case study, is a community land trust in Portland and holds several infill housing projects within their inventory. Kathy Armstrong of Proud Ground agreed that the Infill Toolkit has been successful in providing affordable housing for her organization and the families they market to, which include those who want lower density housing with three or more bedrooms and a private yard. Proud Ground notably owns Pardee Green, the subject development in this case study. This ownership allows Proud Ground to keep the housing affordable permanently by permitting equity gain that homeowners can achieve to be 25% of the appreciated value.

Proud Ground can control the resale of their properties using two methods, through a “Land Lease” which is applicable to Pardee Green or an “Affordable Housing Covenant.” The land lease is an agreement where a prospective buyer will own their own home, but the land underneath is controlled by Proud Ground to purposely limit the resale value. Alternatively, the affordable housing covenant method applies directly to the mortgage of the property so the prospective buyer takes ownership of

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266 Interview, Bill Cunningham.

267 Ibid


269 Ibid

270 Ibid
the property but under the condition that they agree to the affordable housing stipulation.\textsuperscript{271} The affordable housing covenant applies to a condominium or strata tenure. An example of the affordable housing covenant is “Woolsey Corner,” an affordable housing development owned by Proud Ground that features primarily townhouses and attached housing types applicable to The Infill Toolkit and the R2 Zone.\textsuperscript{272}

Entities such as Proud Ground are critical in keeping affordable housing initiatives that may have used public funding or subsidy, affordable in the community permanently. I discussed this aspect in the previous case study, 60W Cordova, where many stakeholders felt that permanent affordability was the major downfall of the innovative housing development.

5.2.5. \textbf{Research Results: Stakeholder Interviews and Content Analysis}

Now that I have identified what the Infill Toolkit is and what affordability strategies it can present, I present my findings from stakeholder interviews and content analysis. I begin by identifying the limitations and the barriers that a municipality or other organization may face when applying the practices prescribed by the toolkit. I conclude the interview results by presenting ideas and strategies proposed by those who have been involved with the infill toolkit on how to scale up use to produce more affordable housing in our cities.

\textbf{Barriers and Limitations of the Affordability Tool}

The Infill toolkit and the affordable housing that can be produced as a result of it is limited by several features: Land that is zoned R1, R2, or R3, access to frequent transit networks, and funding that is available to Proud Ground. I now examine these barriers and limitations in detail.

\textsuperscript{271} Ibid

Funding for Proud Ground and Keeping Housing Affordable Permanently

Proud Ground is the entity that used the Infill Toolkit to provide permanent housing affordability for families in Portland. Proud Ground actively searches for new opportunities to expand their housing inventory, but their ability to act on these opportunities is based on limited funds that are made available to them through fundraising, grants, and government programs. Kathy Armstrong commented that gaining funding from the federal, state or city government is very competitive because many other organizations are seeking the same opportunities. While the City of Portland is attempting to address their zoning to promote a diversity of modest and affordable homes, Proud Ground’s ability to capture the affordable housing types and keep them affordable in the future is based on limited sources of funding.

In terms of long-term affordability, Mark Lakeman, from the firm Communitecture, felt Proud Ground was the critical component. However, Lakeman took a larger stance and stated that in order to address the long-term affordability problem, drastic change in the economic practices of real estate development must be undertaken. Lakeman described current practice as a form of “profiteerism,” and if practices do not change, then increasingly severe outcomes will be forthcoming such as “moving to Detroit, a dilapidated city, or cutting off our legs so that we can fit into smaller micro suites.”

Availability of Land for Multi-Family Housing

During the process of introducing The Infill Toolkit in 2008, the City of Portland designated several areas of their city for multi-dwelling housing. These areas were close to town centres or on arterial streets. However, the majority of residential land designation is for single-family housing. In Figure 16 below, NE

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275 Ibid
276 Ibid
Portland has some areas zoned for R1-R3 (light blue) but the majority is for single family (yellow).

![Figure 16: NE Portland Zoning that features predominantly Single Family](image)

The purpose of the Toolkit is to facilitate medium density, multi-family homes in Portland, and provide a predictable method of doing so in residential lands zoned R1, R2, or R3. However, when land is zoned for single-family, a rezoning will be required. Alternatively, a developer may apply for a “Planned Unit Development Program” to alter the zoning on a larger parcel of land to facilitate to multi-family buildings. Both processes are risky and diminish the predictability of gaining approval such as when lands are already zoned R1-R3, however affordable housing developers such as Eli Spevak are willing to take on these risks because of his experience doing public consultation.

**Availability of Frequent Transit Networks**

One of the major tools for creating successful, well-designed infill housing sites is proximity to transit. Bill Cunningham and the planning staff in Portland purposely chose arterial streets and areas near frequent transit networks in the city so that parking can be relaxed to zero near frequent transit networks. Away from frequent transit networks, infill housing must comply with higher parking requirements,

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which limit possibilities for greater density or in some cases a good design according to Eli Spevak.278

**Financing of unconventional housing**

I was not able to find a source in Portland to speak to the role of financing affordable infill development. However, Eli Spevak noted that a financier or lender can be very risk adverse in supporting new forms of development, so they will require more proof of housing that is sellable.279 Lenders can require the pre-selling of unique housing such as cottage clusters, where the residents do not have private yards but share them with their immediate neighbours because they are looking for proof that homebuyers would purchase a non-traditional housing form. A preselling requirement can hurt a development because if the units are not presold before construction completion, then the project runs the risk of being incomplete.280 A developer will also have to spend time marketing the units and developing a housing concept. This is a disadvantage because potential buyers cannot experience the housing and there may be changes that occur to overcome construction difficulties.281

Spevak commented that this problem is gradually decreasing because many developers are experimenting with different forms such as those provided in The Infill Toolkit. In his personal experience, Spevak has developed a list of buyers who want to live in the Cottage Cluster housing typology and says he can show this as proof to lenders that there is a market for this type of housing.282

**How to Scale-Up use of the Infill Toolkit? And ensure affordable outcomes?**

The interviews that I conducted with project stakeholders showed that the Infill Toolkit can add diverse housing forms and do so in a predictable way. The Infill Toolkit shows that good design does not need to be compromised even without a

278 Interview. Eli Spevak, 2015
279 ibid
280 ibid
281 ibid
282 ibid
highly discretionary review process. However, the Infill Toolkit cannot ensure affordable housing being built all the time, and the building permit data shows that housing has been that is priced at a high of $980,000. This section will detail stakeholder responses on how the Infill Toolkit can still be used for developing affordable housing, and to what degree this can be done.

**Opportunities with City Regulations and Policies**

The Planned Unit Development process, mentioned in section 5.2.4, can help scale up the Infill Toolkit Strategy. This process comes with public consultation, unlike a standard R1-R3 development, which can significantly alter a proposal. Despite the discretionary review, the Planned Development Process can be useful to non-profit builders because they can realize greater value for the land that they have, over and above the existing zones. Bill Cunningham agreed this process opens up more land for multi-family infill development, but the review process diminishes the simplicity that comes with developing in the established R1, R2, and R3 Zones. However, in the past the city has looked more favourably on the Planned Development Process when affordable housing is a goal.

In 2015, the Bureau of Planning and Sustainability in Portland created the Residential Infill Project to continue the important work of the Infill Toolkit. The goals of the Residential Infill Project are to characterize the current practice of creating large “monster” single-family homes. During a stakeholder meeting in September 2015, the stakeholder team acknowledged current single-family construction has been out of character with existing neighbourhoods, and diminishes housing affordability because they are increasingly large and bulky, and are contradictory to goals for energy efficient homes. The suggestions of the committee on this project

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284 Interview. Bill Cunningham, City of Portland. September 2015
285 Ibid
287 Ibid
will be reviewed over time, but many members wish to alter single-family home requirements to incentivize smaller homes, or permit the cluster housing form that shares open space rather than having private yards into single-family zones.288

The importance of transit and amenities nearby

As mentioned earlier, access to transit and amenities are critical to the success of the Infill Toolkit. It is worth specifying that with low and medium density forms, parking can become an issue because it can alter site design and limit the density on a parcel of land. Access to transit can also leverage parking requirement relaxations when developers attempt to use the Planned Development Program, when a site is not zoned R1, R2, or R3. The pro forma analysis in Appendix N shows how parking can counteract affordability goals as a proposed site can lose smaller units and compensate with bigger units because of parking requirements. With the Orange MAX LRT line that opened up on September 12, 2015 there will come more opportunities to densify single family neighbourhoods in gain more housing diversity.289

Access to Portland’s Central City can also provide opportunities for diversity in medium and low-density development. Cunningham explains that these inner neighbourhoods have nearby access to existing commercial main streets so they are more walkable, or bike-friendly to begin with.290

Greater use of non-profits and Housing Trusts

Proud Ground and Kathy Armstrong’s opinion on the scalability of the Infill Toolkit is worth noting because they oversee Pardee Green and Woolsey Corner, two infill developments that use R1 and R2 zoning. Proud Ground and the City of Portland also have a mandate to provide affordable home ownership for families, and Armstrong recognizes that the toolkit can facilitate this.

288 Infill Housing Project Presentation, 2015
289 Max Orange Line. Trimet Transit Agency; Portland, OR. www.trimet.org/schedules/maxorangeline.hm
290 Ibid
In terms of scalability, Kathy Armstrong identified three tools that Proud Ground can offer to create more affordable housing in partnership with private-sector developers: Proud Ground’s ability to market housing for a developer, subsidies that Proud Ground can offer to homebuyers, and the use of Urban Renewal Areas in Portland.291

Firstly, Proud Ground is able to provide subsidies to homebuyers who can apply them in their down payment for a home, and in exchange have a covenant placed onto their mortgage title that restricts the resale value so that the housing unit remains affordable into the future as well.292 Proud Ground proactively searches for developers who are willing to enter an agreement that allows lower and middle-income households access to their developments. Secondly, in conjunction with the subsidy offered, Proud Ground offers marketing services for private-sector developers. Kathy Armstrong pointed out that Proud Ground has cultivated a list of roughly 400 homebuyers who are waiting, and eligible, for affordable home ownership opportunities. This is a large benefit for developers because they have reduced their risk of not selling units, and the developer can sell the housing at a non-subsidized rate.

Thirdly, Proud Ground is actively involved in searching for opportunities in Portland’s Urban Renewal Areas (URA).293 The Portland Development Commission manages URAs, and define Urban Renewal as “...a state-authorized, redevelopment and finance program designed to help communities improve and redevelop areas that are physically deteriorated, suffering economic stagnation, unsafe or poorly planned.”294 Specifically, Kathy Armstrong pointed to the use of Tax-Increment Financing (TIF), which allows tax revenue to be assigned an upper limit that is paid to the city, but the remainder can be used to finance affordable housing. As an example of the strength of this initiative, the City of Portland was able to finance 333

292 Ibid
293 Ibid
294 Ibid
affordable dwelling units in 2013-2014 by using revenue from their TIF program.\textsuperscript{295} Private-sector developers will often take on the land improvement, but Proud Ground is frequently willing to offer their services and aggressively pursues opportunities in the Urban Renewal Areas.\textsuperscript{296} Development that takes place in these areas does not necessarily result in housing typologies that fit in the Infill Design Toolkit, but Proud Ground will maintain their mandate and look for lower density, family friendly housing such as duplexes, triplexes, and townhomes. A map of the URAs is provided in Appendix O.

5.2.6. Summary

In summary, the Infill Toolkit has been shown to provide more affordable options for the City or Portland. The developments that correspond to the Infill Design toolkit are best suited to walkable, transit-friendly locations, which Portland does possess. The UGB and Smart Growth goals will continue to help present more opportunities for compact and transit serviced areas and promote for diverse, low-to-medium density housing forms.

Bill Cunningham stated that the Infill Toolkit alone can accommodate more affordable housing, but not as a rule; the toolkit must be paired with other initiatives such as what Proud Ground can offer.\textsuperscript{297} The housing authority is able to provide mortgage helpers for new developments, and hold land in order to keep it affordable into the future. More affordable housing can be produced when using these two methods, and the practice should be considered a vital component of any affordable housing strategy for any city.

The Infill Toolkit is an example of how a municipality can bring back “missing middle” housing and do it in a way that promotes flexible forms, and makes the

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{296} Ibid
\item \textsuperscript{297} Interview. Bill Cunningham, City of Portland. 2015
\end{enumerate}
\end{footnotesize}
program accessible to many different builders. The toolkit should be considered an effective way to legalize inexpensive housing, or housing that is affordable by design. It is difficult to predict how much effect this program could have in the City of Vancouver, a city further along in the affordability crisis and with higher land prices. However, it is important to note that the majority of land in Vancouver is still zoned for single detached housing (See Appendix P) and there is more room to permit more inexpensive housing. I compare and contrast the two initiatives in the conclusion of my thesis.

In the next section, I examine the Whistler Housing Authority in BC and attempt to address the problem of keeping these initiatives affordable for the long term.
Chapter 6.

How to ensure affordability for the long term: The Whistler Housing Authority as a model

In order to address the need for permanent affordable housing, I now examine the Whistler Housing Authority and their practices. The Whistler Housing Authority (WHA) is based in the resort municipality of Whistler. The authority was created because Whistler needed to respond to the rapidly escalating house prices and rents in the community. This section will describe the history of the WHA, what tools it possesses to create affordable housing, and stakeholder viewpoints on whether the success of the authority can be replicated. The following stakeholders were interviewed for this section: Jessica Averiss, the current housing administrator at the WHA; and Tim Wake, a former director of the WHA, primary author of the Smart Growth Affordable Housing Toolkit, and former Whistler City Councillor.

A housing authority is an entity with a goal of creating, growing, and maintaining an affordable housing stock. A community land trust has the same goal of keeping housing affordable, but the community land trust will often focus more on keeping the value of land affordable, while a housing authority manages developed housing. Proud Ground in Portland is taking on both tasks, but VAHA in Vancouver has not operationalized their organization to build housing or hold land as of yet. The Whistler Housing Authority is also a hybrid organization.

I begin my analysis of housing authorities by making a case for why they are necessary in our cities.

6.1.1. Why is a Housing Authority Necessary?

A major point brought up in the limitations and barriers section of each of the previous case studies was finding a way to ensure that all strategies could provide affordable housing now and in the future. 60W Cordova was heavily criticized as non-
affordable housing, perhaps unjustly, because many purchasers waited out the one-year restrictive covenant on resales to sell their dwelling unit at an enormous profit. The case study relating to Portland’s Infill Design Toolkit and the corresponding low-to-medium density housing options provided the tools to bring the sales price of ground oriented housing down, but without a mechanism to keep it that way (without the help of Proud Ground). The lesson learned is that an organization needs to be in place that help develop and hold housing to keep units affordable for the long term or in perpetuity. This is a task that a Housing Authority or Community Land Trust (CLT) can take on; a Housing Authority can act to keep established housing units affordable permanently, while a CLT limits the value of land to keep it affordable. The WHA is able to do both tasks and has done so in practice.

In summary, a Housing Authority is necessary to ensure that housing innovations that are useful today to create affordable housing can have a longer legacy into the future, and provide affordable housing for the next generation of buyers and renters. The Whistler Housing Authority (WHA) is an excellent organization to study for several reasons, they have been in existence since 1983, and they have used a variety of tools to build their housing stock. The WHA also has acted as a developer, something that Proud Ground typically avoids due to their lack of funding. Those reasons combined have allowed the WHA to create and maintain roughly 2000 units, or more than 6000 beds.

6.1.2. Background on Whistler Housing Authority

During the 1970s and the 1980s, the popularity of the Whistler area was exploding with many people from different parts of the province investing in the scenic area with access to skiing. As the popularity of the region rose, so did the price of housing. To respond, in 1983 a group of employers in Whistler formed the Whistler


Valley Housing Society (WVHS), a non-profit volunteer group with the goal of securing housing for their employees. This group cemented the notion that the business community must be engaged in providing affordable housing for the community. Using their non-profit status, The WVHS was eligible to apply for funding from the Canada Mortgage and Housing Corporation (CMHC), and in 1984 they successfully received funding to develop a 20-unit townhouse project priced to the median income level of Whistler residents. This development, The Whistler Creek Court, has received continuous subsidization from the CMHC since creation, and this arrangement is set to expire in 2019. This development is a legacy project that has shaped development patterns in Whistler; a notion that Allison Dunnet believes can also be true of 60W Cordova in Vancouver.

In 1988, The WVHS experimented with a new tool, the Ground Lease, which allowed the authority to regulate who could purchase their housing. Until then the Local Government Act in British Columbia only permitted local governments to regulate density, form, and setbacks. The ground leases ensured that housing developments built could only be sold to those who lived and worked in Whistler, rather than outsiders or investors. The WHA developed their first housing projects shortly after the ground lease was created and with the help of a CMHC grant.

During the 1990s, The WVHS still had unmet demand for affordable housing but could not attain more of the limited funding from the CMHC. The organization had also created a mandate to be more self-sufficient and be able to build housing through their own means. The first strategy that the WVHS explored in 1990 was the use of a particular form of Inclusionary Zoning, the “Employee Housing Service Charge,” (EHSC) that required developers of industrial, tourist, or commercial land to develop housing for their employees. Whistler City Council approved the EHSC, and

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300 The WHA Story pg 7
301 Ibid
302 The WHA Story pg 8
303 The WHA Story pg 9
304 Ibid

93
permitted the WVHS to manage the future developments. This approach to IZ is unique and unlike the form described in my research argument because a residential developer, under IZ policy, will need to find alternate ways to make their development profitable by either passing more costs onto other residential units or asking for a density bonus. A commercial developer will not necessarily have those opportunities, and is more likely to understand that they need employees to work for them who can afford to live in the community. In 2015, Whistler has been experimenting with a program similar to IZ by initiating a pilot project in the Alpine Neighbourhood where residents are permitted to subdivide their properties into narrow lots, or build coach homes as long as those new developments are placed under the control of the WHA. Jessica Averiss, the housing administrator at the WHA, revealed that there has been small take up so far.305

This ESHC was able to provide the former WVHS with $6 million from 1991 to 1996, but the society did not create any additional affordable housing during this period. The lack of new construction was due, in part, to the volunteer nature of the housing society.306 To move forward, City Council in Whistler permitted the creation of the Whistler Housing Authority that would be able to manage their funding along with a mandate to develop housing. The first goal of the WHA was to decide how to spend the $6 million and after a period of research, including a visit to other resort communities in the United States, the Housing Authority created a goal of leveraging their money with a bank loan to purchase $22 million worth of real estate.307 This inventory included four purpose built rental housing developments that would be key to help the WHA service their debt payments and build equity for future developments.308 Appendix Q details the rental projects that were developed by the WHA.

306 The WHA story pg 11
307 ibid
308 ibid
The money gained from the rental projects was held in partnership with new sources of funding from the provincial government during the 2010 Olympic Games. The WHA was able to secure funding from the provincial government by capturing sales tax from hotels during the Olympic games, which was used to finance the construction of more affordable housing stock. The WHA also utilized housing developments needed for athletes in the Olympic games to further contribute to their future affordable housing stock. The developments accommodated both affordable rental stock and affordable home ownership opportunities, which residents were continually asking for.309

When purchasing and developing these properties, and ensuring that the housing would be affordable in the long term, the WHA experimented with many methods and considered many dimensions. The next section will detail the tools that the WHA uses to keep their properties affordable in the future.

6.1.3. Best Practices from the Whistler Housing Authority

When considering the construction of an affordable housing project, The WHA authority had to consider questions such as “Who is entitled to live in this affordable housing?” “How can we ensure that housing equity increases at a fair rate?” “What is a fair rate of equity growth?” This section responds to these questions and relay the lessons learned from The WHA.

Understanding Housing Affordability Needs

A tool that the WHA utilizes is the “Employer Housing Needs Assessment” to measure population growth, the current cost of living, workforce employment statistics, and other demographic information. The WHA conducts this assessment yearly. This assessment is similar to the Housing Needs Assessment that I described

309 The WHA Story, Pg 12
in my research methods, and is critical to understand specific pressures to affordable housing.

**The Selection Process for Affordable Housing Dwelling Units**

The first method that the WHA used to select potential homebuyers of affordable housing stock was to hold a lottery for those who were interested. The community did not receive this method well because they felt it gave no preference to members who had been in the community for a long time.\(^{310}\) Tim Wake, a member of the WHA at the time, investigated alternative selection methods and found that other communities had points based systems. Points would be awarded based on the amount of time an interested member had been in the community, years of employment in Whistler, and those with larger families. After those points were distributed prospective buyers were placed on a first come, first serve basis. The waitlist has grown over time with over 1 in 10 Whistler residents now waiting for housing from the WHA.\(^{311}\) Rental housing developed by the WHA has a separate waitlist, with a similar points based system. The rental housing waitlist has a special condition that stipulates that core services workers (policemen, firefighters, emergency workers, education workers) are given first priority for this housing.\(^{312}\)

**Tools to Ensure Long-term Affordability**

Both case studies that I wrote about mentioned different covenants placed on mortgage titles to restrict equity gain for maintaining affordability. The WHA overtime has used many different covenant types and conditions to ensure that housing remains affordable permanently. In the 1990s, the first mechanism tied housing value appreciation to the Royal Bank prime lending rate. This method proved to be very troublesome and hard to manage because of frequent changes and because the prime lending rate was decreasing rapidly.\(^{313}\) The second mechanism was to tie

\(^{310}\) What is this footnote?  
\(^{311}\) \(^{312}\) The WHA story pg 16  
\(^{313}\) The WHA story pg 18
housing prices to values in Vancouver because it was a larger market and because it would be fair to assume that the housing prices there should be equal to Whistler. This method was effective until 2000 where the housing prices increased at enormous rates. The final mechanism was to tie the housing price to the Canadian Consumer Price Index, (CCPI), which was discussed in the 60W Cordova case study. This method was chosen because it reflects inflation rates in Canada and would not permit large growth in equity in a short period of time, and so ensuring affordability in the long run. The WHA made the decision to make all developments in the past, present, and future subject to the CCPI inflation rate. There was protest from owners who had enjoyed large gains when using the Vancouver Housing Price Index as a benchmark, but the CCPI was adopted.314

6.1.4. What to consider when a municipality wishes to create a housing authority?

In the previous section, I described the tools that a Housing Authority may use in order to keep housing affordable. These tools may be attractive for any municipality that is in the midst of an affordability crisis. However, a municipality may wish to consider other dimensions of a housing authority to answer questions such as “How can we ensure the financial sustainability of the housing authority in the long run?” “How much influence should a housing authority have over a city?” or “How can we ensure that the goals of a housing authority are met?” This section examines what the WHA has done to answer the questions and gain further insight from Tim Wake, a former member of the WHA.

Ensuring the Financial Sustainability of a Housing Authority

As I mentioned earlier, the WHA developed their first housing project by gaining funding from the CMHC Funding from the CMHC has been diminishing over time and the WHA decided that they would become a self-sustaining entity rather than relying on subsidy. The WHA then employed inclusionary zoning on commercial

314 ibid
and industrial developments. Finally, the WHA was able to collect taxes from the hospitality sector during the 2010 Olympic Winter games.

The WHA and the Whistler City Council agreed that funding for new developments should not burden taxpayers with higher property taxes. This was their decision and it is not necessarily the case in every municipality. A proportion of property tax being used to fund a housing authority in a larger city could be considered more feasible if the rate was lower per person, and if there was a larger population to draw from.

I previously mentioned the use of tax-increment financing in the City of Portland Infill Housing case study, a strategy that revitalizes areas of a city by re-investing property taxes collected in the area, back into that area. A municipality can decide to invest the tax collected into affordable housing. This strategy may not be useful in Whistler because there are no areas that have experienced urban decay. However, other cities can be proactive in finding areas of their city that need to be renewed because they were previously used by industrial activities, or for other reasons. Tax increment financing can limit tax collection under existing rates, and the new sources of funding can be used to develop affordable housing in a city. A housing authority can be the recipient of that funding. It is important to note that as of today, the Local Government Act of British Columbia does not permit usage of Tax Increment Financing as Portland or other American cities are able to do.315

The WHA has been using funding from previous rental buildings, but it is hard to justify any rental increases to finance new projects because it may be unfair to those residents.316 Therefore, the WHA has looked to other sources of funding from ownership projects such as charging a fee when a new buyer takes on the ownership of a home or enrolls for a waitlist. These charges allow the WHA to offset costs of professional management, having a realtor on staff, and administrative or legal

316 The WHA Story pg 21
costs. Jessica Averiss also stated that the WHA is looking at different options to develop the remaining 250 acres that the province granted the city during the Olympic Games. One option is selling a portion of the lands to private developers to raise funds for affordable housing development.

How much influence should a Housing Authority have in a city?

Another interpretation of this question could be, “How much should a housing authority be able to alter the market?” Classical economists might suggest that a Housing Authority should not alter the market in any way because it may distort economic development or the business model of job generating employers. In continuation of the theme of this study, there does not need to be a regulation as to how much influence a housing authority can have, such as 25% of all housing stock. The question can be answered by how many people are listed as waiting for housing by the housing authority, and the number of units can correspond to that waitlist.

The WHA has suggested that 1 in 10 residents in the Resort Municipality of Whistler are waiting for housing to be developed by the society, and so that need should be met specifically. Proud Ground, the Land Trust in Portland, also has a waitlist for people wanting affordable housing and uses this as a marketing technique when approaching developers. When Proud Ground has funding, they are able to price market units, developed by the private sector, at a lower rate for their members while ensuring that they are also placed as a partner on the mortgage. Proud Ground then has the option of pricing the unit at an affordable rate in the future. Proud Ground also offers to take on the marketing role for a market rate project because they can advertise to their waitlist members, and pass the savings coming from the low cost marketing technique to their members.
How can a municipality ensure that the goals of a Housing Authority are met?

When a Housing Authority has the opportunity to develop housing, there may be considerable protest from existing members of a community who may fear the type of people who may inhabit the affordable housing, or higher density housing. The WHA worked extensively with the Whistler City Council to develop a vision of an equitable and affordable community, and when it came time to implement that vision they had strong support from council. This is a key component in ensuring that the affordability goals of a housing authority are met; Council must support the developments in the face of strong and perhaps very organized opposition. In time, the developments of the WHA showed that the families that would come to live in the affordable developments were no different from the market-rate areas, and there has not been any crime or danger in the neighbourhoods.

City Council must also be willing to support new strategies to finance the operation of a housing authority and the ability to develop new housing. Using property tax was not a goal in Whistler because of the smaller population base from which to extract that tax, but studies can be done to show that it may be possible in larger cities such as Vancouver or Portland and not impact homeowners as greatly.

Municipalities can also ensure that Housing Authorities have first right of refusal when city-owned land becomes available for development. As I wrote about in 60W Cordova there are many opportunities to lower development costs when the cost of land is lowered to a rate where a pre-established target for affordable housing has been established. The 60W Cordova case study suggested that Southeast False Creek area of Vancouver is a site that can have redevelopment potential for more affordable housing because the land is owned by city, and has further potential to be managed by a Housing Authority.
6.1.5. Replicating the success of the WHA

A worry that many municipalities may have when attempting to implement a Housing Authority is they cannot replicate the success of the WHA because of the unique nature of the Resort Municipality. A municipality may suggest that Whistler is much smaller than their municipality and has been granted privileges unique to a resort municipality that another municipality may not be able to capitalize on. Jessica Averiss of the WHA did not agree, rather Averiss suggested that the reason that the WHA is considered successful is because it has been established for 30 years and has consistently looked for means and methods to grow its inventory. The WHA has been helped by a strong city council who has supported the development of affordable and denser forms of housing despite community opposition, which may have been misguided. With the current inventory and past successes, the WHA can point to developments that have contributed to positive community development, and counter common concerns that residents may have. Averiss also continued and suggested that the basic practices of the WHA is replicable: Permanent affordability tools, covenants, structure of organization, ability to find options for development. I detailed these practises in section 6.1.3.

Tim Wake, a former director of the WHA, former city councillor in Whistler, and affordable housing expert, suggested that a Housing Authority should be left to be “nimble, and at arm’s length” from a municipality. The Housing Authority should be its own entity rather than being subject to a municipality because it can form relationships with the private sector and not be seen as giving preferential treatment, it avoids the bureaucratic nature of local government, and it is able to self-direct towards their own goals of providing affordable housing. This arm’s length model is similar to Proud Ground in Portland and the WHA; this model is not similar to Vancouver’s VAHA, which is a city department. Wake believes that a multi-

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320 Interview. Jessica Averiss
321 ibid
322 Interview. Tim Wake, Affordable Housing Consultant. 2016
323 ibid
324 ibid
disciplinary board of directors featuring affordable housing advocates, housing developers, real estate agents, project lenders (financial), and affordable housing advocates should lead the housing authority.\textsuperscript{325} The multi-disciplinary nature ensures that the goals of the organization stay reasonable and are implementable.

Wake reflected on his experience of communities collecting cash-in-lieu payments and the problems that can be created. He suggested that developers are the best people to build housing - municipalities are not. In his experience, the cost to develop housing can nearly double when a municipality takes the lead, so cash-in-lieu programs are often not effective in meeting housing goals.\textsuperscript{326} A housing authority can work with a developer and use their expertise to build the housing such as the 60W Cordova example and save many costs. This is an example of why an arm’s length housing authority might be best because it can choose a developer who has a history of good work, and avoids a lengthy “request for proposal” competition and may not find the most efficient builder or expert architect / designer.

\textsuperscript{325} ibid
\textsuperscript{326} ibid
Chapter 7.  

Conclusion

The goal of this research was to showcase alternative methods of gaining affordable housing in the Pacific Northwestern cities of Portland and Vancouver. I selected case studies that would design affordability into the project by using features of local context such as legal tools, transit access, construction techniques, partnership opportunities, and the city’s ability to relax their requirements on density, parking requirements, and form. The resulting case studies were 60W Cordova, a case study detailing the partnership between the private sector with a non-profit to build affordable housing, and the Infill Design Toolkit in Portland that promotes housing diversity in established neighbourhoods and therefore more affordable housing forms. Both case studies showed the possibility of creating housing that is affordable for AMI earners in high priced urban areas.

I did not choose strategies that would require developers to build affordable housing like IZ policy, but used design to make it attractive to do so. As discussed in my research argument, IZ should not be considered the only answer to providing affordable housing, or the “silver bullet,” because it there are many implementation issues, and it comes with externalities that may create less affordable housing. IZ also does not directly address the practice of building expensive housing; IZ just attempts to limit it.

An important dimension of my study was to understand whether or not each case study can be replicated. For 60W Cordova, the project will be most replicable when a city or a non-profit owns land and can act on it. More importantly, the lessons and legacy that 60W Cordova leaves show that residents are willing to purchase equity-restricted housing and live without excessive parking when in walkable neighbourhoods. The innovations with financing, and the approach to partnership should also be remembered. The principles of the Infill Toolkit in Portland can be
replicated or scaled up with transit accessibility and municipal initiative. Portland permitted diverse housing forms by encouraging well designed low-to-medium forms according to principles in the Infill Toolkit and minimizing additional requirements for off-street parking. Portland has been able to relax requirements for parking because of their Smart Growth context which allows multi-modal transportation.

The Infill Toolkit as a housing affordability strategy is different from the 60W Cordova case study because it has been applied at the neighbourhood level. Contrarily, the 60W Cordova model in Vancouver is most applicable when a city or non-profit owns a piece of land that could support a medium-density apartment building. In regards to the 60W Cordova case study, the larger corresponding strategy to partner private sector developers with non-profits is applicable to many different housing forms, but non-profits and cities that own land may require higher density on site in order to accommodate their goal for units. The partnership approach may require greater density to allow the private sector partner to make a profit on the project.

The City of Vancouver is further along in a housing affordability crisis than Portland as indicated by the average 2015 sales price of all homes in Vancouver, $631,112.50, caused by a higher price of land. To offset the cost of land, a housing form such as a duplex, or triplex may not be sufficient to bring the price to an affordable level for AMI earners and thus limiting effectiveness. However, the courtyard townhouse and low-rise apartment housing forms feature more density than a duplex, or triplex and can better offset costs of high land value. It is important to note that at the regional level, Metro Vancouver is nearly double the size of Multnomah County (2,877 km² to 1,207 km² respectively) and features a robust transit system in many areas, including suburban.327328 The implementation of the toolkit should be highly

encouraged in suburban municipalities with greater land capacity, lower land values, and access to transit such as Burnaby, Richmond, Surrey, and Coquitlam.

A key issue in my case studies was ensuring that the initiatives would stay affordable for the long term. The Whistler Housing Authority became a good organization to study because they have been successful in keeping housing affordable. The WHA has developed the legal framework to keep housing affordable through trial and error, which includes land-use covenants, the employee housing service charge bylaw, and housing agreements. These legal resources are published on the WHA’s website and available to any interested party. The WHA has drafted a covenant that allows them to be on the mortgage title of any ownership housing so that the sales price remains affordable, and only escalates at the rate of the consumer price index. The WHA has also kept affordable rental builds in their inventory. The WHA has had the support of city council in developing affordable housing despite fears from the community such as lowering property value or creating dangerous neighbourhoods. The strength of the city council has allowed the WHA to build several successful affordable housing developments and use them as examples of positive community development and to refute the fears of citizens.

My finding in this research is that cities certainly can do more to develop market affordable housing by encouraging partnerships and helping to shape opportunities for non-profit organizations. Cities that are facing affordability problems should follow the example of the WHA and pursue all methods of making the housing authority effective. The City of Vancouver has now created VAHA, a housing authority, and it should be at arms-length from the city, and not controlled by it. VAHA should start small in the same way as the WHA did and experiment with models and find methods that work in Vancouver’s context such as using property taxes, using a T.I.F arrangement, or using city owned land.

I believe that Metro Vancouver as the regional government should be more involved in pursuing regional opportunities to develop land for long term
affordability; The Metro Vancouver Housing Corporation should position itself as the WHA has, which is a more flexible, nimble, and arm’s length organization which can act similar to the private sector. Proud Ground, the community land trust in Portland, takes advantage of areas of the city with lower land values, and actively searches for opportunities in the inner city in the case of the Urban Renewal areas. Furthermore, municipalities should understand that their restrictive zoning policies are directly reducing affordable housing stock, and they need to change those practices if they wish to address the affordability crisis. All municipalities can learn from Portland’s Infill Toolkit and encourage good design and affordability near frequent transit routes. The 60W Cordova model can have application in our cities, and should be considered when a non-profit or a local government holds the land.

Many large points were brought up in this thesis on the antiquated method of land use regulation through zoning, and attempting to use inclusionary zoning to regulate the market. These dimensions are directly related to housing affordability, but other points need to be addressed such as the model of private-sector home building, the practice of lending for mortgages, and the role of senior levels of government. With that said, I believe these case studies paired with a housing authority can enable the production of more affordable market-rate housing. I believe that this is a major step in creating more affordable housing, but the other issues brought up will require more work to solve the affordable housing problem in the Pacific Northwest.

To conclude, I present a table of all of the tools discussed and brought up in my research. The purpose of the table is to remind readers that there are several methods to provide affordable housing that are inclusionary through context-based design, rather than a one-size fits all regulation.
<table>
<thead>
<tr>
<th>Type of Tool / Strategy</th>
<th>Actor(s) Involved</th>
<th>Description</th>
<th>Corresponding Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Authority, Land Trust</td>
<td>Housing Authority, Local Government</td>
<td>A housing authority will maintain control of land that was owned by a city or non-profit. The Authority can use a “Land Lease Agreement,” or an “Affordable Housing Covenant” to ensure permanent affordability. A local government is also able to employ these tools to ensure affordability.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td>Zoning for flexible forms that comply with design requirements</td>
<td>Local Government</td>
<td>The City of Portland allows flexibility in the dwelling unit yield, building form, and housing tenure in the R1, R2, and R3 zones to ensure that infill site of varying natures are developable.</td>
<td>Infill Toolkit Program</td>
</tr>
<tr>
<td>Access to Transit</td>
<td>Local Government</td>
<td>Ability to access transit within 500m is important to facilitate good design, and relax parking requirements. The more opportunities for frequent transit networks, then more multi-family dwelling infill development can occur.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td>Prototypes for Development</td>
<td>Local Government</td>
<td>Prototypes on approvable sites that show good design allow new builders to see how a development should look according to city standards, and mimic the prototype for their own development.</td>
<td>Infill Toolkit Program</td>
</tr>
<tr>
<td>Use of City Lands</td>
<td>Local Government, Private Sector Developer</td>
<td>The City of Portland &amp; Vancouver possess land holdings. A land sale or lease can be done with the purpose of building affordable housing.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td>City Subsidies</td>
<td>Local Government</td>
<td>City subsidies can help Housing Authorities grow and hold more real estate in their inventory. Subsidies can also help non-profits, who can partner with private sector, when their goal is to build affordable housing.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td>Type of Tool / Strategy</td>
<td>Actor(s) Involved</td>
<td>Description</td>
<td>Corresponding Case Study</td>
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<tr>
<td>------------------------------------------------</td>
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<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Mortgage Subsidies / Silent Second Mortgages</td>
<td>Housing Authority, Banking Institution</td>
<td>A housing authority can help low income earners gain homeownership by subsidizing the housing price. The housing authority offers this service to a developer when selling units. In exchange the housing authority is placed onto the title requiring the prospective buyer to sell at an affordable rate in the future.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td>Housing Tenure Flexibility</td>
<td>Local Government, Housing Developer</td>
<td>By allowing the housing developments to be ownership, rental, or quasi-ownership, the new developments can meet all markets. The quasi-ownership style allows a buyer to purchase a small multi-family development such as a triplex and rent the other suites to help with mortgage payments.</td>
<td>Infill Toolkit Program</td>
</tr>
<tr>
<td>Urban Renewal Areas and Tax Increment Financing</td>
<td>Local Government, Senior levels of Government</td>
<td>Areas that are in disrepair or are no longer in use can be designated “Urban Renewal Areas” by the local government or state. When redeveloping the sites, the property tax rate is limited to a certain rate then the equity gained is used to fund ventures such as more affordable housing. Currently, not fully applicable in British Columbia.</td>
<td>Infill Toolkit Program</td>
</tr>
<tr>
<td>Restrictive Covenant</td>
<td>Local Government, City of Vancouver</td>
<td>The City of Vancouver may apply a restrictive covenant onto a property for a period of years or to a certain property value in order to maintain affordability in the case of future resales.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td>Lower Financing / Borrow Rate</td>
<td>Financial Institution, Lender</td>
<td>A financier or lender can follow a mandate to provide affordable housing initiatives with lower borrowing costs or interest rates. The money saved by the affordable housing developer is used for the development itself.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td><strong>Type of Tool / Strategy</strong></td>
<td><strong>Actor(s) Involved</strong></td>
<td><strong>Description</strong></td>
<td><strong>Corresponding Case Study</strong></td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>Mortgage Tools</strong></td>
<td>Financial Institution, Lender</td>
<td>A lender or mortgage broker can tailor mortgages to lower income earners so they can access home ownership options otherwise unavailable to them. Vancity has pioneered two mortgages that help those who have a consistent record of making rental payments to overcome the barrier of coming up with a down payment required to qualify for a mortgage.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td><strong>Non-Profit Equity and Lands</strong></td>
<td>Non-Profit</td>
<td>A non-profit may take the initiative to redevelop their lands, or use built up equity to build affordable housing. The non-profit can partner with the private sector to make use of their development expertise.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
<tr>
<td><strong>Parking Relaxation</strong></td>
<td>Local Government</td>
<td>A local government may permit a parking relaxation for a development. The relaxation can help to lower costs of construction which can ultimately be passed onto the buyer of the home.</td>
<td>60W Cordova</td>
</tr>
<tr>
<td><strong>Loan guarantees for affordable housing</strong></td>
<td>Local Government</td>
<td>A local government may use an affordable housing reserve fund to provide a loan guarantee to help lower financing costs when a non-profit initiates an affordable housing development. This practice can be also be done by the CMHC or BC Housing, federal and provincial entities respectively.</td>
<td>60W Cordova &amp; Infill Toolkit Program</td>
</tr>
</tbody>
</table>
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http://www.whistlerhousing.ca/learn_more.html.


Appendix A.

Effectively Implementing Inclusionary Zoning Policy

Each municipality must create their own IZ policy, which meets the needs of their specific context. The process of developing a workable policy is difficult and will often require revisions in the future. The following table outlines some of the most important features of an IZ policy along with potential challenges that a municipality must overcome.

Inclusionary Zoning Policy Dimensions

<table>
<thead>
<tr>
<th>MANDATORY VOLUNTARY PROGRAM</th>
<th>In municipalities with high growth rates, mandatory IZ programs may simply shift development beyond municipal boundaries where the policy does not apply. Voluntary programs, on the other hand, lack seriousness of application.</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCENTIVES PROVIDE TO</td>
<td>To ensure that developers can still make a profit on the project, a municipality may have to permit density bonuses, fee relaxations, and relaxations of standards on form and character or parking. These may all have to be granted in unison or a municipality may be asked to give others.</td>
</tr>
<tr>
<td></td>
<td>Incentives provided may counter the intent of community plans.</td>
</tr>
<tr>
<td>THRESHOLD LEVELS FOR IMPLEMENTATION</td>
<td>A municipality must consider a unit-threshold level to trigger IZ. The number must be low enough so that developers are not encouraged or incentivized to avoid the policy and build below the level.</td>
</tr>
<tr>
<td>FEE – IN –LIEU (ALTERNATIVE COMPLIANCES)</td>
<td>A municipality can permit a developer to build the affordable housing off-site or pay a fee-in-lieu charge. These options give flexibility to a developer, but the municipality must charge a sufficiently high fee-in-lieu</td>
</tr>
</tbody>
</table>

122
charge to actually build the future housing. It should be noted that many municipalities may not have the same development expertise to be as cost-effective or efficient as the private sector.

The fees collected are pooled for a period of time into an affordable housing trust fund managed by the local government, but during that time other priorities may take precedence over middle-income housing shortages of today. Furthermore, when pooling funds for an affordable housing initiative, a local government will have to compete with the private market in order to find land that is suitable for development. Once the land has been purchased, an affordable housing development may also be subject to neighborhood opposition.

<table>
<thead>
<tr>
<th>TERM OF AFFORDABILITY</th>
<th>Municipalities must be prepared to draft covenants to keep the affordable housing intact for a period of typically 10 to 99 years or in perpetuity. There must also be a justification for that period. A third party organization will need to secure those terms and manage them.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVEL OF AFFORDABILITY REACHED</td>
<td>The IZ policy should be oriented towards a particular income level; for the middle class, lower class, or those with little to no income. The lower the income target is, the more a municipality should incentivize participation in the program. This choice can lead to questions of fairness of the policy as a particular group may feel left out of the equation.</td>
</tr>
</tbody>
</table>

329 CAN INCLUSIONARY ZONING BE AN EFFECTIVE AND EFFICIENT HOUSING POLICY? pg 235
330 Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto pg 34
331 ibid
Appendix B.

Pro Forma Analysis of 60W Cordova

The table below will show the costs of development and the estimated sales.

60W Cordova Pro Forma. Major expenses and expected sales are shown.332

<table>
<thead>
<tr>
<th>ITEM</th>
<th>EXPENSE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACQUISITION COSTS</td>
<td>$5,030,000.00</td>
<td>5 million base cost, plus $50 per buildable square footage gained during development permit process.333</td>
</tr>
<tr>
<td>DEVELOPMENT FEES</td>
<td>$2,977,614.00</td>
<td></td>
</tr>
<tr>
<td>CONSTRUCTION COSTS</td>
<td>$17,057,582.00</td>
<td>An additional $1.7 million cost if parking was not relaxed.</td>
</tr>
<tr>
<td>LEASING &amp; MARKETING</td>
<td>$861,455.00</td>
<td></td>
</tr>
<tr>
<td>TENANT IMPROVEMENTS</td>
<td>$101,000.00</td>
<td></td>
</tr>
<tr>
<td>FINANCE COMMITMENT FEE</td>
<td>$120,000.00</td>
<td></td>
</tr>
<tr>
<td>OTHER FINANCE</td>
<td>$79,000.00</td>
<td></td>
</tr>
<tr>
<td>FINANCE CONTINGENCY</td>
<td>$100,000.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL COST BEFORE DEV. INTEREST</td>
<td>$26,326,651.00</td>
<td></td>
</tr>
<tr>
<td>INTEREST ON DEV (5.25%)</td>
<td>$653,211.00</td>
<td>Further financing that Westbank gained for project construction.334</td>
</tr>
<tr>
<td>TOTAL COSTS BEFORE CONTRA INC.</td>
<td>$26,979,862.00</td>
<td></td>
</tr>
<tr>
<td>NET CONTRA INCOME</td>
<td>$0.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL DEVELOPMENT COSTS (BEFORE SALES)</td>
<td>$26,979,862.00</td>
<td></td>
</tr>
<tr>
<td>SALES (ESTIMATE)</td>
<td>$30,384,158.40</td>
<td>11% profit margin</td>
</tr>
</tbody>
</table>

The 60W Cordova pro forma illustrates many of the features that I referred to in the project overview and affordability strategies section. Of note, the construction cost for the development is $17, 057, 582 in total, and with roughly 68, 200 square feet built, the cost of construction per square foot comes to $250.11. The Butterfield

332 Westbank Developments Ltd.
333 Interview. Susan Regan, Vancity. 2015
334 ibid
A cost calculator puts a concrete building up to 12 stories in downtown Vancouver closer to $300.00 per square foot, so the initiatives combined were able to save 50$ per square foot, which has significant meaning for an affordable housing project. 335

Land cost is also worth mentioning as the site was sold for roughly $5 million. The sale was made in good faith as Westbank was able to proceed with the development permit to gain the maximum density possible then purchase the site.336 A similar arrangement can be made in other land negotiations, but when there is a competitive market for land, “a seller’s market,” then the landowner can choose to sell at a price that they choose rather than wait for a developer to determine their yield. Therefore, Vancity acted in good faith in this instance.

335 Butterfield Costs Consultants. Mid-rise apartment, downtown Vancouver, concrete, high quality finish
336 Interview. Susan Regan. 2015
Appendix C.

Section 219, Local Government Act of British Columbia

219 (1) A covenant described in subsection (2) in favour of the Crown, a Crown corporation or agency, a municipality, a regional district, the South Coast British Columbia Transportation Authority, or a local trust committee under the Islands Trust Act, as covenantee, may be registered against the title to the land subject to the covenant and is enforceable against the covenantor and the successors in title of the covenantor even if the covenant is not annexed to land owned by the covenantee.

(2) A covenant registrable under subsection (1) may be of a negative or positive nature and may include one or more of the following provisions:

(a) provisions in respect of
   (i) the use of land, or
   (ii) the use of a building on or to be erected on land;
(b) that land
   (i) is to be built on in accordance with the covenant,
   (ii) is not to be built on except in accordance with the covenant, or
   (iii) is not to be built on;
(c) that land
   (i) is not to be subdivided except in accordance with the covenant, or
   (ii) is not to be subdivided;
(d) that parcels of land designated in the covenant and registered under one or more indefeasible titles are not to be sold or otherwise transferred separately.

(3) A covenant described in subsection (4) in favour of

(a) the Crown or a Crown corporation or agency,
(b) a municipality, a regional district, the South Coast British Columbia Transportation Authority or a local trust committee under the Islands Trust Act, or
(c) any person designated by the minister on terms and conditions he or she thinks proper, as covenantee, may be registered against the title to the land subject to the covenant and, subject to subsections (11) and (12), is enforceable against the covenantor and the successors in title of the covenantor even if the covenant is not annexed to land owned by the covenantee.

(4) A covenant registrable under subsection (3) may be of a negative or positive nature and may include one or more of the following provisions:

(a) any of the provisions under subsection (2);

(b) that land or a specified amenity in relation to it be protected, preserved, conserved, maintained, enhanced, restored or kept in its natural or existing state in accordance with the covenant and to the extent provided in the covenant.

(5) For the purpose of subsection (4) (b), "amenity" includes any natural, historical, heritage, cultural, scientific, architectural, environmental, wildlife or plant life value relating to the land that is subject to the covenant.

(6) A covenant registrable under this section may include, as an integral part,

(a) an indemnity of the covenantor against any matter agreed to by the covenantor and covenantee and provision for the just and equitable apportionment of the obligations under the covenant as between the owners of the land affected, and

(b) a rent charge charging the land affected and payable by the covenantor and the covenantor's successors in title.

(7) If an instrument contains a covenant registrable under this section, the covenant is binding on the covenantor and the covenantor's successors in title, even though the instrument or other disposition has not been signed by the covenantee.

(8) No person who enters into a covenant under this section is liable for a breach of the covenant occurring after the person has ceased to be the owner of the land.

(9) A covenant registrable under this section may be

(a) modified by the holder of the charge and the owner of the land charged, or

(b) discharged by the holder of the charge by an agreement or instrument in writing the execution of which is witnessed or proved in accordance with this Act.

(9.1) A covenant that was required as a condition of subdivision under section 82 and registered under this section before the coming into force of the repeal of section 82 may be
(a) modified by the approving officer and the owner of the land charged, or

(b) discharged by the approving officer.

(9.2) For the purpose of determining whether to modify or discharge a covenant under subsection

(9.1), an approving officer may exercise the powers provided under section 86 (1) (d), whether or not the modification or discharge is related to an application for subdivision approval.

(10) The registration of a covenant under this section is not a determination by the registrar of its enforceability.

(11) On the death or dissolution of an owner of a covenant registrable under subsection (3) (c), the covenant ceases to be enforceable by any person, including the Crown, other than

(a) another covenantee named in the instrument creating the covenant, or

(b) an assignee of a covenantee if the assignment has been approved in writing by the minister.

(12) If a covenantee or assignee referred to in subsection (11) is a corporation that has been dissolved and subsequently restored into existence under an enactment of British Columbia, the covenant continues to be enforceable by the restored corporation from the date of its restoration.

(13) A recital in a covenant that a person "has been designated by the minister under section 219

(3) (c) of the Land Title Act", or a statement to that effect in the application to register the covenant, is sufficient proof to a registrar of that fact.

(14) The minister may delegate to the Surveyor General the minister's powers under subsections (3) (c) and (11) (b)
Appendix D.

Vancity Financed Affordable Housing Projects

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of Service</th>
<th>Organization Name</th>
<th>Units Serviced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver, BC</td>
<td>Low Interest Loan</td>
<td>Sam Greer Co-op</td>
<td>15</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>Low Interest Loan</td>
<td>More than a Roof Housing Society</td>
<td>5</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>Low Interest Loan, Renovation Loan</td>
<td>Arlington Grove Co-op</td>
<td>68</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>Low Interest Loan, Renovation Loan</td>
<td>Trafalgar Cooperative Housing Corporation</td>
<td>10</td>
</tr>
<tr>
<td>Richmond, BC</td>
<td>Low Interest Loan, Renovation Loan</td>
<td>Klahanie Housing Association</td>
<td>70</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>Low Interest Loan, Construction Loan</td>
<td>First Avenue Village Athlete’s Co-op</td>
<td>84</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>Zero Interest Loan for initial construction financing</td>
<td>60W Cordova</td>
<td>108</td>
</tr>
</tbody>
</table>

Total Units: 360
Appendix E.

Financing Affordable Housing

The financing dimension of housing is important to understand because it ultimately decides whether a project can be built or not, or if changes need to occur to make it profitable. Financing from banks and other lending institutions such as trust and life insurance companies, pension funds, and cooperatives play a critical role in the development of affordable housing. An applicant or developer will apply for two major types of loans: financing for the physical construction and a longer term mortgage to hold the property before rental and onwards. There are several evaluation measures that a lending institution examines when considering if a housing project, or an affordable housing project, would be considered “viable” or acceptable to finance. Financiers will view a pro forma statement from the housing developer to find the anticipated revenue from the sales or rental income from a specific project. The pro forma will bring forward all costs that should be expected to occur when building the housing, and is compared against the revenue provided by a target sales price; the sum of the revenue minus costs results in the operating income. A positive income alone will not ensure profitability to cover the value of the loan, so financiers utilize the following evaluation measures The Debt Coverage Ratio and the Loan-to-Value ratio

Debt coverage ratio (DCR)

Financial institutions will view a pro forma of a potential development before evaluating whether they will invest in it or not. The first major ratio that they will examine is the Debt coverage ratio which divides the projected rental revenue by the

339 Equity, Funding and Financing pg 3.
341 ibid
342 ibid
cost of paying back a mortgage; a perfect ratio is 1.0 and anything below that would mean that the applicant for financing would not be able to repay their loan payments and the project is not viable. 343 Adjustments will need to be made such as greater equity being provided by the applicant or a higher rental rate for the building. 344 Of course, any rental rate increase will mitigate or eliminate affordability in a project.

Loan-to-Value Ratio (LTV) and Loan-to-Cost Ratio (LTC)

The LTV and LTC are used to measure the risk of a housing project. The LTC divides the mortgage amount by the total cost of the project; the LTV divides the mortgage amount by the total value of the project. 345 If either ratio exceeds 80%, the rule of thumb, then the lender must apply for mortgage loan insurance from the CMHC which comes with an interest rate. 346 The lender will then decide if they want to take on the risk of the project with the insurance premium or not depending on a rate of return.

343 Equity, Funding and Financing pg 3
344 ibid
345 ibid
346 ibid
Appendix F.

Interim Rezoning Policy Areas

Current Interim Rezoning Policy Projects.

<table>
<thead>
<tr>
<th>Project Name and Address</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3323 E 4th Avenue (Beulah Gardens)</td>
<td>A four-storey senior's development, consisting of 54 units. Proposed in 2013.</td>
</tr>
<tr>
<td>31290 Knight Street (James Evans)</td>
<td>A five-storey rental only development, consisting of 51 units. Proposed in 2014.</td>
</tr>
</tbody>
</table>

347 ibid
| 1729 E 33rd (Co-Housing Development)\(^{350}\) | A three-storey cohousing development, consisting of 31 units and 2 of which are rental. Proposed in 2013. |

---

Appendix G.

False Creek South Opportunity Areas

South East False Creek is currently developed but has room for expansion.

Appendix H.

Proud Ground Affordable Housing Inventory (R1, R2) and key Statistics

<table>
<thead>
<tr>
<th>Address</th>
<th>Unit Type</th>
<th>Bedrooms</th>
<th>Bathroom</th>
<th>Square Feet</th>
<th>Zone</th>
<th>Sales Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>12132 SE PARDEE ST</td>
<td>Cottage Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1755</td>
<td>R1</td>
<td>$127,010.00</td>
</tr>
<tr>
<td>12146 SE PARDEE ST</td>
<td>Cottage Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1966</td>
<td>R1</td>
<td>$123,460.00</td>
</tr>
<tr>
<td>4653 SE 122ND AVE</td>
<td>Row Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1398</td>
<td>R1</td>
<td>$121,640.00</td>
</tr>
<tr>
<td>4657 SE 122ND AVE</td>
<td>Row Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1398</td>
<td>R1</td>
<td>$118,330.00</td>
</tr>
<tr>
<td>4663 SE 122ND AVE</td>
<td>Row Home (3-plex)</td>
<td>N/A</td>
<td>N/A</td>
<td>4225</td>
<td>R1</td>
<td>$116,190.00</td>
</tr>
<tr>
<td>12138 SE PARDEE ST</td>
<td>Cottage Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1755</td>
<td>R1</td>
<td>$127,010.00</td>
</tr>
<tr>
<td>12120 SE PARDEE ST</td>
<td>Cottage Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1966</td>
<td>R1</td>
<td>$127,010.00</td>
</tr>
<tr>
<td>12126 SE PARDEE ST</td>
<td>Cottage Home</td>
<td>N/A</td>
<td>N/A</td>
<td>1755</td>
<td>R1</td>
<td>$127,010.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>2</td>
<td>1</td>
<td>875</td>
<td>R2</td>
<td>$116,000.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>2</td>
<td>1</td>
<td>692</td>
<td>R2</td>
<td>$103,600.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>2</td>
<td>1</td>
<td>650</td>
<td>R2</td>
<td>$87,800.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>2</td>
<td>1</td>
<td>654</td>
<td>R2</td>
<td>$99,800.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>3</td>
<td>2.5</td>
<td>1,423</td>
<td>R2</td>
<td>$152,000.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>3</td>
<td>2.5</td>
<td>1,216</td>
<td>R2</td>
<td>$126,900.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>3</td>
<td>2.5</td>
<td>1,372</td>
<td>R2</td>
<td>$129,900.00</td>
</tr>
<tr>
<td>4475 N. Trenton St.</td>
<td>Rowhome</td>
<td>3</td>
<td>2.5</td>
<td>1,380</td>
<td>R2</td>
<td>$150,500.00</td>
</tr>
<tr>
<td>4552 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>3</td>
<td>2</td>
<td>1150</td>
<td>R1</td>
<td>$131,900</td>
</tr>
<tr>
<td>4553 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>3</td>
<td>2</td>
<td>1150</td>
<td>R1</td>
<td>$131,900</td>
</tr>
</tbody>
</table>

352 Portland Building Permit Data. 2008-2015
<table>
<thead>
<tr>
<th>Address</th>
<th>Unit Type</th>
<th>Bedrooms</th>
<th>Bathroom</th>
<th>Square Feet</th>
<th>Zone</th>
<th>Sales Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>4558 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>3</td>
<td>2</td>
<td>1083</td>
<td>R1</td>
<td>$131,900</td>
</tr>
<tr>
<td>4559 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>3</td>
<td>2</td>
<td>1083</td>
<td>R1</td>
<td>$131,900</td>
</tr>
<tr>
<td>4562 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>2</td>
<td>2</td>
<td>843</td>
<td>R1</td>
<td>$108,900</td>
</tr>
<tr>
<td>4568 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>2</td>
<td>2</td>
<td>843</td>
<td>R1</td>
<td>$108,900</td>
</tr>
<tr>
<td>4572 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>2</td>
<td>2</td>
<td>843</td>
<td>R1</td>
<td>$108,900</td>
</tr>
<tr>
<td>4573 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>2</td>
<td>2</td>
<td>843</td>
<td>R1</td>
<td>$108,900</td>
</tr>
<tr>
<td>4578 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>2</td>
<td>2</td>
<td>843</td>
<td>R1</td>
<td>$105,900</td>
</tr>
<tr>
<td>4579 SE 121st Avenue</td>
<td>Attached Townhome</td>
<td>2</td>
<td>2</td>
<td>843</td>
<td>R1</td>
<td>$105,900</td>
</tr>
<tr>
<td>4582 SE 121st Avenue</td>
<td>Single-Family Detached</td>
<td>3</td>
<td>2</td>
<td>1105</td>
<td>R1</td>
<td>$131,900</td>
</tr>
<tr>
<td>4583 SE 121st Avenue</td>
<td>Single-Family Detached</td>
<td>3</td>
<td>2</td>
<td>1105</td>
<td>R1</td>
<td>$131,900</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>310 new home buyers served</th>
</tr>
</thead>
<tbody>
<tr>
<td>250+ forever-affordable homes in portfolio across four counties in two states</td>
</tr>
<tr>
<td>$152,750: median sales price of a Proud Ground home in 2015, vs. $308,000 median sales price for a market-rate home in service area</td>
</tr>
<tr>
<td>$128,500: Median price of a Proud Ground home when it resells</td>
</tr>
<tr>
<td>$41,000/65% MFI: Median income of 2015 Proud Ground homebuyers</td>
</tr>
<tr>
<td>59% of clients served by Proud Ground are households of color</td>
</tr>
<tr>
<td>300 households on home buyer wait list</td>
</tr>
<tr>
<td>70% of wait list households from communities of color</td>
</tr>
<tr>
<td>0 homes lost to foreclosure</td>
</tr>
</tbody>
</table>
Appendix I.

Multnomah County Urban Growth Boundary

Appendix J.

Design Guidelines to Maintain Neighbourhood Character

A Courtyard Townhome is pictured above in the centre of the northern street. The design of the townhome ensures that two faces front the street similar to the single family homes to the left and right.  

The courtyard townhome has windows and features that face the street and ensures that parking garages do not do so. A lane is ideally behind the townhome, but there is 0 parking required off-street if the development is near transit.

355 Infill Toolkit pg 5
356 Infill Toolkit pg 9
Appendix K.

Infill Toolkit Zoning Summary

<table>
<thead>
<tr>
<th>R3</th>
<th>R2</th>
<th>R1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allowed Density</strong></td>
<td><strong>Allowed Density</strong></td>
<td><strong>Allowed Density</strong></td>
</tr>
<tr>
<td>Max: 1 unit per 3,000 SF of site area</td>
<td>Max: 1 unit per 2,000 SF of site area</td>
<td>Max: 1 unit per 1,000 SF of site area</td>
</tr>
<tr>
<td>Min: 1 unit per 3,750 SF of site area</td>
<td>Min: 1 unit per 2,500 SF of site area</td>
<td>Min: 1 unit per 1,450 SF of site area</td>
</tr>
<tr>
<td>(3 units on a 10,000 SF site)</td>
<td>(4–5 units on a 10,000 SF site)</td>
<td>(7–10 units on a 10,000 SF site)</td>
</tr>
<tr>
<td><strong>Building Height</strong></td>
<td><strong>Building Height</strong></td>
<td><strong>Building Height</strong></td>
</tr>
<tr>
<td>Maximum 35 feet</td>
<td>Maximum 40 feet</td>
<td>Maximum 45 feet</td>
</tr>
<tr>
<td><strong>Minimum Building Setbacks</strong></td>
<td><strong>Minimum Building Setbacks</strong></td>
<td><strong>Minimum Building Setbacks</strong></td>
</tr>
<tr>
<td>Front: 10 feet</td>
<td>Front: 10 feet</td>
<td>Front: 3 feet</td>
</tr>
<tr>
<td>Side/ rear: 5–14 feet (depending on size of building wall)</td>
<td>Side/ rear: 5–14 feet (depending on size of building wall)</td>
<td>Side/ rear: 5–14 feet (depending on size of building wall)</td>
</tr>
<tr>
<td><strong>Building Coverage</strong></td>
<td><strong>Building Coverage</strong></td>
<td><strong>Building Coverage</strong></td>
</tr>
<tr>
<td>Maximum 45% of site area</td>
<td>Maximum 50% of site area</td>
<td>Maximum 60% of site area</td>
</tr>
<tr>
<td><strong>Landscaping</strong></td>
<td><strong>Landscaping</strong></td>
<td><strong>Landscaping</strong></td>
</tr>
<tr>
<td>Minimum 35% of site area</td>
<td>Minimum 30% of site area</td>
<td>Minimum 20% of site area</td>
</tr>
</tbody>
</table>

*Note: Accessory dwelling units (ADUs) can exceed the maximum allowed density. Also, minimum required densities for sites smaller than 10,000 SF are less than those shown here.*

357 Infill Toolkit. Introduction. Pg. Viii
Appendix L.

Zoning Map of Portland, Oregon\textsuperscript{358}

\footnotesize
\begin{itemize}
\end{itemize}
## Appendix M.

### Full Building Permit Data R1-R3 Zones 2006-2015

<table>
<thead>
<tr>
<th>Category</th>
<th>Measurement</th>
<th>Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Family Units Produced</td>
<td></td>
<td>1172</td>
<td></td>
</tr>
<tr>
<td>Total Projects</td>
<td></td>
<td>697</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accessory Dwelling Unit (Lane House or Completed Basement)</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apartment Complex</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plex (duplex, triplex, quadruplex)</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Townhouse / Rowhouse</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td><strong>Tenure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rental</td>
<td></td>
<td>298</td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td></td>
<td>399</td>
<td></td>
</tr>
<tr>
<td>Rental Percentage</td>
<td></td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>Ownership Percentage</td>
<td></td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td><strong>Size of Units (square feet)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>1767</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td>1697</td>
<td></td>
</tr>
<tr>
<td>Smallest Unit</td>
<td></td>
<td>297</td>
<td>(Coach House)</td>
</tr>
<tr>
<td>Largest Unit</td>
<td></td>
<td>4811</td>
<td></td>
</tr>
<tr>
<td><strong>Sales Price of Multi-Family</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>$281,344.90</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td>$222,870.00</td>
<td></td>
</tr>
<tr>
<td>Lowest Price</td>
<td></td>
<td>$102,500.00</td>
<td></td>
</tr>
<tr>
<td>Highest Price</td>
<td></td>
<td>$984,630.00</td>
<td></td>
</tr>
<tr>
<td><strong>Construction Value</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>$215,369.33</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td>$167,190.00</td>
<td></td>
</tr>
<tr>
<td>Lowest Price</td>
<td></td>
<td>$6,800.00</td>
<td></td>
</tr>
<tr>
<td>Highest Price</td>
<td></td>
<td>$9,476,474.00</td>
<td>Apartment Building</td>
</tr>
</tbody>
</table>
Appendix N.

Pro Forma Analysis of Woolsey Corner and Infill Housing Requirements

Now that I have described the many affordability initiatives related to the Infill Toolkit, I now examine the pro forma for a townhouse and cottage cluster development. This development is Woolsey Corner, developed by Eli Spevak and managed by Proud Ground.

Woolsey Corner Pro Forma. Costs and Expected Sales

<table>
<thead>
<tr>
<th>CONSTRUCTION COST CALCULATION (0 OFF-STREET PARKING)</th>
<th>EXPENSE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL SQUARE FOOTAGE</td>
<td>9,564.00</td>
<td></td>
</tr>
<tr>
<td>CONSTRUCTION COST</td>
<td>$1,422,751.00</td>
<td></td>
</tr>
<tr>
<td>CONSTRUCTION COST PER SQUARE FOOT</td>
<td>$148.76</td>
<td></td>
</tr>
<tr>
<td>CONSTRUCTION COST PER UNIT (8)</td>
<td>$177,842.58</td>
<td></td>
</tr>
<tr>
<td>LOAN PROVIDED BY PORTLAND</td>
<td>$640,000.00</td>
<td></td>
</tr>
<tr>
<td>LAND COST</td>
<td>$112,250.00</td>
<td>Lower Land Cost in NE Portland</td>
</tr>
<tr>
<td>AVERAGE SALES PRICE</td>
<td>$122,500.00</td>
<td></td>
</tr>
<tr>
<td>AVERAGE SALES PER SQUARE FOOT</td>
<td>$12.81</td>
<td></td>
</tr>
<tr>
<td>PROFIT</td>
<td>$0.00</td>
<td></td>
</tr>
<tr>
<td>SUBSIDY REQUIRED PER UNIT</td>
<td>$55,342.58</td>
<td></td>
</tr>
<tr>
<td>SALES PRICE TO MAKE 15% PROFIT</td>
<td>$225,687.00</td>
<td></td>
</tr>
<tr>
<td>AVERAGE SALES PER SQUARE FOOT</td>
<td>$23.60</td>
<td></td>
</tr>
</tbody>
</table>

The first thing to note is that this development was given a $640,000 subsidy by the City of Portland because of its goal to provide affordable housing, to add to Proud Ground’s inventory of housing, and also to design a environmentally friendly site that encouraged “neighbourly interactions.”

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359 Woolsey Corner Pro Forma. Provided by Eli Spevak, Orange Splott Ltd.
360 Interview. Eli Spevak
a multi-family development, but can provide a serious contribution to ensure affordable development of the eight-unit site.

This site exemplifies the ability to provide zero off-street parking, and Spevak was then able to accommodate eight dwelling units on site that would sell for an average for $122,500. No profit was earned on this site, but Spevak and his organization were compensated for their role as project managers. It is also important to note the very low cost of construction that results from the modest townhouse and cottage house forms. Each dwelling unit would require a subsidy of $55,000, totalling $440,000 in order to meet the target home price.

When examining this site from a private sector point of view, a developer would have to sell each unit at $225, 687 in order to earn a 15% profit and qualify for financing. This rate is still affordable for area median income earners in the city, and the profit rate would draw interest from the development community. The small profit rate would not draw interest from the largest builders who have larger teams and assets, and would expect a much higher net revenue. Local governments should note this and ensure that the development typology is accessible for smaller builders using the strategies provided by the Infill Toolkit.

Now, I examine the same site but with a requirement for 1.5 covered parking spots, but with only six units in total because of the loss of development potential.

Woolsey Corner with 1.5 parking spaces required per unit.

<table>
<thead>
<tr>
<th>SCENARIO 2</th>
<th>(OFF STREET PARKING, 2 LESS UNITS)</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL SQUARE FOOTAGE</td>
<td>9,564.00</td>
<td>A shared carport is created on site, increased square footage of homes to maximize lot coverage / FSR requirement.</td>
</tr>
<tr>
<td>CONSTRUCTION COST</td>
<td>$1,422,751.00</td>
<td></td>
</tr>
<tr>
<td>CONSTRUCTION COST PER SQUARE FOOT</td>
<td>$148.76</td>
<td></td>
</tr>
</tbody>
</table>

---

361 ibid
I make a few assumptions on this site: the developer will maximize the FSR or lot coverage requirement so the unit size increases for each of the six units. The developer will also add a 10% markup ($134,750.) on the sales price in order to cover costs that would have normally been offset by a higher density.

In order for the units to remain affordable for Proud Ground, the subsidy nearly doubles to $102,373.44 for 6 units totalling $614,241.30 which is still manageable by the grant provided by the city, but there is an opportunity cost because the money could have been used to help a family in need to secure housing.

If a private developer would consider this site, then he or she would need to charge $272,693.94, which is roughly $50,000 more than the original site. This example shows how affordability can be diminished when more parking is required. The site would also need to be reconfigured in order to accommodate nine parking spots, which could mitigate goals for neighbourly interaction and good design.
Appendix O.

Urban Renewal Areas in The City of Portland

Appendix P.

Vancouver Zoning Map

White areas are zoned for single-family homes.

Appendix Q.

Rental Projects developed by the Whistler Housing Authority\textsuperscript{364}

<table>
<thead>
<tr>
<th>Rental Development</th>
<th>Unit Breakdown</th>
<th>Rental Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaver Flats</td>
<td>57 Apartment Units, Studio and 1 Bedrooms</td>
<td>$790 - $1,365 / month</td>
</tr>
<tr>
<td>Nesters Pond</td>
<td>55 Apartment Units, 1-3 Bedrooms</td>
<td>$1,015 - $1,805 / month</td>
</tr>
<tr>
<td>Nordic Drive</td>
<td>20 Townhouse Units, 2-3 Bedrooms</td>
<td>$1,390 - $1,545 / month</td>
</tr>
<tr>
<td>Lorimer Court</td>
<td>44 Townhouse Units, 1-3 Bedrooms</td>
<td>$930 - $1,980 / month</td>
</tr>
</tbody>
</table>

\textsuperscript{364} “Whistler Housing Authority: Restricted Housing Inventory.”
Appendix R.

List of Interviewees

60W Cordova

1. Mandeep Sidhu, Project Officer – Impact Real Estate. Vancity Credit Union
2. Susan Regan, Senior Account Manager. Citizen’s Bank of Canada
3. Damon Chan. Project Manager. Westbank Developments LTD.
4. Ryan McKinley – Mortgage Officer – Vancity Credit Union
5. Tim Wake – Affordable Housing Consultant
6. Nathan Edelson – Senior Planner. 42nd Street Consulting
7. Allison Dunnet – Housing Planner. City of Vancouver

Portland Infill Toolkit

8. Bill Cunningham – Planner 3, City of Portland
9. Eli Spevak – Developer, Orange Splott Ltd.
10. Tazmin Loomans – Architect, Communitecture
11. Mark Lakeman – Architect / Community Activist, Communitecture
12. Kathy Armstrong – Deputy Director, Proud Ground Community Land Trust

Whistler Housing Authority

13. Jessica Averiss – Housing Coordinator. Whistler Housing Authority
14. Tim Wake – Affordable Housing Consultant