Supporting the Development of Affordable Rental Housing: A Review and Analysis of Tax Credit Incentives and Recommendations for Canada

by

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B.A., University of Manitoba, 2013

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in the School of Public Policy Faculty of Arts and Social Sciences

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Ethics Statement

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Abstract

One in five renter households in Canada spends 50% or more of their income on housing, a severe rent burden which can lead to poorer social and economic outcomes for households and communities. Below optimum levels of investment in the rental sector contributes to high rents, partly due to institutional structures which favour investment in the ownership market. This study examines the insufficient supply of affordable rental housing for low and middle income households in Canada, and how tax credit incentives can be used to address this problem. Three programs are reviewed: LIHTC in the United States, NRAS in Australia, and RHCTC in Manitoba. Three policy options are proposed and analyzed using criteria and measures. The final recommendation is to implement a non-transferable and non-competitive tax credit program which provides tax credits worth approximately 10% of total development costs for rental housing projects with at least 20% affordable units.

Keywords: Housing policy; rental housing; affordable housing; tax credit incentives; LIHTC; NRAS
Acknowledgements

First, I would like to thank the School of Public Policy and the professors I have learned from throughout the course of my degree. I’d particularly like to my supervisor Doug McArthur who has been a mentor over the past two years. He supported me in the pursuit of this topic and aided me in strengthening my analysis. Thank you also to Josh Gordon my external examiner, who provided feedback and asked questions that enabled me to clarify the context of my research and improve its presentation.

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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMFI</td>
<td>Area Median Family Income</td>
</tr>
<tr>
<td>CMHC</td>
<td>Canada Mortgage and Housing Corporation</td>
</tr>
<tr>
<td>HUD</td>
<td>US Department of Housing and Urban Development</td>
</tr>
<tr>
<td>LIHTC</td>
<td>Low-Income Housing Tax Credit</td>
</tr>
<tr>
<td>NRAS</td>
<td>National Rental Affordability Scheme</td>
</tr>
<tr>
<td>RHCTC</td>
<td>Rental Housing Construction Tax Credit</td>
</tr>
</tbody>
</table>
Glossary

Affordable Housing  Housing that costs less than 30% of before-tax household income is considered affordable, including the cost of municipal services, such as electricity and water.

Core Housing Need  Households with core housing need have housing that does not meet at least one of the standards of adequacy, affordability, or suitability, and the household would have to spend more than 30% of their before-tax income to pay the median rent of acceptable housing in the area.

Public Housing  Housing owned by the public sector rented to low-income households according to their income.

Social Housing  Housing provided by the government (public housing) or a community organization (non-profit housing).

Tax Credit  A type of tax incentive that allows taxpayers to reduce the amount of their tax liability. A refundable tax credit allows a taxpayer to have their tax liability reduced to below zero and receive a tax refund.
Executive Summary

The prevalence of high housing costs among renter households in Canada is a pressing issue across many regions and warrants a nation-wide policy response to close the affordability gap. Specifically, this study examines the problem of the insufficient supply of affordable rental housing for low and middle income households in Canada, and how it can be addressed through financial incentives for housing developers. A set of policy options are developed for the implementation of a federal tax credit program to encourage rental housing development.

Housing is considered affordable if a household spends less than 30% of their income on shelter. Forty percent of renters exceed this threshold, a persistent problem which can cause individuals to experience limited access to employment and greater susceptibility to poverty and homelessness. Labour market inefficiencies which arise from high rent burdens can also negatively impact the economic functioning and growth of communities. High rent burdens are partly explained by rents being driven up by the demand for rental housing, without an adequate increase in the supply of units. The gap between the growth in renter households and the creation of new rental stock, and the low vacancy rates in many regions of the country are indicators of a shortage of rental housing.

This insufficient supply of rental units is evidence of a market failure, in which the amount of market capital directed towards projects in the rental sector is below the optimum level. The reasons for the under investment in rental housing can be partly attributed to institutional structures which favour investment in the ownership market, such as preferential tax treatment of owner-occupied housing in some regions and factors which make the rental housing market riskier than the ownership market, including rent control and long-term profit horizons.
This study explores how housing developers can be encouraged to produce more rental housing through the implementation of tax credit incentives. Tax credit programs are assessed through a cross-jurisdictional review of the Low Income Housing Tax Credit (LIHTC) in the United States, the National Rental Affordability Scheme (NRAS) in Australia, and the Manitoba Rental Housing Construction Tax Credit. The programs are evaluated according to the number of rental housing units created, the expected increase in the stock and quality of rental housing, the targeting of low-income households, the long-term viability of units, the costs of the program, and the types of developers and investors that apply for and receive the tax credits.

A set of best practices are developed based on the cross-jurisdictional review and interviews with stakeholders and experts. It is recommended that tax credits are delivered to recipients over a 10-year period during which compliance is monitored annually by the government agency that administers the credits. After 10 years, units funded by the program should be required to remain as rental units for at least 20 additional years. It is recommended that income limits are set at approximately 50% to 60% of median income in the region according to household composition. Rent limits should be below 30% of the designated income limit.

In the implementation of the program, the requirements should be clearly communicated to stakeholders, and program administrators should be appropriately trained. The design of the program should not be finalized until the appropriate stakeholders have been consulted. This includes all three levels of government, developers, and investors. Finally, the program should complement other government rental housing policies and initiatives. These best practices are applied to all three policy options which are evaluated.

Three policy options for a federal tax credit program were assessed: (1) an investable and competitive tax credit for rental housing projects with a minimum proportion of affordable units, distributed at the provincial level; (2) a per-unit competitive tax credit for affordable units within rental housing projects, distributed at
the federal level; and (3) a non-transferable and non-competitive tax credit for rental housing projects with a minimum proportion of affordable units, administered at the federal level.

These policy options are evaluated according to several criteria: the increase in the overall stock of rental units, the increase in the stock of affordable rental units for lower income tenants, the total public cost of the program, the cost effectiveness of creating affordable units, the degree of inter-governmental coordination required, the scope of training required for program administrators, alignment with regional rental housing policy goals, and the expected ease of take-up by housing developers and/or investors.

In the policy analysis, trade-offs are revealed between the three policy options (see Table 1). Based on the analysis, it is recommended that the federal government institute a non-transferable and non-competitive tax credit premised on Manitoba’s RHC Tax Credit. The credits would be allocated per unit in a rental building that has at least 20% affordable units. The tax credit would cover approximately 10% of total development costs up to a maximum of $25,000 per unit.

More funding may be required in certain regions to leverage greater affordability. This could be addressed by implementing complementary provincial-level tax credits. The analysis suggests that the program would be able to direct more investment into the rental housing market and improve its efficiency and affordability. However, the study is limited in its ability to predict the long-term impact of the policy options on the rental housing stock. Further research and consultation is also required to determine the financial incentive level needed to meet the needs of developers while minimizing government costs.
<table>
<thead>
<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Distribution of tax credits by provinces allows program to align with regional rental housing policy goals</td>
<td>Smallest net increase in the overall number of rental units</td>
</tr>
<tr>
<td></td>
<td>Moderate total public cost</td>
<td>Lowest cost effectiveness</td>
</tr>
<tr>
<td></td>
<td>Moderate net increase in the number of affordable rental units</td>
<td>Requires a high degree of coordination between provincial and federal governments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significant training requirements for program administrators across multiple jurisdictions to competitively distribute tax credits</td>
</tr>
<tr>
<td>2.</td>
<td>Greatest net increase in affordable rental units</td>
<td>Highest total public cost</td>
</tr>
<tr>
<td></td>
<td>Input of provincial governments into the distribution of tax credits allows for some alignment with regional rental housing policy goals</td>
<td>Moderate coordination and training required; federal government must competitively distribute tax credits with input from provincial governments</td>
</tr>
<tr>
<td>3.</td>
<td>Largest net increase in the overall number of rental units</td>
<td>Smallest net increase in affordable rental units</td>
</tr>
<tr>
<td></td>
<td>Lowest total public cost, highest cost effectiveness</td>
<td>Provinces have no control over allocation; alignment with regional rental housing policy goals is limited</td>
</tr>
<tr>
<td></td>
<td>Lowest degree of intergovernmental coordination and training required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High ease of take-up by housing developers and investors</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 1. Introduction

One in five renter households in Canada spends 50% or more of their income on housing, a severe rent burden which can strain the household budget for food, transportation, clothing, and other basic necessities. Although reports of an “affordability crisis” are often focused on major urban areas like Vancouver and Toronto, the cost of rental housing is a serious concern in regions across Canada, including suburban municipalities and smaller cities. Many low and middle income households rely on the rental market for housing; however, housing developers are primarily incentivized to create owner-occupied housing and higher-end rental dwellings. This study examines the problem of the insufficient supply of affordable rental housing for low and middle income households in Canada, and how it can be addressed through financial incentives for housing developers.

Housing is considered affordable if a household spends less than 30% of their before-tax income on shelter, as defined by the Canada Mortgage and Housing Corporation (CMHC). Although affordability is an issue for both owners and renters, renters tend to have lower incomes and are more likely to occupy housing that is unaffordable. In 2011, 40% of tenant households were spending over 30% of their income on housing compared to 19% of owner households (Statistics Canada 2013a, 10). High rent burdens are partly explained by rents being driven up by the demand for rental housing, without an adequate increase in the supply of units. Vacancy rates are one indicator of the balance between the supply and demand of rental units. In 2015, the average vacancy rate of private rental units in metropolitan areas across Canada was 3.3%, with vacancy rates below a healthy rate of 3% to 4% in many regions (CMHC 2016). Another indicator of a rental housing shortage is the gap between projected demand and supply. Based on CMHC (2013) projections there will likely be a shortage of
approximately 25,000 rental units per year to meet the growth in renter households over the next 20 years.

The shortage in the supply of rental units reflects insufficient capital investment in the rental sector. This market failure can be partly explained by institutional constraints and barriers in capital markets, such as the property tax system and municipal development charges which favour owner-occupied housing. There are also inherent risks to rental housing development, such a long-term profit horizons and the impact of rent control policies which make investment less attractive. This study examines how housing developers (private and non-profit) can be incentivized to produce more rental housing, particularly at the lower end of the market. Tax credit incentives are one of the policy tools that can be used to achieve this end and are the focus of this research. This is for three reasons: the tax system is the most significant lever that the federal government has to influence rental housing supply, tax credit programs can specify affordability standards in ways that other tax incentives cannot, and there are multiple examples of unique tax credit programs in other jurisdictions which can inform the policy analysis.

The research goals of my study are to develop a set of policy options and recommendations for the possible implementation of a federal tax credit policy to support the development of rental housing in Canada. The study consists of a literature review, a cross-jurisdictional review, an analysis of policy options, and a final recommendation. In Chapter 2, the literature review establishes the problem of the shortage of affordable rental housing in Canada and examines the use of tax credit programs to address the issue. Chapter 3 outlines the methodology of the study. In Chapter 4, three tax credit policies are examined in a cross-jurisdictional review of the following programs: the Low Income Housing Tax Credit (LIHTC) in the United States, the National Rental Affordability Scheme (NRAS) in Australia, and the Manitoba Rental Housing Construction Tax Credit (RHCTC). Chapter 5 summarizes key best practices identified in the research. Chapters 6 and 7 present three policy options and the criteria that are used to evaluate the options. A policy analysis is undertaken in Chapter 8 and policy recommendations and considerations are presented in Chapter 9.
Chapter 2. Background and Literature Review

The following chapter provides an overview of the policy problem and how policy tools can be used to address this issue. The first section examines rental housing affordability in Canada by looking at national and regional statistics. The second section provides an overview of the negative social and economic impacts of unaffordable housing. The third section identifies the factors that explain the market failure in providing affordable rental housing. The fourth section examines the reasoning behind supply-side approaches to housing policy, and the final section discusses how tax credit incentives work to induce housing supply.

2.1. Rental Housing Affordability in Canada

There are over 4 million renter households in Canada, comprising 31% of all households in the country (CRHI 2015). The median income of renters is about half the median income of owner households and they are more likely to occupy housing that is unaffordable (CMHC 2016). Housing is unaffordable when a household spends 30% or more of their total household income on shelter expenses, including the cost of rent and municipal services (Statistics Canada 2013a, 10).

The average proportion of before-tax renter household income spent on rental accommodations is 22%\(^1\), which is an affordable level (CRHI 2015). However, there are significant inequities in the cost of housing. Forty percent of renter households are spending 30% or more of their income on housing (moderately rent-burdened), and 19%

\(^1\) Household total income is reported for 2010 and shelter costs are reported for 2011; therefore, significant year-to-year differences in income may result in high rent-to-income ratios for some households. The data only includes households with income above zero.
are spending 50% or more of their income on housing (severely rent-burdened; CRHI 2015). From 1991 to 1996 the percentage of renters spending 30% or more of their income on shelter increased from 35% to 43%, and has been steady at around 40% since 2001 (Statistics Canada 1998; 2010). Lone-parent households and non-family households\(^2\) are most likely to spend 30% or more of their income on rent, with non-family households constituting two thirds of renter households with unaffordable rent (see Table 2). Of all non-family renter households, 85% are lone-person households. Lone-person households comprise 45% of all renter households, and 57% of renter households spending 30% or more of their income on shelter (2013b).

### Table 2 Proportion of Households with Unaffordable Rent by Household Type

<table>
<thead>
<tr>
<th></th>
<th>Couple Households</th>
<th>Lone-Parent Households</th>
<th>Non-Family Households</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without Children</td>
<td>With Children</td>
<td></td>
</tr>
<tr>
<td>Percentage spending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30% or more of their</td>
<td>26%</td>
<td>26%</td>
<td>44%</td>
</tr>
<tr>
<td>income on shelter</td>
<td></td>
<td></td>
<td>49%</td>
</tr>
<tr>
<td>Percentage of all</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>renters spending 30%</td>
<td>10%</td>
<td>9%</td>
<td>14%</td>
</tr>
<tr>
<td>or more of their</td>
<td></td>
<td></td>
<td>65%</td>
</tr>
<tr>
<td>income on shelter</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Statistics Canada 2013b

More detailed information on the characteristics of renters is available for renter households in British Columbia (see CRHI 2015). Households are categorized based on the characteristics of the primary household maintainer: youth-led households, senior-led households, Aboriginal person-led households, and recent immigrant-led households. Youth are between 18 and 29 years of age, seniors are 65 years of age or older, and recent immigrants have been in Canada for 5 years or less. All four groups spend a slightly

\(^2\) A census family is a married or common-law couple with or without children, or a lone-parent with one or more children. Non-family households constitute one person living alone or two or more individuals sharing a private dwelling who are not part of a census family (Statistics Canada 2013b).
greater percentage of their income on housing on average. They are also more likely to spend 30% or more of their income on housing, and all groups except senior-led households are more likely to have a severe rent burden (see Table 3). There is also data available on the occupations of renter households in BC; they are most likely to be employed in restaurants and hospitality (18%), healthcare and social services (12%), retail (12%), construction (10%), and professional, scientific and technical services (9%).

Table 3  Rental Housing Affordability by Household Characteristics in BC

<table>
<thead>
<tr>
<th></th>
<th>All Renter Households</th>
<th>Youth-Led Households</th>
<th>Senior-Led Households</th>
<th>Aboriginal Person-Led Households</th>
<th>Recent Immigrant-Led Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of all renter households</td>
<td>---</td>
<td>20%</td>
<td>15%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Median Income</td>
<td>$38,920</td>
<td>$35,304</td>
<td>$25,624</td>
<td>$31,080</td>
<td>$40,530</td>
</tr>
<tr>
<td>Average % of income spent on shelter</td>
<td>24%</td>
<td>28%</td>
<td>27%</td>
<td>26%</td>
<td>25%</td>
</tr>
<tr>
<td>% spending 30% or more of income on shelter</td>
<td>45%</td>
<td>52%</td>
<td>53%</td>
<td>52%</td>
<td>47%</td>
</tr>
<tr>
<td>% spending 50% or more of income on shelter</td>
<td>23%</td>
<td>31%</td>
<td>20%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>% of all renters spending 30% or more of income on shelter</td>
<td>---</td>
<td>23%</td>
<td>18%</td>
<td>7%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Canadian Rental Housing Index (2015)
The Canadian Rental Housing Index (CRHI 2015) reports that the provinces with the greatest proportion of renters spending more than 30% of their income on rent are BC (45%), Nova Scotia (43%), and Ontario (42%). The lowest proportions are in Nunavut (6%) and the Northwest Territories (18%). In metropolitan areas, affordability is an issue for 46% of renters in Vancouver, 43% in Toronto and Halifax, 41% in Edmonton, 40% in Montreal, and 39% in Calgary and Ottawa. A large proportion of renters living in the suburban municipalities of large cities also have unaffordable rental housing: 48% in Coquitlam, 47% in Richmond, 46% in Burnaby, and over 40% in most municipalities of the Greater Toronto Area.

Among renter households in Canada, the first income quarter ($0 to $19,176) spends an average of 70% of their income on shelter (CRHI 2015). In the second income quarter ($19,177 to $35,806), households spend an average of 34% of their income on shelter. Of all households who spend 50% or more of their income on housing, 97% are in the bottom two income quartiles. Therefore, affordability is a major problem for the population that makes below the median income of renter households.

Affordability is not only an issue in large cities. In some small communities, over half of rental households pay more than 30% of their income on rent (CRHI 2015). In Alberta and Saskatchewan, a large influx of resource industry workers created a demand for housing that exceeded supply, driving up rents significantly. Some small cities like Duncan, BC have attracted low-income individuals from rural areas seeking job opportunities, resulting in nearly one-third of renters spending more than half their income on rent (McMahon 2015a). Affordability levels are considered satisfactory in very few Canadian municipalities (CRHI 2015).

Core housing need is a measure that can identify households who may be unable to afford housing in their region. Households with core housing need have housing that does not meet at least one of the standards of affordability, adequacy, or suitability, and the household would have to spend more than 30% of their before-tax income to pay the median rent of acceptable housing in the area. The incidence of core housing need among
renters was 26% in 2011, and 64% of all households in Canada with core housing need were renters (CMHC 2016). The majority of households with core housing need do not meet the affordability standard (72%). As expected, core housing need is much more common among lower income households. The incidence is over 70% for individuals with household income below $20,000, 28% for those with income between $20,000 and $50,000, and close to 0% for those with higher incomes (CMHC 2016).

This analysis of affordability reflects the most widely used measure of housing affordability: the rent-to-income ratio approach. However, the 30% benchmark is criticized for being an arbitrary measure of affordability that does not account for factors such as: the minimum amount of income that is needed to meet basic non-housing needs (Stone 2006, 163); differences in affordability standards for households of different types and sizes; and spending choices that people make that may not reflect a housing affordability problem. Some economists have tried to shift measurements of affordability to a “residual income” approach which defines affordability as a household’s ability to meet its basic non-housing needs after paying for shelter (see Stone 2006). This approach creates a “sliding scale” based on differences in household composition and income (179). This is a more precise, and complex, measurement of housing affordability which is not examined in this study due to the lack of available data and uncertainty regarding the appropriate residual income needed to meet non-housing needs.

Given the limitations of the rent-to-income ratio standard, it should not be assumed that all 40% of renter households spending 30% or more of their income on housing have an affordability problem. Moreover, some larger households spending less than 30% of their income on housing may have difficulty paying for non-housing needs. The 30% and 50% rent-to-income ratios are used as an indicator of the widespread occurrence of high rent burdens that cause financial strain for many Canadian households. In order to understand the significance of this problem, the impact of unaffordable housing is described in the next section.
2.2. Social and Economic Impacts of Affordable Rental Housing

Affordable rental housing is important for a number of social and economic reasons. Renter households have significantly lower incomes than owner households and affordable rental housing is needed as a lower cost housing option. Berry (2003) contends that a lack of affordable housing reinforces socioeconomic inequity by limiting the access of low-income households to employment opportunities, high quality education and services (418). A lack of rental housing can require lower-income individuals to move further away from their places of employment, increase their daily commutes, and even leave their jobs to find new employment (Young 2015; McMohan 2015a). For some, moving to more affordable areas may mean losing essential social networks and being disconnected from services and amenities which improve their well-being (Berry 2006, 2; Pomeroy 2015, 8). This housing environment can also create “shelter poverty” in which people are using the majority of their income for housing and are unable to pay for other necessities (Young 2015).

In more extreme situations, unaffordable rental housing can contribute to homelessness. When individuals are spending more than half of their income on rent, housing advocates indicate that they are at risk of becoming homeless (McMahon 2015a). The Chief Housing Officer of Vancouver, Mukhtar Latif, views the lack of new rental supply as one of the drivers of persistent homelessness in the City of Vancouver. For individuals living in Single Room Occupancy hotels (SROs), it is very challenging to “move up the housing ladder” when market rents are unaffordable (Interview). The economic impacts of homelessness include government expenditures on services such as medical care and criminal justice, and lost tax revenues from decreased business in areas affected by homelessness (Davis 2006, 35). The non-economic impacts include lower quality of life and social exclusion (35).

At the societal level, cities need to be able to attract people who will stimulate the economy (Berry 2003, 416). Labour market inefficiency is when labour resources are not being put to their best use. Berry (2006) argues that there is “a growing spatial mismatch
between housing and job opportunities for lower paid workers” (iii) which not only creates inequitable conditions between workers but prevents the economy from functioning efficiently (ii). There is need for a mix of workers in both high skilled and low skilled jobs to fill the labour needs of an urban economy (iii). Groups that may rely on affordable rental housing include young people at the beginning of their careers, low-paid service workers, medium-paid essential service workers, recent immigrants, and students (Berry 2003, 416-17).

In a report prepared for the Vancouver Board of Trade, the impact of housing affordability in Vancouver on business was examined. Khtaria et al. (2015) found that one of the major impacts on businesses was the ability to attract and retain employees, reported by 41% of business leaders (1). Businesses may eventually decide to relocate if labour mobility is limited, which may negatively impact the economy and social composition of urban centres. High housing costs can also “crowd out expenditure on other forms of consumption” and put pressure on local wages, making it difficult for local businesses to compete (Berry 2003, 417).

The housing continuum includes housing for the homeless, rental housing, and home ownership. A large number of households in Canada rely on the rental housing market and there is evidence that it is not meeting the needs of lower income populations. Supporting the development of purpose-built rental buildings can address this gap and improve the outcomes of this population and communities across Canada.

2.3. Market Failure in Rental Housing

Federal tax incentives and attractive CMHC financing options encouraged the construction of private purpose-built rental stock in the 1960s and 1970s. When incentives were eliminated after the 1970s, the construction of rental housing stock declined substantially (HSWG 2001, 16). In the 1990s the number of rental housing starts declined further from approximately 30,000 units per year to less than 10,000 (CMHC
After reaching a low of 6,500 rental starts in 1998, the construction of rental units has been gradually increasing, reaching 25,000 in 2014 and representing 15% of all housing starts. The CMHC (2013) projects that the average yearly growth of renter households will be just over 50,000 per year until 2036, assuming a constant rate of homeownership. However, the rental stock has only increased by an average of approximately 17,000 units per year from 2001 to 2011 (CMHC 2016). Accounting for a recent increase in rental housing starts in 2013 and 2014, there would be a gap of about 25,000 rental units per year over this time period.

Vacancy rates are another important indicator of rental housing supply. Average vacancy rates across Canada declined considerably from 4.8% in 1992 to 1.2% in 2001 (CMHC 2016). Overall, vacancy rates have increased since the early 2000s, but remain below vacancy rates in the 1990s (see Table 4). A healthy vacancy rate is around 3% to 4%; while the average vacancy rate is within this range, there are significant differences between regions. Vancouver’s vacancy rate has averaged 1.3% since 2000, and was only 0.8% in 2015. Vacancy rates are also below 1% in the BC metropolitan regions of Kelowna, Abbotsford-Mission, and Victoria. Cities in Ontario, such as Toronto, Guelph, and Brantford also have vacancy rates below 3%. Accordingly, the provinces with the lowest vacancy rates in 2015 were BC (1.2%) and Ontario (2.4%).

Table 4  Vacancy Rates (%) in Selected Metropolitan Areas (1995 to 2015)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Victoria, BC</td>
<td>3.3</td>
<td>1.8</td>
<td>0.5</td>
<td>1.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Kelowna, BC</td>
<td>2.9</td>
<td>1.2</td>
<td>0.5</td>
<td>3.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Abbotsford-Mission, BC</td>
<td>7.7</td>
<td>3.7</td>
<td>3.8</td>
<td>6.5</td>
<td>0.8</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>1.2</td>
<td>1.4</td>
<td>1.4</td>
<td>1.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Guelph, ON</td>
<td>1.3</td>
<td>0.7</td>
<td>3.6</td>
<td>3.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Barrie, ON</td>
<td>1.3</td>
<td>0.5</td>
<td>2.1</td>
<td>3.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Toronto, ON</td>
<td>0.8</td>
<td>0.6</td>
<td>3.7</td>
<td>2.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Oshawa, ON</td>
<td>2.7</td>
<td>1.7</td>
<td>3.3</td>
<td>3</td>
<td>1.7</td>
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<tr>
<td>City</td>
<td>Rate1</td>
<td>Vacancy Rate2</td>
<td>Vacancy Rate3</td>
<td>Vacancy Rate4</td>
<td>Vacancy Rate5</td>
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<tr>
<td>Kitchener-Cambridge-Waterloo, ON</td>
<td>2.2</td>
<td>0.7</td>
<td>3.3</td>
<td>2.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Brantford, ON</td>
<td>2.9</td>
<td>2.9</td>
<td>1.8</td>
<td>3.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Kingston, ON</td>
<td>3.2</td>
<td>1.8</td>
<td>2.4</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>St. Catharines-Niagara, ON</td>
<td>5.2</td>
<td>2.6</td>
<td>2.7</td>
<td>4.4</td>
<td>2.8</td>
</tr>
<tr>
<td>London, ON</td>
<td>4.3</td>
<td>2.2</td>
<td>4.2</td>
<td>5</td>
<td>2.9</td>
</tr>
<tr>
<td>Winnipeg, MB</td>
<td>5.4</td>
<td>2</td>
<td>1.7</td>
<td>0.8</td>
<td>2.9</td>
</tr>
<tr>
<td>Halifax, NS</td>
<td>7.7</td>
<td>3.6</td>
<td>3.3</td>
<td>2.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Ottawa, ON</td>
<td>3.8</td>
<td>0.2</td>
<td>3.3</td>
<td>1.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Québec, QC</td>
<td>6</td>
<td>1.6</td>
<td>1.4</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Montréal, QC</td>
<td>6.2</td>
<td>1.5</td>
<td>2</td>
<td>2.7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Average of Metropolitan Areas</strong>²</td>
<td><strong>4.3</strong></td>
<td><strong>1.6</strong></td>
<td><strong>2.7</strong></td>
<td><strong>2.6</strong></td>
<td><strong>3.3</strong></td>
</tr>
</tbody>
</table>

1 Metropolitan areas with vacancy rates at or below 4% in 2015 are included in this table, sorted from lowest to highest.

2 The average includes 34 metropolitan areas reported by the CMHC (2016) in the data table entitled “Rental Vacancy Rate, Canada, Provinces and Metropolitan Areas, 1992–2015 (per cent).” Source: CMHC 2016

When vacancy rates are low it can be especially difficult for low-income households to find housing, as it is easy for landlords to select higher-income over lower-income households as tenants (Steele and Des Rosiers 2009, 2). It is important to note that vacancy rates are only one indicator of the health of the rental market and they do not consider the affordability or quality of units. Moreover, if vacancy rates are too high due to a decrease in the population or the creation of too many rental units, this will lower rents and may create financial difficulties for landlords, which could impact the maintenance of rental units and the long-term viability of rental buildings.

A shortage of rental units is evidence of a market failure, which is when the allocation of goods and services is not efficient. The amount of market capital directed towards projects in the rental sector is below the optimum level. The consequence is that the marginal benefits of incremental investments exceed the marginal costs of capital.
Efficiency gains will be realized through a positive reallocation of capital into rental housing.

The reasons for the under investment in rental housing can be partly attributed to institutional constraints and barriers in capital markets which favour financing of home ownership. For example, in Ontario multi-residential rental buildings continue to have a higher property tax rate than single family homes and condominiums, with the exception of new rental buildings in some municipalities (HSWG 2001, 24). In New Brunswick, landlords of rental properties pay two levels of property tax (provincial and municipal), whereas owner-occupied properties only pay municipal property taxes. The rate was recently reduced by the provincial government but the differentiation persists (CBC News 2012). Other jurisdictions such as Manitoba, Calgary and Saskatoon phased out differential tax rates for rental buildings during the 1990s and 2000s (FRPO 2001, 5). In addition to higher tax rates in some regions, municipal fees and charges have often been higher for rental housing development than other types of housing (HSWG 2001, 25).

There is also preferential government support for the financing of home ownership. The CMHC offers more favourable mortgage insurance terms for homebuyers than for multi-unit residential buildings, with the terms becoming more restrictive and insurance premiums increasing over time for multi-unit housing (HSWG 2001, 20). Moreover, the First-Time Home Buyers' Tax Credit and the Home Buyers' Plan are examples of federal policies that provide incentives for homeownership. Meanwhile, there are no remaining federal incentives for the creation of rental housing.

Investors also perceive higher risks in the rental housing market. The CMHC (2000) reported that “the fundamental cause of limited private rental investment across almost all countries is the lack of a competitive rate of return, especially in light of the risks inherent in rental investment” (2). There can be long time horizons for returns on rental investments, and rent control policies can limit revenues and increase risk for investors (HSWG 2001, 9). Policies which protect tenants are important; however, strict rent control policies which impose rent ceilings can result in significant financial
difficulties for landlords. The possibility that a new government can choose to strengthen rent control policies at any time is an inherent risk for developers and investors of rental housing. Given the additional costs and risks associated with rental housing, government funding is needed to make rental development an attractive investment and improve the efficiency of the housing market.

With an overall increase in the supply of rental housing, it is expected that rental units built for upper-and middle-income households will eventually filter down to lower-income households (Smith 1995, 173). However, Skaburskis (2006) concludes that “the filtering process is both too slow and, at best, can have too small an effect to be part of a government strategy for reducing the housing burdens of low-income people” (533). Therefore, in addition to improving the efficiency of the housing market, funding should be targeted specifically towards rental units that are affordable to lower-income households.

Many municipalities are engaged in supporting the development of rental units and creating a more diverse and affordable rental market. Vancouver introduced incentives to encourage developers to shift from condominium to rental developments by increasing density for rental units, providing waivers on development costs, modifying parking stall requirements, supporting the creation of laneways and secondary suites, and making rental buildings more transit-oriented (Latif, Interview). However, Kathy Hogan of the Urban Development Institute notes that affordable housing support needs to come from the top down, as municipalities have limited capacity to address housing issues (Interview). Ultimately “there is no magic bullet” in affordable housing development and Canada can learn from models in other jurisdictions such as the US, where the private sector has an important role in rental housing development through hybrid structures and the involvement of different types of investors (Girvan, Interview).

According to some reports, the construction of rental units is gaining traction in Canada recently due to low interest rates, increased demand for rental housing due to unaffordable home prices, rising rents, and concerns about the future of the condo market.
Mukhtar Latif sees developers becoming more interested in rental in order to diversify their portfolios and that there are “plenty of investors looking for rental stock” (Interview). However, one of the challenges of getting investors in Canada is that they receive better returns in the US and other jurisdictions (Latif, Interview). In order to capture this investment, the use of supply-side programs to incentivize rental housing development in Canada is examined.

2.4. Supply-Side Policies in Rental Housing

There are multiple approaches that can be taken to improve housing affordability. On the demand-side, income or rent supplements can help individuals and families pay for housing. In the US, vouchers are provided to households, which they can use in private market units that meet certain quality and rent requirements (Williamson, Smith, and Strambi-Kramer 2009, 120). However, without adequate availability of affordable housing, voucher recipients are limited in where they can live and may end up in highly impoverished areas (122). Moreover, there is evidence that voucher programs in the US raise rents for unsubsidized poor households due to the increased demand, potentially resulting in a net loss for low-income households (see Susin 2002). Therefore, demand-side polices cannot replace supply-side measures, which aim to increase the stock of rental housing, improve its quality, and potentially decrease or stabilize rents.

Supply-side measures in rental housing include the direct provision of housing by the government (i.e., public housing), municipal policies such as reduced development charges or increased density allowances, and direct subsidies to non-profit or private rental housing developers. In the implementation of supply-side policies, there has been a transition in the past few decades from government-subsidized housing to incentives for private equity investment in affordable housing across many developed countries (Blessing and Gilmour 2011, 453). Berry (2003) argues that the only way to increase the stock of affordable housing is by attracting private investment into the low-income housing market (421). One example is tax credit schemes, a fiscal policy tool which
functions through the taxation system with the intention of inducing “private resources toward the development of affordable rental housing” (520). This is the policy tool examined in this study to address the shortage of affordable market rental housing in Canada.

2.5. Tax Credit Incentives for Rental Housing

Tax credits are a type of tax incentive that allows taxpayers to reduce the amount of their tax liability. A refundable tax credit allows a taxpayer to have their tax liability be reduced to below zero and receive a tax refund. There are several considerations that must be taken into account in implementing a tax credit program. These are examined in this section, and the findings are used to inform the cross-jurisdictional review and policy analysis of this study. The factors identified in the literature were the political viability of tax credit incentives, the profile of tax credit recipients, the market impacts of tax credits, the ability of tax credit programs to target low-income households, and the location of rental housing developments.

2.5.1. Political Support and Viability

Unlike subsidies, tax credits result in forgone future taxes rather than current public spending; therefore, they tend to be more politically popular, even in times of fiscal restraint (Blessing and Gilmour 2011, 455). Consequently, they can potentially provide a more stable source of funding than housing programs with direct expenditures. Moreover, political support may be greater if the expenditures of the program can be capped (431).

Tax credits can also be politically popular if the implementation is facilitated by provinces or states (Berry 2003, 431). The balance of power between federal and provincial governments is central in delivering housing programs (Fallis 1995, 28). Provinces are able to respond to local housing markets and household needs, however
without national standards and support from the federal government there can be gaps in housing policy (28; Berry 2003, 421).

Although there are many factors that indicate the potential for a high level of political support, long-term programs that involve significant tax expenditure can still encounter opposition (Berry 2003, 431). Furthermore, the amount and type of housing that will be created may not be evident, which can create uncertainty regarding the appropriate spending of public funds (Desai, Dharmapala, and Singhal 2010, 201). Finally, a tax credit program that is highly complex may negatively affect its performance in the early years of implementation and reduce support among beneficiaries and governments.

2.5.2. Tax Credit Recipients

Tax credits can be targeted to a variety of developers and investors, and the structure of the program should be designed with consideration of the intended beneficiaries. It is also important to consider how other incentives within or outside of the tax system will interact with the program and influence potential program applicants. An essential feature of tax credit incentives for housing developers is that both private and non-profit organizations are eligible to apply. As non-profits do not have tax liabilities, they may be able to claim refundable credits, “be allowed to trade tax credits for upfront development capital, or be allocated direct grants” (Blessing and Gilmour 2011, 455).

2.5.3. Market Impacts

It is important to examine the impacts of a tax incentive on the housing market to understand the effectiveness of the program in achieving its desired outcomes. A primary intended outcome is to increase the stock of rental housing, which would indicate greater efficiency in the rental sector due to a positive reallocation of capital into rental housing. However, if unsubsidized developments are being crowded out by subsidized
developments, there may be a smaller increase in the stock of housing than the number of units which are funded through the program.

The potential long-run effects can be examined based on the elasticity of housing supply. If the supply of housing was inelastic, then affordable units created through the program would be available for rent and the price of housing would fall in the rest of the market. Renters of both subsidized and unsubsidized housing would have lower rents, while the landlords would bear the costs of this fall in the market price (Malpezzi and Vandell 2002, 364). If the supply of housing was perfectly elastic, then the decrease in the price of housing would lead to a reduction in its supply until the market price increases again. Under these circumstances, the total stock of housing will be unaffected and the new affordable units will fully crowd out unsubsidized housing (364). Therefore, tenants of subsidized renters would benefit from lower rents, and there would be no change in market rents (364).

It has been found that new housing supply tends to be elastic; therefore, at least some crowding out is expected (Eriksen and Rosenthal 2010, 956). However, housing price elasticity can differ significantly across time and geography (Malpezzi and Vandell 2002, 367). Studies in the US have found that in the short-run, the elasticity of supply from the existing stock is fairly low, while the long-run elasticity of supply is determined by construction elasticity (366). In Malpezzi and Vandell’s (2002) analysis, they find that there is no evidence that supply-side or demand side programs, individually or together, have “a long-run effect on the stock of housing in individual states” (375). However, the type of housing that is created through supply-side policies is important, because it will affect the amount of crowding out that occurs for the supply of similar units (Eriksen 2009, 148). Some research has found that projects that target very low-income households result in a small amount of crowd out (Eriksen and Rosenthal 2010, 956).

Even if there is 100% crowding out by a tax credit program, it does not necessarily mean that the program is ineffective (Malpezzi and Vandell 2002, 378). There may be benefits in terms of rent levels and housing quality (378). If a program creates
competition between developers to create good quality low-income housing in desirable locations, it can improve efficiency (Steele and Des Rosiers 2009, 1). It may also introduce affordable housing in areas where it would not normally occur, such as suburban neighbourhoods, where there are higher development costs and greater opposition to affordable housing projects (McClure 2010, 154).

2.5.4. **Targeting Low-Income Households**

A key goal of affordable rental housing policy is to improve equity. Tax credit incentives for rental housing can target lower-income households by imposing conditions regarding rent levels and tenant eligibility. However, it can be challenging to create affordable housing for very low-income groups through a tax credit program alone (Steele and Des Rosiers 2009, 11). Therefore, it needs to work in concert with other affordable housing policies such as rent supplements and various provincial programs (1).

One of the benefits of a tax credit program can be to improve the ability of low-income housing developers to compete in the market. Low-cost developments tend to have higher management and maintenance costs (Wood 2001, 429). A low-income housing tax credit is one way to “offset or even reverse this disincentive to remain in the low cost rental business” (429). Notably, tax credit programs with affordability guidelines can immediately create housing for lower income tenants, rather than waiting for middle and higher-end rental housing to filter down to these households.

2.5.5. **Location of Rental Housing**

Tax credit programs, if they are provided on a competitive basis, can give preference to rental developments in particular locations. McClure (2010) contends that when there is latent demand, then there is a need for subsidized housing (154). A “latent demand” for affordable housing in an area means that the number of low-income households in an area “is greater than the count of rental units affordable to this group”
(154). If this demand does not exist, the additional supply can push prices down and vacancy rates up, posing significant financial difficulties for landlords (154).

The clustered development of affordable housing projects can also increase the concentration of poverty (Freedman and McGavock 2015, 831). This could potentially result in broad social and economic impacts, such as reducing the access of low income households to quality schools and services (806-07; 831). However, placing units in areas with little or no affordable housing may be difficult if land costs are higher and could force low-income families to move into areas away from their social networks or support systems (August 2014, 1320). If the government is encouraging development in particular areas, it is important to consider the social consequences as well as the financial viability of the project.

2.6. **Background Summary**

National and regional statistics reveal that there are a large number of Canadians, mostly lower-income households, who pay 30% or more of their income on rent. It is a persistent nation-wide problem and the data suggests that there is an insufficient supply of rental housing, particularly at the lower end of the market, to meet the needs of these households. This market failure is due to inefficient allocation of capital to the rental sector. Government intervention through a supply-side tax credit policy is one approach to encourage rental housing development and specifically target affordable units to lower-income Canadian households.
Chapter 3. Methodology

The methodology of this study includes two key research components: a cross-jurisdictional review of three tax credit incentive programs and interviews with experts and stakeholders. The following research questions are addressed in the study in regards to tax credit programs for the development of affordable rental housing:

- How many rental housing units are created through tax credit programs?
- Do tax credit programs increase the stock and quality of rental housing?
- Do tax credit programs effectively target low-income households?
- Are units created through tax credit programs viable as quality affordable housing in the long-term?
- What are the costs of tax credit programs?
- What types of developers and investors apply for and receive tax credits?

The findings from these questions inform the development of policy options, the criteria that are used to evaluate policies, and the policy implications of the final recommendation. These questions are investigated through the methods below.

3.1. Cross-Jurisdictional Review

Tax credit programs were selected for review based on their relevance to Canada and the availability of data and research. The Low Income Housing Tax Credit (LIHTC) in the United States has been in place since 1986 and is widely considered to be a successful program. The National Rental Affordability Scheme (NRAS) in Australia, based on the LIHTC model, was discontinued after six years. The Manitoba Rental Housing Construction Tax Credit (RHCTC) is a new program implemented in 2013.
These examples provide a good overview of programs that exemplify various configurations of tax credit policies, and their strengths and limitations.

In order to review and analyze the tax credit programs, I used publically available reports and data. For example, the US Department of Housing and Urban Development (HUD) has a comprehensive database of the housing projects created through the LIHTC program which is available to the public. I also conducted expert and stakeholder interviews, as described in the next section, to better understand the three selected programs.

3.2. Stakeholder Interviews

Interviews with experts and stakeholders in affordable rental housing policy were an essential source of primary data to inform the background of the study, the cross-jurisdictional review, and the policy analysis. A total of 8 individuals participated. The participants were recruited through publically available contact information and snowball sampling methods. The interviews were semi-structured with key discussion points and open-ended questions. Sample interview questions are provided in Appendix A and more detailed information about the recruitment process is described in Appendix B.

Speaking to individuals with experience in various aspects of the tax credit policies contributed to understanding the practical aspects and outcomes of the tax credit programs that were not publically available or examined in the literature. Therefore, at least one individual with first-hand knowledge of each program was interviewed. Additionally, stakeholders who would be involved or impacted by the implementation of a new tax credit program in Canada were able to provide insights into the distinct features of the rental housing market in Canada and how a new tax credit policy should be informed and implemented. These individuals were chosen to gain a broad view of perspectives (i.e., municipal and provincial governments, private and non-profit sectors). The list of interview participants is provided in Appendix B.
3.3. Methodological Limitations

Sufficient detail was available about each program in the cross-jurisdictional review; however, there are some notable imbalances in the amount of information and the level of detail. For the LIHC program, there were a number of peer-reviewed studies available on the outcomes of the policy over an extended time period. Comparatively, the RHCTC has only been operating for a couple of years and the available information is very preliminary. This was a limiting factor in the analysis of policy options, which in some cases relied on data gathered in the cross-jurisdictional review.

The analysis of policy options was also limited by uncertainty regarding the expected crowd out of non-subsidized rental stock from the creation of rental units through a tax credit program. Estimated crowd out rates are used to calculate the expected net number of units created based on the range of crowd out rates observed in the US from the LIHTC program. These estimations primarily allow for a comparison of the policy options and may not reflect actual crowd out rates. In the implementation of the program, crowd out effects should be studied to determine the actual increase in the stock of rental units and assess the effectiveness of the program in improving the efficiency of the rental housing market.

The average tax credit values established in the policy options were determined based on programs studied in the cross-jurisdictional review. However, the final recommendation should be reviewed in consultation with stakeholders to ensure that the level of financing meets the needs of developers while minimizing government costs. Investors and developers were not interviewed to determine optimal levels of financing due to time restraints and the limited scope of the study.

The design of the study examined one type of housing policy, which was important in understanding its intricacies and creating well-developed policy options and recommendations. However, multiple housing policies must work simultaneously to create an efficient and fair housing market. Therefore, it can be difficult to isolate a single
program without examining the effects of other programs. Moreover, the study cannot conclude that a tax credit program is the best alternative to address the affordable rental housing shortage. Its purpose is to recommend the best alternative for a tax credit program.
Chapter 4. Cross-Jurisdictional Review

A summary of the features of three tax credit programs are provided in this chapter and several questions regarding the outcomes of the programs are examined.

4.1. Low-Income Housing Tax Credit

The LIHTC program was created in 1986 by the Tax Reform Act and is now the largest federal program in the US for the development and rehabilitation of affordable rental housing (HUD 2015). The non-refundable tax credits are issued to developers of rental housing, including non-profit and private organizations. The monetary value of the tax credits is allocated to states according to population. They are then distributed by state housing agencies to developers, which allocate credits on a competitive basis according to the guidelines of a Qualified Allocation Plan (QAP) created by each state. QAPs must give priority to developments “that serve the lowest income households and that remain affordable for the longest period of time” (Keightly 2013, 2).

The tax credits are claimed by developers after the building begins operation over a period of 10 years. For new developments, the credits are equal to 70% of eligible construction costs (excluding land) in present value terms. The yearly tax credit is worth approximately 9% of a project’s eligible construction costs (Keightley 2013, 1). Rehabilitated rental housing developments and projects receiving other federal subsidies are allocated tax credits worth 30% of development costs over 10 years, with a yearly tax credit rate of approximately 4% (Desai, Dharmapala, and Singhal 2010, 186). The 4% credits are not part of the allocation process and are not as competitive as the 9% credits (184).
LIHTC developments are restricted in terms of the percentage of units that must be occupied by tenants of certain income levels, and maximum affordable rent levels for those units. There are two income tests that developers can choose from: a minimum of 20% of units must be for households with income below 50% of the Area Median Family Income (AMFI), or at least 40% of units must be for households below 60% of AMFI. Maximum affordable rents are set at 30% of the chosen AMFI limit (Keightley 2013, 3).

The LIHTC is an investable tax credit, therefore developers typically sell their future tax credits to outside investors in exchange for equity; however, private investors with a tax liability can choose to keep them (Keightley 2013, 3). The sale of tax credits requires compliance with complex tax code provisions; therefore, they are usually administered through third party syndicators who charge a fee for their services. Syndicators pool LIHTC projects into an equity fund and sell the credits to investors. They also provide legal and accounting services, “structure investments to meet individual investor needs,” and undertake the monitoring of projects (Cummings and Dipasquale 1999, 283).

There is usually a limited partnership between developers and investors of LIHTC projects (Keightley 2013, 4). The developer is the general partner in charge of the construction and management of the project, and the investor is the primary owner and a limited partner. The return on investment for investors is the difference between the market price of the tax credit and its face value. Some investors are also motivated by the Community Reinvestment Act, which counts LIHTC projects as investments in local low-income communities (4).

Tax credits can be recaptured if the property does not comply with the program regulations at any point over a 15-year period (JCHS 2009, 21). National regulations require rents to remain affordable for at least 30 years. The LIHTC must be combined with other forms of funding, such as mortgage loans from private and public sources, and state-financed tax credits similar to the LIHTC. Housing affordability is further achieved in combination with tenant-based subsidies, such as housing vouchers (Keightley 2013,
4). As housing consultant LoriAnn Girvan describes, the LIHTC credits are “a hugely important source of affordable housing finance and it was usually a foundation on which you pinned all your financing to make a deal work” (Interview).

4.1.1. Evaluation of the LIHTC Program

The LIHTC program is evaluated in terms of six key questions:

**How many rental units (affordable and non-affordable) are created with the program?**

The HUD (2015) releases data on the number of units placed into service in each year of the program, and the number of those units that comply with the chosen rent ceilings of the project. From 1995 to 2013, the average number of units created per year was 110,522 and the average number of units created below the chosen rent ceiling was 96,221 (see Figure 1). In this time period an average of 87% of units in LIHTC-funded projects fell below the designated rent and income maximums, which is far above the requirements of the program. Most states receive an excess of applications, between two and four times the credits they are allotted, enabling them to fund developments that meet stricter income guidelines (Baum-Snow and Marion 2009, 656).
**Figure 1**

Number of Units Placed in Service with the LIHTC Program, Total Units and Units Below Rent Maximums, 1995-2013

Note: The dataset includes 27,555 projects placed into service between 1995 and 2013. There is data missing on the total number of units for 127 properties (.5%) and the number of units below rent maximums for 1655 properties (6%).

Source: HUD 2015

**Does the program increase the stock and quality of rental housing?**

Several studies have examined the success of the LIHTC program in increasing the stock of rental housing. The scope of the LIHTC program is widespread, with approximately one third of all new multifamily housing units in the U.S. receiving funding from the LIHTC program (Abt Associates 2012, xi). Despite the significant use of the LIHTC credit, Malpezzi and Vandell (2002) used a cross-state model of housing stock and found that there was “no significant relationship between the number of LIHTC units (and other subsidized units) built in a given state and the size of the current housing stock. This suggests that a large number of LIHTC developments are substituting “unsubsidized units that otherwise would have been built”3 (360). Eriksen and Rosenthal

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3 Furthermore, traditional supply-side programs (e.g., public housing), demand-side programs, and the three types of program in combination were not found to have a long-run effect on housing stock (375).
(2010) also analyzed the crowd out effects of the LIHTC program at three geographic levels and found that nearly 100% of LIHTC development substitutes the construction of new unsubsidized rental units (953).

In contrast, Baum-Snow and Marion (2009) found evidence that the LIHTC program does increase the stock of housing. A single LIHTC unit increased the number of new rental units within 1 km of the project site by 0.8 units, but only by 0.37 units in areas experiencing gentrification (655). Freedman and McGavock (2015) found evidence that the increase in the number of local rental units is between 37 and 74 for every 100 LIHTC units (820). Cummings and Dipasquale (1999) noted that in a substantial number of neighbourhoods, LIHTC developments represented the only new rental construction in the previous 5 years (268). The mixed evidence suggests that crowd out effects may depend significantly on the geographical scope of the analysis.

Malpezzi and Vandell (2002) and Eriksen and Rosenthal (2010) note that even if 100% substitution was occurring, the effectiveness of the program should also consider factors such as price levels and housing quality. The units of LIHTC developments are expected to be able to function as market rent units in case the project does not succeed as affordable housing (Girvan, Interview). Furthermore, mixed-income developments often have “floating” affordable units in which all units must be of high enough quality to rent out to individuals of different income levels (HUD 2003, 29). These factors suggest that LIHTC units are likely to be of higher quality than social housing or older housing stock that is filtered down to low-income households.

**Does the program effectively target low-income households?**

It is notable that “a vast majority of all LIHTC developments have 100% of the units occupied by households meeting the selected income limitations” (McClure 2010, 155). Therefore, the program is effective in targeting the low-income households defined in its guidelines, far beyond the requirements of the program. However, with rents set at affordable levels for households with 50% or 60% AMFIs, the rent levels may be too high for many low-income households (155). According to McClure (2010), the LIHTC
program primarily services household with incomes between 30% and 60% of AMFI (156). Cummings and Dipasquale (1999) remark that “while the legislation creating the LIHTC is not explicit about which households the program is meant to target, it clearly was not designed to produce housing that is affordable to the very poor, at least not without considerable additional subsidies” (278).

Property owners are not required to report the incomes of tenants for research purposes; therefore, researchers are reliant on samples of LIHTC tenants (McClure 2010, 156). One of these studies found that for households not receiving rent subsidies, the average LIHTC tenant has an income of 45% of AMFI, compared to the approximate poverty level of 30% of AMFI (156-157). With the inclusion of tenants receiving rent subsidies, another study found that 40% of LIHTC households have income below 30% of AMFI (156). Therefore, LIHTC developments can serve very low income households in combination with government programs that target the lowest income families (157).

In terms of rent levels, Cummings and Dipasquale (1999) found that average rents in their sample of units from 1987 to 1996 were 9% lower than average rents in the country (274). It is important to note that the guidelines of the program do not always reflect the realities of a given region, which can result in “affordable” rents designated by the program that are higher than actual market rents (Girvan, Interview). LoriAnn Girvan argues that projects should aim to “achieve something important in terms of affordable housing,” and that the existing rent limitations lack flexibility and are not responsive to local needs and market capacity (Interview).

*Are units created through the program sustained as quality affordable housing in the long-term?*

There is a binding rent requirement for developers and investors for 15 years, during which time tax credits can be recaptured if the project does not comply with rent and income limits. During this time, owners must report to the state housing agency and the IRS annually on compliance with the LIHTC requirements (Abt Associates 2012, xii). For properties that received allocations in 1990 or later, federal regulations also require
an additional 15 years of rent restrictions for developers. However, there is a process for owners to request to leave the program before the end of this added compliance period, which varies by state (xii-xiii). Additional sources of affordability restrictions may apply to LIHTC developments, such as mortgage financing or grants from public or non-profit sources, and land use agreements with local governments (xii).

Spreading the provision of tax credits over 10 years enhances the ability of government to enforce the guidelines of the program. Owners must allow periodic inspections of their properties by state housing agencies (McClure 2010, 156). Although state housing agencies must have a monitoring program that complies with federal guidelines, the IRS does not evaluate or audit state housing agencies to ensure that this is being done appropriately (Desai, Dharmapala, and Singhal 2010, 195). In one survey of LIHTC projects by Ernst and Young (2005), it was found that only 0.4% of properties were audited and lost tax benefits (as cited in Desai, Dharmapala, and Singhal 2010, 190).

Monitoring is partly delegated to the investors, “since their entire economic return for their investment is contingent on compliance” (Desai, Dharmapala, and Singhal 2010, 194-5). As Beth Stohr of the US Bank explains, the investor often has the most to lose if foreclosure occurs due to the large portion of the project funded through tax credit equity (Interview). Therefore, they are highly motivated for the project to succeed for at least 15 years. Typically, investors exit at the end of the 15th year because they no longer have an interest in maintaining ownership (Stohr, Interview). Abt Associates (2012) examined what happened to LIHTC properties placed in service between 1987 and 1994 after they reached the end of their 15-year compliance periods (xi). They found that most properties remain affordable and continue to function in a similar way (xi-xii). A small number of properties are converted to market-rate housing, which is most likely to occur in strong housing markets (xii).

4 During this extended-use period, owners no longer have to report to the IRS and cannot have their tax credits recaptured (Abt Associates 2012, xii).
**What are the costs of the program?**

One of the financial benefits of the program is that the majority of tax credits are capped; therefore, the costs of the program can be planned for in the government budget (Desai, Dharmapala, and Singhal 2010, 191-92). Estimated expenditures based on the allocation of 9% credits are estimated to have increased steadily from $0.5 billion in 1988 to nearly $4 billion in 1995, and ranged from $4 to $4.5 billion between 1996 and 2007 (2004 USD). Data from tax returns reveal lower expenditures in the early years of the program partly due to credits being unused or a time lag in claiming the credits. From 2002 to 2006, the estimated expenditures range from $4 billion to $5 billion based on tax return claims (187-88).

A study by Cummings and Dipasquale (1999), on 2,500 LIHTC projects acquired by four syndicators between 1987 and 1996, found that average total development costs (including all types of financing) were approximately $90,000 per unit for LIHTC projects (2015 USD), ranging from $15,000 to $350,000 (258-59). The average present value of tax credits for LIHTC units was approximately $40,000 (299). HUD (2015) data reveals that the average annual value of tax credits for projects placed in service in the first 10 years of the program was $5,200. The average real value of credits increased to $7,800 in the next 10 years of the program, and to $13,000 since 2007. Over the life of the program, the average present value of tax credits per unit is $55,000, with an increase in the real value over time.

The selling price for tax credits has varied substantially over the years. Early in the program, they sold for only $0.45 and rose to over $0.85 in 2005 (Desai, Dharmapala, and Singhal 2010, 190). However, if the credits are discounted over the 10 year period, then the price of credits is substantially higher (190). One of the explanations for the high credit prices is the Community Reinvestment Act obligations of banks (191). After the financial crisis of 2008, the average price of the tax credits dropped below $0.70 (191). Large corporate investors were experiencing financial losses which prevented them from using the tax credit, resulting in a significant drop in demand and funding gaps for
developers who had not yet sold their tax credits (JCHS 2009, 1). Under these depressed market conditions, the federal government in 2009 introduced a tax credit exchange program which allowed states to exchange up to 40% of their tax credit allocations for 85% of their cash value to award to LIHTC developments (Desai, Dharmapala, and Singhal 2010, 201).

The program is highly complex, which increases the administrative burden of the program. Syndicators and lawyers are required to ensure that the rules of the program are being followed, which can impose costs on government, developers and investors. Some of the equity received through the sale of credits, approximately 10% to 27%, is used for transaction costs in the syndication process (Desai, Dharmapala, and Singhal 2010, 192). However, these costs declined as the market became more competitive (192; Cummings and Dipasquale 1999, 253).

**What types of developers and investors apply for and receive the tax credits?**

Early in the program, individual investors were the primary investor base of the LIHTC program (JCHS 2009, 3). The base shifted to large corporations due to passive loss limitations and because it was apparent that it was going to become a permanent program (3; Stohr, Interview). Having a uniformly non-refundable tax credit ensures the substantial involvement of the private sector in the program. However, housing agencies are required by federal law to reserve 10% of LIHTC credits for non-profit developers (Desai, Dharmapala, and Singhal 2010, 195). In practice, far more LIHTC credits are distributed to non-profits, peaking in 1998 at 35% and declining to 25% in 2003 (195).

Among corporations, the finance and insurance sector and the holding companies sector accounted for 89% of corporate credit dollars claimed in 2006 (Desai, Dharmapala, and Singhal 2010, 198). Large financial institutions are best equipped to manage the

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5 A passive loss is a financial loss from a limited partnership, in which the investor is not directly involved in running the property. Individual investors cannot claim losses from passive investments to offset their incomes.
long-term nature of investments and the many compliance requirements of the program (JCHS 2009, 3). A small bank would probably not have to staff to manage investments in LIHTC project, so they will usually work with syndicators (Stohr, Interview). The program was able to grow through the efforts of a group called the Affordable Housing Investors Coalition (AHIC). They created consistency around the practices of syndicators and continue to provide education to new investors coming into the market, including those who are not familiar with real estate operations (Stohr, Interview).

4.2. National Rental Affordability Scheme

The National Rental Affordability Scheme (NRAS) is a financial incentive program in Australia for the private and non-profit sectors to build rental units for low and moderate income households at 20% or more below current market rents (Australia 2008, 2). The program has three key aims: to “increase the supply of new affordable rental housing; reduce rental costs for low to moderate income households; [and] encourage large-scale investment and innovative management of affordable housing” (Australia 2015a). The National Rental Affordability Scheme Act and the National Affordability Scheme Regulations were established in November 2008 (ANAO 2015, 20-21).

The NRAS benefit is available as a refundable tax credit for all approved participants, or as a direct payment for non-profit endorsed charities (ANAO 2015, 9-10). Approved participants receive the benefit annually for 10 years and it is attached to affordable rental units that meet the compliance requirements of the program. There is no minimum percentage of units in a property that must be affordable. An incentive of $6,000 is provided by the Australian Government\(^6\), indexed annually based on the rental component of the Consumer Price Index (17). Participants must submit an annual

\(^6\) State and Territory Governments provide an additional indexed contribution worth a minimum of $2,000 which can be provided in the form of a direct payment or an-kind benefit, such as reduced taxes or charges or a reduced land price (Australia 2011, 11-12).
Statement of Compliance prior to receiving the benefit. NRAS incentives can be reduced, withheld, or withdrawn if a participant fails to comply with any of the requirements of the program (Australia 2011, 10).

Potential participants in the NRAS program included developers, owners, financers, or managers of NRAS units (Australia 2015a). Although the program only accepted applicants who are creating or investing in over approximately 100 units, smaller-scale investors and individuals could participate through agreements with approved participants (Australia 2015a). The program was administered through six open calls for applications which began in 2008 and ended in 2013. Each call for applications had a specific set of assessment criteria. The scheme was cancelled in 2014 during a time of budget cuts by a new Australian Government and the stated reason was that it “had not been successful in achieving its objectives” (ANAO 2015, 22; Milligan et al. 2015, 10). NRAS will continue to provide incentives that were allocated, as long as units continue to be eligible (Australia 2015a).

Following its cancellation, an audit of the application and assessment stages of NRAS was released in 2015. The Australian National Audit Office (ANAO 2015) found that the application and assessment process suffered due to a “lack of understanding of the Regulations and the operating environment” (12). One of the likely contributing factors was that the program had been administered by three different departments and nine Ministers since 2008 (10) and changes were made to the regulations seven times between 2009 and 2014 (21).

The assessment process was administered by the Australian Government and the role of the state and territory governments in the process varied across rounds (ANAO 2015, 34). In the last three rounds, the regulations were formally amended to require state or territory support (36). The ANAO (2015) report emphasized the importance of having a plan for the implementation for the program, such as being prepared for the time requirements for the administration for the program and to finalize the legislative and regulatory framework of the program prior to its commencement (7). Moreover, it
highlighted the need to identify the “required mix of essential skills, experience and capability” to effectively implement and administer the program in order to comply with the policy and its requirements (7). Accordingly, an interviewee with experience in the NRAS program indicated that program administrators were not knowledgeable enough about property investment and that overall “the NRAS was a great policy badly implemented” (Mitchell, Interview).

4.2.1. Evaluation of NRAS

The NRAS program is evaluated in terms of six key questions:

*How many rental units (affordable and non-affordable) are created with the program?*

The original goal was to create 50,000 new affordable rental units by the end of 2011-12, and another 50,000 after 2012 if the market demand was still strong (Australia 2008, 2; ANAO 2015, 9). This was revised in the 2011-12 Budget to extend the time frame of the program. Eventually the program was cancelled in the 2014-15 Budget and the target was revised to 38,000 allocations (ANAO 2015, 9). As of September 2015, about 29,304 incentives have been allocated for units occupied by a tenant or available for rent (Australia 2015, 3). An additional 8,078 incentives have been reserved and are awaiting delivery, for a total of 37,382. The delivery of units was slow from April 2009 until April 2011 (reaching 3,840), then rose more steeply until April 2015 (reaching 28,927). The program is expected to reach full delivery by April 2017 (ANAO 2015, 4).

*Does the program increase the stock and quality of rental housing?*

In the view of Paul Mitchell from Affordable Housing Consulting, NRAS was effective in stimulating interest and creating opportunity for rental housing development (Interview). On a global scale it was perceived that there was more money being invested in rental housing and more properties being built. The supply may have increased more for non-profit developers than private developers; however, in the private market NRAS
likely encouraged more investment into rental stock at a lower price point for low and moderate income households (Mitchell, Interview).

The program supports a variety of types of rental units to suit the needs of different types of households. NRAS may have shifted investment from larger units into smaller units, and “created some innovation in dwelling types” (Mitchell, Interview). In regards to quality, NRAS units are intended to be comparable to private “middle-market” dwellings (Australia 2015a). With rigorous selection criteria for distributing incentives and the competitive nature of the program, properties are built to high standards and must comply with the conditions set by the governments.

*Does the program effectively target low-income households?*

Household income limits are indexed annually according to changes in the Consumer Price Index. In 2015/16 the household income limits were: $47,904 for the first adult, $50,385 for the first sole parent, $18,325 for each additional adult, and $15,880 for each child (Australia 2015a). Household incomes can increase after initial eligibility is determined; however, they will no longer be eligible if their household exceeds the limit by 25% or more in two consecutive years (Australia 2015a). It was estimated that there would be 1.5 million households eligible to participate in the scheme (Australia 2008, 3). NRAS tenants are selected by NRAS approved participants, with the exception of Queensland where they are selected from the social housing waiting list, which represents a smaller and lower-income target group than specified by the NRAS guidelines (Milligan et al. 2009, 49).

Tenant characteristics were analysed for the 2011-2012 year for units that had been leased (Australia 2012). The sample was 7,758 units and 15,719 tenants who were reported to be living in the units (5). Notably, 56% of households reported a tenant that was a receiving Commonwealth Rent Assistance. The median gross annual income of households was $31,249, ranging from $18,025 in the Australian Capital Territory to $55,500 in the Northern Territory (7). This is significantly lower than the median income of all renter households in Australia, which was approximately $64,000 in the same year.
(Australian Bureau of Statistics 2013). The range in the median income level of tenants suggests that the conditions and policies of each state influence to what degree the incentive is targeted to low-income households. As expected, NRAS serves tenants with higher income levels relative to public housing (Antoniades 2014, 2). The NRAS incentive may be “insufficient to enable rents to be set at levels that will be affordable to many lower income households, especially single people” without additional initiatives such as the Commonwealth Rent Assistance program (Milligan et al. 2009, 90).

In order to determine rent limits, approved participants must have their units independently valued compared to similar properties on the market to determine the market rent for the unit (Milligan et al. 2009, 59). This must be done in years one, four and seven of the program. Participants have some discretion to increase the rents by a limited amount every year, or when they begin a new lease, based on publically available data on comparative rental rates (Australia 2015a). The median assessed market value of rents for NRAS units was $340 per week, and the median weekly rent actually charged was $245, which is 71% of market value (Australia 2012, 3). Therefore, rents skew lower than the maximum allowed rents of the program. The median weekly rent charged by charities was 10% lower than that charged by non-charities (3).

Are units created through the program sustained as quality affordable housing in the long-term?

The program provides incentives over the course of ten years, which encourages a “medium-term financial investment” in affordable housing units (Australia 2008, 7). However, approved participants can choose to withdraw from the scheme at any time without penalty (Australia 2015a). After the 10-year period, investors can choose to sell their properties or convert them into market rents. The location of properties is an important determinant of future rent (Antoniades 2014). After the 10-year period, rents may no longer be 20% below market values, however they may be more affordable than what would have otherwise been built or other properties on the market (Mitchell, Interview).
What are the costs of the program?

The program is expected to cost $3.5 billion over the full life of the scheme, with incentives being paid out until 2026 (ANAO 2015, 10). By the end of 2014-15, the cost of the program will have reached nearly $560 million and the annual cost of the program incentives will peak in 2020-21 at approximately $345 million (10). As a capital grant, NRAS is worth approximately 20% of the capital cost of a new unit (Milligan et al. 2009, 62). For approved participants who sell incentives to investors, they charge a fee that is a certain percentage of the incentive. Affordable Housing Consulting is an approved participant with an average fee of about 9%; approximately 2% to 3% represents administration costs and the rest of the fee is for underwriting the risk (Mitchell, Interview).

There were aspects of the implementation of the program that increased its administrative costs. For example, applicants must agree to deliver a unit that complies with the proposed style, size, location, and delivery date specifications of the application (ANAO 2015, 13). By April 2015, there had been over 145,000 changes that had been made to these specifications, which is an average of nearly four changes per unit. This was unanticipated and undoubtedly increased the administrative load. Regulations were introduced in 2014 to restrict such changes (13). There was also significant uncertainty and debate about the rules of the program. Even in the past year, payments to participants were delayed due to misunderstandings about rent rules (Mitchell, Interview).

What types of developers and investors apply for and receive the tax credits?

In the 2008 Prospectus of the program, financial institutions were identified as the main target of the program (Australia 2008, 6). As a “large scale national source of public funding…[NRAS had] strong potential to be a catalyst to securing more orchestrated financing from institutional sources,” and therefore improve efficiency in the provision of funding for affordable housing (Milligan et al. 2009, 117). This is in contrast to the typical small-scale individual investors in the Australian housing market (Milligan et al. 2015, 5). The Australian and state governments also indicated that they would give
preference to applicants who have not-for-profit tenancy managers, as they are expected to ensure better outcomes for tenants (Milligan et al. 2009, 60).

The incentives were allocated to 141 approved participants, 55 of which were for-profit and 86 of which were not-for-profit (Australia 2015b, 3). Fifteen of the approved participants had incentives in multiple jurisdictions. There were 21,872 incentives allocated to the 82 endorsed charities, comprising 59% of the total allocations (6). This outcome is contrary to the Government’s expectation that the primary participants in the program would be large institutional investors (ANAO 2015, 19). Overall, the initial uptake of the program by developers and investors was expected to be higher (24).

The NRAS program was an important source of funding to support the growth of not-for-profit service providers (Milligan et al. 2009, 89). An interviewee noted that the program allowed non-profits to diversify their portfolio to include affordable housing along with housing for high-needs groups (Mitchell, Interview). This can help non-profits to expand and improve their financial situation. One of the speculated reasons for the success of non-profit applicants in the program was that they “may have been better informed about NRAS and more familiar with government requirements than potential private players when the scheme was launched” (Milligan et al. 2009, 89).

The ANAO (2015) indicated that one of the possible contributors to the receipt of many non-compliant applications was the “lack of experience of some applicants in dealing with government applications processes” (30). Education and engagement with private investors is important to ensure their participation. According to some accounts, there was insufficient effort to “promote and tailor” to institutional investors and cancelling the program slowed “market momentum and heightened industry concerns about policy risk” (Milligan et al. 2015, 24; 3). Moreover the program did not last long enough “for expected market responses to develop” (3). The interest of private investors was expected to grow with the increase in the number of available incentives, and the final call for applications which was cancelled included applications from international institutional investors (10).
4.3. Manitoba Rental Housing Construction Tax Credit

In Manitoba’s 2013 Budget, the Rental Housing Construction Tax Credit (RHTC) was announced. The purpose of the program was to “stimulate the construction of rental housing and increase the quantity of new affordable rental housing units” in order to address the chronic shortage of rental housing in the Manitoba (Manitoba 2013, C3-C4; Perron, Interview). Vacancy rates were low in communities across the province for years and insufficient rental development was occurring. Most of the rental construction in the province was being built at the higher end of the market, and there was a large number of condominium developments being built or converted from rental stock (Perron, Interview).

A tax credit program was recommended by the 2011 Rental Housing Roundtable that was convened by the Government of Manitoba. Participants included members of the academic community, developers, property manager associations, realtors, advocacy groups, non-profit housing providers, and municipal representatives (Perron, Interview). They collaborated and consulted on potential solutions to the affordable housing shortage in Manitoba (Manitoba 2014a, E5). One of the key barriers in rental housing production identified by the group is “an investment environment that does not allow the industry to gain a strong rate of return” (Rental Housing Supply Roundtable 2012, 29). The LIHTC in the US was cited as an example of a tax credit model for creating new affordable rental housing supply (9). The RHC credit was designed by the Government of Manitoba as a result of that Roundtable recommendation (Perron, Interview).

The RHCTC is structured as a credit that is claimed directly by housing developers, and is much less complex than the LIHTC and NRAS programs. Landlords who complete the development of an eligible project receive a tax credit worth up to 8%
of its capital cost\(^7\) (Manitoba 2015a, 3). Eligible projects must include at least five new residential rental units, of which at least 10% are considered affordable. Landlords can receive a maximum credit of $12,000 per unit in the project, including non-affordable units (3). The program was originally scheduled to expire in 2016, and was extended in the 2015 Budget to the end of 2019 (Manitoba 2013, C7).

The tax credit is available to designated not-for-profit applicants as a fully refundable tax credit in the year in which the units are rented (Manitoba 2015a, 3). The program is also available to “qualifying corporations”, which refers to taxable Canadian corporations with a permanent establishment in Manitoba (6). They receive a non-refundable tax credit for up to five consecutive years, equal to the lesser of 1.6% of the capital cost or $2,400 multiplied by the number of units on the project (7).

An affordable residential unit must comply with the affordable rent limits established by Manitoba Housing, including rent and utilities (Manitoba 2015a, 9). Affordable rents are determined annually according to region and the number of bedrooms in the unit (Manitoba 2015b). The number of bedrooms a household is eligible for is determined by National Occupancy Standards. Affordable units must be leased to tenants who fall below the Program Income Limits (PILs) determined by Manitoba Housing on an annual basis. At least 10% of units must be affordable for a minimum of 5 years after they become available for rent (Manitoba 2015a, 10-11).

In order to enforce the program requirements, tenants (or landlords on the behalf of tenants) must submit a Tenant Declaration Form and other documents (e.g., an income tax return) prior to being approved as a tenant for an affordable unit by Manitoba Housing (Manitoba 2015a, 9). Income only needs to be approved upon initial occupation of the unit, and no further review is required. However, every year for five years

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\(^7\) A qualifying rental housing project must be newly constructed or converted from a non-residential property (Manitoba 2015a, 8). In the application process, a list of the capital costs of the project must be provided (11). To calculate the credit, housing grants or assistance provided by the federal, provincial, or municipal governments are subtracted from capital costs (11).
landlords must report to Manitoba Housing on the size and number of units in the building and provide an update on the units that are designated as affordable prior to filing their annual income tax returns (13).

The details of the program were determined by the Government of Manitoba by working with the private sector to “develop a gap analysis to establish a required incentive for the appropriate ratio between the net operating income produced by rental housing assets and the capital cost of producing rental units” (Perron, Interview). They then added an affordability component as an eligibility requirement for developers to participate, in order to increase units with lower rents in the market. Although the concept of the LIHTC influenced the design of the program, the RHC tax credit was designed to be “simple and easily accessible to developers” (Perron, Interview). It is also a shallower tax credit, however it can be “built upon and leveraged in terms of other tax dollars” (Perron, Interview).

4.3.1. Evaluation of the RHCTC

The RHCTC program is evaluated in terms of six key questions:

*How many rental units (affordable and non-affordable) are created with the program?*

By January 2016, Manitoba Housing had received 18 applications to the RHCTC, of which four had received tax certificates. These four developments have 118 total units and 70 affordable units. The other fourteen applications have received letters of eligibility based on their preliminary applications and are in various stages of development. They are expected to have 419 units in total and 222 affordable units. Across all 18 applications, 54% of the total units in the proposed projects are affordable, which is much higher than the program requirement of 10% affordable units. Typically, if projects have

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8 Information on the applications received to date was provided by the Acting Assistant Deputy Minister of the Community Development and Strategic Initiatives Division of Manitoba Housing and Community Development.
more than 10% affordable units they are layering the RHC tax credit with another program (Perron, Interview).

**Does the program increase the stock and quality of rental housing?**

The RHCTC program is intended to both increase the overall supply of rental housing in Manitoba and increase the number of affordable units on the market. The modest subsidy level of the program may limit the ability of the program to fund rental units that would not otherwise be built. However, the program can function as one of multiple programs to build partnerships between different housing sectors and improve the environment for rental housing development. The recommendation for its implementation by a Roundtable of non-profit and private sector representatives indicates that the program is viewed by housing providers as an effective way to increase investment in the rental sector. The 10% affordability requirement is low; however, given the relatively low value of the tax credit, a higher requirement may be unfeasible for the operation of some projects and it would narrow the base of interested developers.

**Does the program effectively target low-income households?**

The affordability guidelines of the program were based on the previously established Affordable Rental Program of the Manitoba Government. The current Program Income Limits are $48,693 for households without children and $64,924 for households with children (Manitoba 2015b). The rent burdens of five sample households in Winnipeg at three selected income levels are examined in Table 5. All households at the Program Income Limits have a rent burden substantially below 30%. Rents are also affordable for one-person and lone-parent households earning approximately median income levels for their household type, and for two-person households earning 50% of median income. However, rent burdens would be very high for one-person and lone-parent households earning 50% of median income.
Table 5  
Rent Burdens for Sample Households in Affordable Units, 2015

<table>
<thead>
<tr>
<th>Household Type</th>
<th>Unit Type</th>
<th>Monthly Rent Limit in Winnipeg</th>
<th>Yearly Income¹</th>
<th>Rent Burden (with utilities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-person household with no children</td>
<td>Studio</td>
<td>$553</td>
<td>$48,693¹</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$28,440</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$14,220</td>
<td>47%</td>
</tr>
<tr>
<td>Two-person household with no children</td>
<td>1-bedroom</td>
<td>$806</td>
<td>$48,693</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>($85,670)²</td>
<td>(11%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$42,835</td>
<td>23%</td>
</tr>
<tr>
<td>One-person household with one child</td>
<td>1-bedroom</td>
<td>$806</td>
<td>$64,924</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$40,390</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$20,195</td>
<td>48%</td>
</tr>
<tr>
<td>Two-person household with one child</td>
<td>2-bedroom</td>
<td>$1,027</td>
<td>$64,924</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>($85,670)</td>
<td>(14%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$42,835</td>
<td>29%</td>
</tr>
<tr>
<td>Two-person household with two to four children</td>
<td>3-bedroom</td>
<td>$1,182</td>
<td>$64,924</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>($85,670)</td>
<td>(17%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$42,835</td>
<td>33%</td>
</tr>
</tbody>
</table>

¹ Incomes based on (1) Program Income Limits, (2) median income in Winnipeg by household type, and (3) 50% of median income in Winnipeg for household type.

² Couple family households earning the median income exceed Program Income Limits and do not qualify as tenants.

Source: Manitoba 2015b; Statistics Canada 2015

Some RHCTC projects may target lower-income tenants and charge rents below the maximum. Moreover, with more rental supply, the government will have the option to provide more rent supplements to households to subsidize the designated rents (Perron, Interview).

Are units created through the program sustained as quality affordable housing in the long-term?

The five-year affordability requirement of the project only ensures the short-term provision of affordable units. Projects that are mission-based may be more likely to provide affordable housing in the long-term, if they are able to maintain financial
viability. If the program increases the overall stock of housing, there should be some downward pressure on prices and some of the non-affordable units should trickle-down to the low-end of the market in the long-run.

**What are the costs of the program?**

The estimated cost of the program is $4.4 million per year (Manitoba 2013, C4). The first four approved developments will receive approximately $1.2 million dollars in tax credits. The other fourteen applications are expected to receive $4.2 million in potential tax credits, depending on the final total project costs. Of the 18 applications that have been received thus far, 9 projects are expected to receive the maximum $12,000 per unit. The remaining applications range from about $900 to $9,600 per unit. The budget will vary depending on the number of applications and development costs (Perron, Interview).

**What types of developers and investors apply for and receive the tax credits?**

The credit is available to a wide variety of housing developers. It is made highly desirable to not-for-profit developers by offering a fully refundable credit that can be claimed as soon as units are put into operation. From the perspective of the Government of Manitoba, there has been good take-up of the program (Perron, Interview). Most of the projects are by non-profit developers, and about 17% of applications have been from private developers. Developers have indicated that they appreciate the straightforward calculation of the value of the tax credit, as it enables them to determine the financial viability of their project more easily (Perron, Interview).

In order to facilitate the participation of non-profits, the Government of Manitoba was prepared to educate these organizations regarding how to file their income tax to claim the credit (Perron, Interview). Some cities in Manitoba have indicated that they will engage in an education and awareness strategy by “proactively [informing] private and not for profit developers on how the [RHCTC] can work for them” (City of Brandon 2013, 41).
Chapter 5. Best Practices

Prior to formulating the policy options, best practices are identified from the cross-jurisdictional review and interviews with experts and stakeholders. This section discusses sound practices in the implementation of tax credit programs that apply across all the policy options.

It is recommended that the tax credit is provided over a 10-year time period because it ensures a medium-term investment in affordable rental units, and provides a reasonable timeline for developers and investors. In order to ensure the stability of the program in creating affordable units, participants should not be able to opt-out of the program without a penalty. Recipients should be able to carry over their tax credits for a specified number of years in order to mitigate the risks of having insufficient tax liability to claim the credit.

Compliance should be monitored over the 10-year period by the government agency that administers the credits, and the recipient of the credit should be required to submit compliance documents on an annual basis. If a recipient is found to be non-compliant, the tax credits can be recaptured or future credits can be withheld. Beyond this time period, units should be required to remain as rental units for at least 20 additional years to ensure that the program is investing in the long-term supply of rental housing. This will require less frequent and simplified compliance monitoring by the agency administering the credits. Other agreements such as land use restriction agreements or integration with existing rental programs at the municipal level can be used to establish longer-term commitments.
Income and rent limits should be designed to target the households that are in need of affordable housing. Based on the data from the CRHI, households earning below the median income of renter households should be the designated target for affordable rental units because they are likely to have rent burdens which exceed affordability standards. The median income of renter households is typically about 60% of median household income across tenures. Therefore, it is recommended that income limits are set at approximately 50% to 60% of median income in the region according to household composition. The exact limits should be decided in consultation with the provinces. Rents limits should be below 30% of the designated income limit. Due to different housing markets across regions, there can be some flexibility in rent and income limits in order to ensure that the appropriate groups are being targeted and that rents do not exceed reasonable affordability levels in particular regions.

The guidelines of the program must be clearly communicated to stakeholders, and program administrators should be appropriately trained. The program administrators should identify the intended participants of the program and aim to educate these groups about the program and encourage their participation. Jeff Fisher of the Urban Development Institute emphasized the importance of having clear rules for developers and investors, particularly in monitoring tenant income levels (Interview). It is essential that they know how to comply with the program so that they do not violate any laws and risk losing their tax credits. The program should be available to for-profit and non-profit developers, though the method for provision to non-profits may vary.

A strong relationship between all three levels of government, developers, and investors is essential. There needs to be understanding on both sides regarding how rental housing development works (Hogan, Interview). For a federal program that has to work across the country, communication with the provinces is integral to its success (Holden, Interview). It is recommended that the design of the program is not finalized until the appropriate stakeholders have been consulted. By creating partnerships between the government, private sector, and non-profit sector, the program will be more sustainable in
the long-term. Moreover, provincial governments should be encouraged to implement a provincial version of the program to leverage greater affordability.

It is recommended that the federal government takes a long-term approach to the implementation of the program. This will give housing developers confidence in the government’s commitment to the program and can lead to better planning and efficiency in creating rental housing. The main barriers to creating a long-term plan are budget constraints and possible changes in government. Policy options with different levels of public spending are examined which will impact the long-term viability of the program.

It is important for the program to be easily integrated with other government rental housing programs. From the point of view of developers, this means that the requirements of the tax credit program are complementary to those of provincial and municipal policies. The program should also be leveraged to enhance other government programs and priorities. For example, the program could require affordable units receiving funding from the program to accept tenants receiving rent supplements. Additionally, in order to foster relationships with non-profit housing providers, a minimum percentage of credits could be allocated to non-profit developers. These types of program requirements can be specified at a provincial level with broad guidelines at the federal level (e.g., more than 30% of tax credits cannot be reserved for non-profits).

The best practices identified in this section are applied across the policy options described in the next chapter.
Chapter 6. Policy Options

The three policy options described below were formulated based on the literature review, cross-jurisdictional review, and interviews with experts and stakeholders. They are evaluated in Chapter 8 and a recommendation is presented in Chapter 9. The characteristics of the program which are identical across options are identified as best practices in Chapter 5. Prior to describing the policy options in detail, a summary of the policy options is provided in Table 6.

Table 6 Summary of Policy Options

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Targeting of Tax Credits</strong></td>
<td>Rental housing projects with at least 30% affordable units</td>
<td>Affordable units within rental housing projects</td>
<td>Rental housing projects with at least 20% affordable units</td>
</tr>
<tr>
<td><strong>Type of Tax Credit</strong></td>
<td>Non-refundable for all recipients</td>
<td>Refundable for non-profit recipients; non-refundable for all other recipients</td>
<td>Refundable for non-profit recipients; non-refundable for all other recipients</td>
</tr>
<tr>
<td><strong>Distribution</strong></td>
<td>Distributed competitively by the provinces based on provincial criteria</td>
<td>Distributed competitively by the federal government, with input from the provinces</td>
<td>Administered by the federal government based on compliance with the program requirements</td>
</tr>
<tr>
<td><strong>Transferability</strong></td>
<td>Can be transferred by non-profit developers to private investors</td>
<td>Non-transferable</td>
<td>Non-transferable</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>15% of development costs</td>
<td>$6,000 per unit annually</td>
<td>10% of development costs, up to a $25,000 maximum per unit</td>
</tr>
</tbody>
</table>

49
6.1. **Option 1: An investable and competitive tax credit for rental housing projects with a minimum proportion of affordable units**

The tax credit would be targeted to developers creating rental housing projects with at least 30% of units meeting the affordability guidelines. The credit would be non-refundable and transferable, meaning that developers would be able to sell their tax credits to investors. There would be a maximum number of tax credits allocated by the federal government to each province each year, and they would be distributed competitively at the provincial level based on a set of criteria established in the region. The total value of the tax credits would be equal to 15% of the total development costs of the project.

6.2. **Option 2: A per-unit competitive tax credit for affordable units within rental housing projects**

The tax credit would be targeted to developers creating affordable rental units, with no minimum required number of affordable units in a project. The tax credit would be non-refundable for private developers and refundable for non-profit developers. There would be a maximum number of tax credits distributed competitively by the federal government based on a set of criteria established nationally. The federal government would consult with provinces in regards to some criteria to inform the allocation of credits. The credits would be allocated per affordable unit, and applications would have to be for large projects or for bundles of smaller projects. The total value of the tax credits would be a fixed amount per unit per year, $6,000 in the first year, indexed annually with inflation.
6.3. **Option 3: A non-transferable and non-competitive tax credit for rental housing projects with a minimum proportion of affordable units**

The tax credit would be targeted to developers creating rental housing projects with at least 20% of units meeting the affordability guidelines. The tax credit would be non-refundable for private developers and refundable for non-profit developers. There would be no maximum number of credits; they would be distributed based on compliance with the guidelines of the program. The program would be administered entirely by the federal government, without provincial involvement in the operation of the program. The credits would be allocated per unit in the approved rental project and the project would be required to have a minimum number of units. The total value of the tax credits would cover 10% of total development costs up to a maximum of $25,000 per unit, indexed annually with inflation.
Chapter 7. Criteria and Measures

The following section describes the criteria and measures that are used to assess the policy options. The timeframe of the analysis is a total of 20 years, which includes 11 years for the annual distribution of new tax credit incentives and another 9 years to continue the implementation of ongoing tax credit claims. The specific time period is 2018 to 2037, with the first tax credits claimed in 2018.

7.1. Efficiency

The efficiency of the rental housing market is compromised due to the greater attractiveness of the ownership market to developers and investors. Efficiency gains can be achieved with the greater allocation of capital into rental housing, resulting in a larger supply of rental housing. The efficiency objective is to increase investment in rental housing. The criterion used to assess this objective is the expected increase in the overall stock of rental units as a result of the program. This is measured by the number of rental units that will be created, net of rental units that would have otherwise been created.

The number of rental units that will be created is estimated based on data from the LIHTC, NRAS and RHC programs, adjusted for population. An estimate for crowd out is used to assess the net number of affordable units in the long-run. In US studies, crowd out estimates for the LIHTC program have ranged from 20% to close to 100%. A couple of factors would limit the level of crowd out: (1) in areas with lower vacancy rates, where development would be concentrated, an increase in the number of units would not result in a significant decrease in overall rent levels, and therefore would not decrease the

9 For a full explanation of estimations, see Appendix C.
interest of developers in creating new rental projects; (2) the incentive is expected to shift investment from the ownership market to the rental market and create new units in the rental stock that would not have otherwise been built. For these reasons, a long-term net increase in the stock of rental units is anticipated. It is estimated that for every 100 units funded there will be an increase of 50 new rental units in the long-term. The precise level of crowd out may be lower or higher; however, the relative increase in the stock of rental housing between options can be compared using this estimate.

7.2. Equity

Equity issues arise in the creation of rental housing due to the greater rent burden experienced by lower income groups. The equity objective is the degree to which the policy assists lower income groups in accessing affordable housing. The criterion used to assess this objective is the expected increase in the stock of affordable rental units for lower income tenants. Lower income is defined by the income limits of the program. The increase in stock is measured by the number of affordable units that will be created, net of affordable units that would otherwise have been created.

The number of affordable units created through Options 1 and 3 is estimated based on: (a) the minimum proportion of affordable units required by the program and (b) the proportion of affordable units created in the LIHTC and RHCTC programs, which was significantly higher than the minimum guidelines. A probability distribution for the potential proportion of affordable units was established in order to estimate the number of affordable units that would be created (see Appendix C).

In order to estimate the net number of affordable units, a crowd out estimate was used. As previously discussed, crowd out from the LIHTC program has been estimated between 20% and 100%. However, this does not account for the number of affordable units that were created instead of non-affordable units. New rental developments tend to be geared to higher-income tenants; therefore, a program that subsidizes the development
of affordable units would be expected to create more affordable units in replacement of or in addition to non-affordable units than would have otherwise been built. The average estimated number of new affordable units created for every 100 affordable units funded is 75. The precise level of crowd out may be lower or higher; however, the relative increase in the net number of affordable rental units between options can be compared using this estimate.

7.3. Affordability

The affordability objective is achieved by minimizing the total budgetary cost of the program. There are two criteria used to assess this objective: the total public cost of the program and the cost effectiveness of the program. The total cost of the program is measured by the present value cost of the program over 20 years. The costs of the program are calculated based on the units created each year and the expected average annual value of the tax credits\(^{10}\), with payments distributed over a 10-year period. The study uses a real discount rate of 8%, which is recommended by the Government of Canada (Treasury Board of Canada Secretariat 2007, 37).

The cost effectiveness of the program is measured by the average cost of the program per net affordable rental unit and the net number of affordable rental units created with a program budget of $1 billion. The cost per unit is calculated by dividing the total present value cost of the program by the net increase in affordable units. The units that can be created for a set program budget is measured by dividing $1 billion by the average cost per net affordable unit.

\(^{10}\) The estimation of the expected average annual value of the tax credits is described in Appendix C.
7.4. Administrative Ease

The objective of administrative ease is to minimize the complexity of implementing and operating the program. Two criteria have been identified for this objective: the degree of inter-governmental coordination and the scope of training required for program administrators. Inter-governmental coordination is assessed by the level of coordination needed between the provincial and federal governments in the operation of the program. A “high” level of coordination means that the tax credits are allocated and administered by the provinces based on provincial allocation plans, in accordance with the federal guidelines of the program. Provinces must report to the federal government on the allocation of credits annually. A “medium” level of coordination means that tax credits are allocated and administered federally through a process that includes consultation with provinces in the allocation of credits. A “low” level of coordination means that the program is administered and allocated federally, and the provinces have a minimal role in the operation of the program.

The scope of training required for program administrators is assessed by the jurisdictional span of training requirements and the complexity of the training. A “high” designation means that a group of administrators across multiple jurisdictions must undergo training to learn how to allocate tax credits on a competitive basis. A “medium” designation means that administrators are primarily located in a single jurisdiction and must undergo training to learn how to allocate tax credits on a competitive basis. A “low” designation means that administrators must only learn the eligibility requirements of the program.

7.5. Stakeholder Acceptability

Stakeholder acceptability encompasses two key goals: acceptability to provincial and municipal governments, and high take-up by housing developers and/or investors. The criterion for acceptability to other levels of government is alignment with regional
rental housing policy goals. This can be measured by the degree to which jurisdictions can give preference to developments that meet rental housing policy goals in each region. This is measured as high, medium, or low. A “high” level of preference means that provinces can set their own criteria for tax credit allocation. A “medium” level of preference means that provinces can provide input into the allocation of tax credits by the federal government. A “low” level of preference means that the provinces have no control over the distribution of tax credits once the program is in operation.

The criterion for high program take-up is the expected ease of take-up by housing developers and/or investors. This is measured by the degree to which the program is accessible to many types of developers and/or investors. This is measured as high, medium, or low. A “high” level of accessibility means that the program is easy to understand and apply for, and the program is not limited to large developers and investors. A “medium” level of accessibility means that developers and/or investors must have a moderate level of expertise to understand and apply for credits, and there are some entry barriers for small developers and investors. A “low” level of accessibility means that developers and/or investors must have a high level of expertise to understand and apply for credits, and barriers are high for small developers and investors.

7.6. Summary of Criteria and Measures

A summary of the key objectives of the program and the associated definitions, criteria, and measures used to evaluate the policy options is presented in Table 7.
<table>
<thead>
<tr>
<th>Objective</th>
<th>Definition</th>
<th>Criteria</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>Increase investment in rental housing.</td>
<td>Increase the overall stock of rental units.</td>
<td>Number of rental units that will be created, net of rental units that would otherwise have been created.</td>
</tr>
<tr>
<td>Equity</td>
<td>Increase the amount of affordable housing available to lower income groups.</td>
<td>Increase in the stock of affordable rental units for lower income tenants.</td>
<td>Number of affordable units that will be created, net of affordable units that would otherwise have been created.</td>
</tr>
<tr>
<td>Affordability</td>
<td>Minimize the total budgetary cost of the program.</td>
<td>Total public cost of the program.</td>
<td>Present value cost of the program over 20 years.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cost effectiveness.</td>
<td>Average cost of the program per net affordable rental unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Net number of affordable rental units created with a program budget of $1 billion.</td>
</tr>
<tr>
<td>Administrative</td>
<td>Minimize the complexity of implementing and operating the program.</td>
<td>Degree of inter-governmental coordination.</td>
<td>Level of coordination between the provincial and federal governments.</td>
</tr>
<tr>
<td>Ease</td>
<td></td>
<td>Scope of training required for program administrators.</td>
<td>The jurisdictional span of training requirements and the complexity of the training.</td>
</tr>
<tr>
<td>Stakeholder</td>
<td>Acceptability to provincial and municipal governments.</td>
<td>Alignment with regional rental housing policy goals.</td>
<td>The degree to which jurisdictions can give preference to developments that meet rental housing policy goals in each region.</td>
</tr>
<tr>
<td>Acceptability</td>
<td></td>
<td></td>
<td>The degree to which the program is accessible to many types of developers and/or investors.</td>
</tr>
<tr>
<td></td>
<td>Take-up by housing developers and/or investors</td>
<td>Expected ease of take-up by housing developers and/or investors.</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 8.   Evaluation of Policy Options

8.1.   Option 1: An investable and competitive tax credit for rental housing projects with a minimum proportion of affordable units

8.1.1.   Efficiency

The measure is the number of rental units that will be created, net of rental units that would otherwise have been created. The estimated number of rental units that would be created in the first year of the program is adjusted for population size based on the number LIHTC units put into service in 1988\(^{11}\). Similar to the LIHTC program in the US, the number of units created annually is expected to increase over time. Data from the LIHTC program may overestimate the number of units that would be created in Canada due to the typically larger scale of developments in the US and the more favourable tax treatments. However, data from the early years of the LIHTC program may also underestimate the number of units because the accumulated knowledge and experience from the LIHTC program will enable this policy option to have greater efficiency and stimulate greater interest from the outset of the program.

In the first year of the program approximately 5,500 units are expected to be created. The estimated annual increase in the number of units placed into service is 11% from 2019 to 2028. From 2029 to 2037, tax credits would continue to be claimed but no new units would be placed into service. The estimated total units (affordable and non-affordable) put into service over 11 years is approximately 108,000. Accounting for

\(^{11}\) See Appendix C for descriptions of the calculations for efficiency, equity, and affordability for all three options.
rental units that would have been created without the program, the rental stock is expected to increase by approximately 54,000 units.

8.1.2. Equity

The measure is the number of affordable units that will be created, net of affordable units that would otherwise have been created. On the low end, 30% of units would be designated as affordable. The percentage of affordable units out of total units funded by the LIHTC program has always been well above the minimum requirements, ranging from 79% to 95%. The probability of 30% to 90% of units meeting the affordability requirements is estimated (see Appendix C) and the expected number of affordable units created based on this probability distribution is approximately 70,000. Accounting for affordable units that would have been created otherwise, the stock of affordable units is expected to increase by approximately 52,000 units.

8.1.3. Affordability

The affordability of the option is assessed using three measures. The costs of the program were estimated using HUD (2015) data on the average annual tax credit value for units placed into service in the LIHTC program from 1987 to 1995 and the average proportion of total development costs covered by the LIHTC program found by Cummings and Dipasquale (1999) in a sample of projects during this time period (see Appendix C). The tax credit value in the first year was adjusted according to the percentage of total development costs intended to be funded by Option 1 (15%) and for the change in the real tax credit value over time in the LIHTC program, resulting in an average annual value of $4,300 per unit. It was estimated that the real value of the credit would increase by 3% annually due to increases in development costs. Based on these parameters, the present value of lost tax revenue to the federal government is estimated to be $2.4 billion.
The cost per affordable unit is assessed using the net number of affordable units created and the total present value cost of the program over 20 years. The cost of the program per net affordable unit is approximately $45,000. For a program budget of $1 billion, the net number of affordable units created is approximately 22,000 units.

8.1.4. Administrative Ease

Inter-governmental coordination is assessed by the level of coordination needed between the provincial and federal governments. Option 1 requires a “high” level of coordination because the program is administered fully by the provinces in accordance with the federal guidelines of the program. The second criterion of this objective is the scope of training required for program administrators. Option 1 is designated as “high” because a group of administrators across multiple jurisdictions must undergo training to learn how to allocate tax credits on a competitive basis.

8.1.5. Stakeholder Acceptability

Alignment with regional rental housing policy goals is measured by the degree to which jurisdictions can give preference to developments that meet affordable rental housing policy goals in each region. Option 1 has a “high” level of preference because provinces can set their own criteria for tax credit allocation. The second criterion of expected ease of take-up by housing developers and/or investors is measured by the degree to which the program is accessible to many types of developers and/or investors. Option 1 has a “medium” level of accessibility because developers and/or investors must have a moderate level of expertise to understand and apply for credits, and there are some entry barriers for small developers and investors.
8.2. **Option 2: A per-unit competitive tax credit for affordable units within rental housing projects**

8.2.1. **Efficiency**

The measure is the number of rental units that will be created, net of rental units that would otherwise have been created. In the NRAS program, the number of units actually delivered differed substantially from the intended creation of units under the program. This was largely due to the implementation issues of the program; however, there may have also been an overestimation of how many units could be delivered on a yearly basis. An adjusted number of units was calculated, which is the average of the number of units actually delivered and the number of units intended to be delivered. These values were adjusted for population to estimate the delivery of units for the proposed program in Canada.

In total, it is estimated that 116,000 units would be created between 2018 and 2028, with tax credits continuing to be claimed until 2037. Accounting for rental units that would have been created without the program, the stock of rental units is expected to increase by approximately 58,000.

8.2.2. **Equity**

The measure is the number of affordable units that will be created, net of affordable units that would otherwise have been created. In this program, all of the units funded are affordable units. Therefore, 116,000 affordable units are expected to be created between 2018 and 2028. Accounting for affordable units that would have been created without the program, the stock of affordable units is expected to increase by 87,000.
8.2.3. **Affordability**

The affordability of the option is assessed using three measures. The cost of the program was estimated based on the number of units expected to be created and the annual real value of the credit, set at $6,000. Based on these parameters, the present value of lost tax revenue to the federal government is estimated to be $3.3 billion. The cost of the program per net affordable unit is approximately $38,000. For a program budget of $1 billion, the net number of affordable units created is approximately 26,000 units.

8.2.4. **Administrative Ease**

Inter-governmental coordination is assessed by the level of coordination needed between the provincial and federal governments. Option 2 requires a “medium” level of coordination because the program is administered federally, but the federal government must engage in consultation with provinces in the allocation of credits. The second criterion of this objective is the scope of training required for program administrators. Option 2 is designated as “medium” because administrators are primarily located in a single jurisdiction and must undergo training to learn how to allocate tax credits on a competitive basis.

8.2.5. **Stakeholder Acceptability**

Alignment with regional rental housing policy goals is measured by the degree to which jurisdictions can give preference to developments that meet affordable rental housing policy goals in each region. Option 2 has a “medium” level of preference because provinces can provide input into the allocation of tax credits by the federal government. The second criterion of expected ease of take-up by housing developers and/or investors is measured by the degree to which the program is accessible to many types of developers and/or investors. Option 2 has a “medium” level of accessibility because developers and/or investors must have a moderate level of expertise to
understand and apply for credits, and there are some entry barriers for small developers and investors.

8.3. Option 3: A non-transferable and non-competitive tax credit for rental housing projects with a minimum proportion of affordable units

8.3.1. Efficiency

The measure is the number of rental units that will be created, net of rental units that would otherwise have been created. Data on current RHCTC applications was extrapolated over an 11-year time period based on the anticipated annual budget of the program. Adjusting for the Canadian population, the number of total units created over 10 years is expected to be 127,000. Accounting for rental units that would have been created without the program, the stock of rental units is expected to increase by 63,000 units.

8.3.2. Equity

The measure is the number of affordable units that will be created, net of affordable units that would otherwise have been created. On the low end, 20% of units would be designated as affordable. The percentage of affordable units out of total units potentially funded by the RHCTC program is about 55%. The probability of 20% to 60% of units meeting the affordability requirements is estimated (see Appendix C) and the expected number of affordable units created based on this probability distribution is approximately 52,000. Accounting for affordable units that would have otherwise been created, the increase in the stock of affordable units is expected to be approximately 39,000 units.
8.3.3. Affordability

The affordability of the option is assessed using three measures. In Manitoba, the average value of the tax credit is about $9,800 per unit distributed over 5 years, with a maximum value of $12,000. The same proportion of the maximum tax credit value is used to calculate the average tax credit value of the policy option (82% of $25,000). Therefore, $20,000 divided over 10 years provides an annual average tax credit value of about $2,000. Based on these parameters, the present value of lost tax revenue to the federal government is estimated to be $1.2 billion.

The cost per affordable unit is assessed using the net number of affordable units created and the total present value cost of the program over 20 years. The cost of the program per net affordable unit is approximately $30,000. For a program budget of $1 billion, the net number of affordable units created is approximately 33,000 units.

8.3.4. Administrative Ease

Inter-governmental coordination is assessed by the level of coordination needed between the provincial and federal governments. Option 3 requires a “low” level of coordination because the program is administered federally, and the provinces have a minimal role in the operation of the program. The second criterion of this objective is the scope of training required for program administrators. Option 3 is designated as “low” because administrators must only learn the eligibility requirements of the program.

8.3.5. Stakeholder Acceptability

Alignment with regional rental housing policy goals is measured by the degree to which jurisdictions can give preference given to developments that meet affordable rental housing policy goals in each region. Option 3 has a “low” level of preference because the provinces have no control over the distribution of tax credits once the program is in operation. The second criterion of expected ease of take-up by housing developers and/or investors is measured by the degree to which the program is accessible to many types of
developers and/or investors. Option 3 has a “high” level of accessibility because the program is easy to understand and apply for, and the program is not limited to large developers and investors.

8.4. Summary of Policy Analysis

The three policy options have notable trade-offs in terms of the identified criteria and measures. Option 1, the investable and competitive tax credit, is ranked the highest in regards to alignment with regional rental housing policy goals. The option ranks moderately in terms of the net increase in affordable rental units and the public cost of the program. It scores lowest in regards to the net increase in the overall stock of rental units, cost effectiveness, and administrative complexity due to the high degree of intergovernmental coordination that is required and the complexity and scope of training required for program administrators.

Option 2, the per-unit competitive tax credit, is ranked highest in regards to the net increase in affordable units. This is largely due to the design of the program which only funds affordable units, rather than full rental projects. However, it has the highest public cost, costing nearly three times as much as Option 3. The option scores moderately in terms of cost effectiveness, administrative ease and stakeholder acceptability.

Option 3, the non-transferable and non-competitive tax credit, is ranked highest in regards to the net increase in the overall stock of rental units, the public cost of the program, cost effectiveness, administrative ease, and the expected ease of take-up by housing developers and/or investors. It is ranked lowest in regards to the net increase in affordable rental units and alignment with regional rental housing policy goals.

In ranking the options, a numeric value was attached to each of the measures. “High” and “low” scores were awarded three points when they were positive and one point when they were negative, and “medium” scores were awarded two points. The two cost effectiveness measures are each given a weight of 0.5. All other criteria are weighted...
equally. Although the efficiency and equity criteria are the main desired outcomes of the program, the options are less likely to be successful if they do not score highly in regards to affordability, administrative ease, and stakeholder acceptability. For example, a costly program is less likely to have political and public support, and a program that is difficult to administer will incur higher costs and is less likely to be successful in delivering the anticipated number of units. A program that is not accepted by stakeholders is also less likely to succeed. Moreover, the number of rental units created can be more easily expanded with a cost effective and easily administered program.

Based on the policy analysis summarized in Table 8, Option 1 has 13 points, Option 2 has 16 points, and Option 3 has 20 points. This is one way of assessing the relative merits of the policies; however, consideration is given to the relative impact of the options on each criterion in developing a final recommendation.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Measure</th>
<th>Option #1 (Investable and Competitive)</th>
<th>Option #2 (Per-Unit, Competitive)</th>
<th>Option #3 (Non-transferable, non-competitive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the overall stock of rental units.</td>
<td>Number of rental units that will be created, net of rental units that would otherwise have been created.</td>
<td>54,000 (1)</td>
<td>58,000 (2)</td>
<td>63,000 (3)</td>
</tr>
<tr>
<td>Efficiency Score</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Increase in the stock of affordable rental units for lower income tenants.</td>
<td>Number of affordable units that will be created, net of affordable units that would otherwise have been created.</td>
<td>52,000 (2)</td>
<td>87,000 (3)</td>
<td>39,000 (1)</td>
</tr>
<tr>
<td>Equity Score</td>
<td></td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Public cost of the program.</td>
<td>Present value cost of the program over 20 years.</td>
<td>$2.4 billion (2)</td>
<td>$3.3 billion (1)</td>
<td>$1.2 billion (3)</td>
</tr>
<tr>
<td>Public cost of the program per affordable unit.</td>
<td>Average cost of the program per affordable rental unit that would not have been built otherwise.</td>
<td>$45,000 (.5)</td>
<td>$38,000 (1)</td>
<td>$30,000 (1.5)</td>
</tr>
<tr>
<td>Units created for a set program budget.</td>
<td>Number of new units in the affordable rental housing stock with a program budget of $1 billion.</td>
<td>22,000 (.5)</td>
<td>26,000 (1)</td>
<td>33,000 (1.5)</td>
</tr>
<tr>
<td>Affordability Score</td>
<td></td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Degree of intergovernmental coordination.</td>
<td>Level of coordination between the provincial and federal governments.</td>
<td>High (1)</td>
<td>Medium (2)</td>
<td>Low (3)</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
<td>---------</td>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>Scope of training required for program administrators.</td>
<td>The jurisdictional span of training requirements and the complexity of the training.</td>
<td>High (1)</td>
<td>Medium (2)</td>
<td>Low (3)</td>
</tr>
<tr>
<td>Administrative Ease Score</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Alignment with regional rental housing policy goals.</td>
<td>The degree to which jurisdictions can give preference to developments that meet affordable rental housing policy goals in each region.</td>
<td>High (3)</td>
<td>Medium (2)</td>
<td>Low (1)</td>
</tr>
<tr>
<td>Expected ease of take-up by housing developers and/or investors.</td>
<td>The degree to which the program is accessible to many types of developers and/or investors.</td>
<td>Medium (2)</td>
<td>Medium (2)</td>
<td>High (3)</td>
</tr>
<tr>
<td>Stakeholder Acceptability Score</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>13</td>
<td>16</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

1 The data sources and calculations for all estimations provided in this table are described in Appendix C. Numbers are rounded to reflect that these estimations are approximate values.
Chapter 9. Recommendations

Based on the analysis of policy options presented in Chapter 8, it is recommended that the federal government design and implement a non-transferable and non-competitive tax credit for rental housing projects with a minimum proportion of affordable units. The details of this recommendation and possible modifications to the policy option are discussed, as well as considerations for the implementation of the policy and the limitations of the analysis.

9.1. Recommendation for the Federal Government

It is recommended that the federal government institute a non-transferable and non-competitive tax credit premised on Manitoba’s RHC Tax Credit. The tax credit would be non-refundable for private developers and refundable for non-profit developers. There would be no maximum number of credits; they would be distributed based on compliance with the guidelines of the program. The credits would be allocated per unit in a rental project that has at least 20% affordable units. If there was a desire to increase the number of affordable units created through the program (the criterion on which this option ranked the lowest), then this percentage could be increased to 25% or 30%. The trade-off could be fewer developers and investors interested in the program and the modification would require a larger financial incentive.

The affordability guidelines would require tenants in affordable units to have an income that is 50% to 60% of median income or below, and for rents to fall below 30% of the maximum allowable income. The tax credit would be allocated over a 10-year period and would cover approximately 10% of total development costs up to a maximum of $25,000 per unit. This could be increased in order to address a larger gap in funding,
particularly if the minimum number of affordable units was increased. Given the low public cost of this program compared to other options, an increase in funding per unit should not pose major budgetary constraints.

9.2. Considerations

From the government point of view, there may be concerns that the budget for the tax incentive cannot be capped (Fisher, Interview). This is a key disadvantage of the recommended option that was not captured in the assessment criteria. If this became an issue, the government could increase the stringency of the program requirements after the first year. A pilot project in major municipalities could be beneficial to see how the program works and allow for adjustments as needed (Fisher, Interview). However, having a pilot project would slow the development of rental housing and could potentially impact the confidence of developers and investors in the longevity of the program. Moreover, given that the recommended policy is not highly complex and a similar policy has been implemented on a smaller scale in Manitoba, a pilot project is probably not warranted.

Administrative costs are not captured in the assessment criteria; however, the administrative ease of the program is an indicator of the comparative costs of the options. The recommended option would have the lowest administrative costs due to the lack of competitive selection process. Another aspect which was not captured in the criteria is the political feasibility of the options at the federal level. The recommended option is relatively politically feasible because it is the option with the lowest public cost and can deliver a substantial number of rental units; however, it does not target the creation of affordable units as effectively as the other options. The federal government would have to be committed to a larger budget and a more selective and complex program in order to deliver a larger number of affordable rental units.
The recommended option provides a refundable tax credit to non-profit developers, which is beneficial because it allows them to easily participate in the program. Supporting the non-profit sector is important because they are more likely to serve populations with greater housing need and have a longer-term commitment to sustaining affordable rental housing. However, the private sector can contribute expertise and experience to rental housing development, and have greater capacity to create large-scale risky projects. They may also achieve lower costs because they are motivated by profit. The LIHTC program, with a non-refundable and investable tax credit, requires non-profit organizations to work with the private sector to deliver housing. Programs with a refundable tax credit, such as the NRAS and RHCTC, are more likely to be dominated by non-profit applicants. In order to encourage the participation of the private sector for the recommended option, the government should create a plan and allocate resources to market the scheme to private developers. It is important that the program achieves balance in the distribution of credits to both non-profit and for-profit entities.

The policy analysis offers estimations of the average monetary value of tax credits. However, governments must work with the private and non-profit sectors to determine the financial incentive that is needed to incite the development of rental housing. It is also important to examine how this policy will work in conjunction with provincial and municipal incentives. The federal tax credit could be complemented by similar provincial-level tax credits if additional funds are needed in housing markets with greater affordability problems and higher development costs.

9.3. Conclusion

Currently, there is an insufficient supply of affordable rental housing for low and middle income households in Canada. Although provincial and municipal policies are essential in facilitating the development of rental housing, the federal government must have a central role in addressing this problem. It is a national issue that will continue to have growing social and economic impacts across many regions. Based on an analysis of
three tax credit policy options, a non-transferable and non-competitive tax credit program is recommended. The tax credits would be worth approximately 10% of the total development costs of rental housing projects with at least 20% affordable units. The analysis suggests that this policy would be able to direct more investment into the rental housing market and improve its efficiency and affordability. The limitations of the study can be addressed through a further examination of expected crowd out of unsubsidized rental stock and an analysis of the ideal level of financing to incentivize rental housing development.
References


Appendix A.

Sample Interview Questions

Sample General Questions

1. What is your perspective on the shortage of affordable rental housing in Canada and the strategies that should be used to address this issue?

2. What are the benefits and challenges of the use of tax credit incentives to encourage rental housing development?

3. Could this approach be effective in achieving key goals? (e.g., increase the stock of affordable rental housing).

4. What would be your recommendations for implementing a tax credit program in Canada?

5. Do you view this as a good approach for the federal government to take?

6. What should be the relationship between government and the private/non-profit sector(s) in creating and operating a tax credit program to ensure that it meets its goals?

Sample Tax Credit Program Questions

1. What is the role of the program in supporting the development of affordable rental housing?

2. What are the benefits and challenges of the program?

3. Questions about specific operational aspects of the program.

4. To what extent has the program achieved key goals? (e.g., increase the stock of affordable rental housing).

5. What could have been done differently to improve the design and/or implementation of the program?
Appendix B.

Interview Participants and Recruitment Methodology

Interview participants were primarily obtained through publicly available information found on the internet. A snowball sampling method was also used when contacts or interviewees provided referrals to other stakeholders and experts. Participants were contacted by email with a request to participate in an interview, and were provided with a consent form and an interview schedule. Most interviews were conducted over the telephone, and they were approximately 30 to 45 minutes in length.

Table B1 Interview Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Mitchell</td>
<td>Director</td>
<td>Affordable Housing Consulting</td>
<td>Adelaide, Australia</td>
<td>November 18, 2015</td>
</tr>
<tr>
<td>Mukhtar Latif</td>
<td>Chief Housing Officer</td>
<td>City of Vancouver</td>
<td>Vancouver, BC</td>
<td>December 3, 2015</td>
</tr>
<tr>
<td>Jeff Fisher</td>
<td>Vice President &amp; Senior Policy Advisor</td>
<td>Urban Development Institute</td>
<td>Vancouver, BC</td>
<td>December 4, 2015</td>
</tr>
<tr>
<td>LoriAnn Girvan</td>
<td>Consultant on Community Regeneration, Housing Strategies and Social Finance</td>
<td>LoriAnn Girvan Consulting</td>
<td>Ottawa, ON</td>
<td>December 7, 2015</td>
</tr>
<tr>
<td>Kathy Hogan</td>
<td>Executive Director, UDI Capital Region</td>
<td>Urban Development Institute</td>
<td>Victoria, BC</td>
<td>December 8, 2015</td>
</tr>
<tr>
<td>Beth Stohr</td>
<td>Director of Low-Income Housing Tax Credit Investments</td>
<td>U.S. Bancorp Community Development Corporation</td>
<td>St.Louis, Missouri, USA</td>
<td>December 8, 2015</td>
</tr>
<tr>
<td>Jill Perron</td>
<td>Acting Assistant Deputy Minister</td>
<td>Community Development and Strategic Initiatives, Manitoba Housing and Community Development, Government of Manitoba</td>
<td>Winnipeg, MB</td>
<td>December 21, 2015</td>
</tr>
<tr>
<td>Virginia Holden</td>
<td>Assistant Director of Policy</td>
<td>Housing Policy Branch, Ministry of Natural Gas Development and Minister responsible for Housing, Government of BC</td>
<td>Victoria, BC</td>
<td>January 15, 2016</td>
</tr>
</tbody>
</table>
Appendix C.

Estimations for Efficiency, Equity, and Affordability Criteria

The following appendix explains the estimations for the number of units and affordable units created by implementing each policy option and the approximate cost of each option.

Option 1: An investable and competitive tax credit for rental housing projects with a minimum proportion of affordable units

Calculation of Total Number of Units

The HUD (2015) provides data on the total number of units funded by the LIHTC program from 1987 to 2013, and the total number of affordable units in each project. The database has some missing data; however, it provides a good approximation of the number of units funded by the program (see Table C1).

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of LIHTC Units</th>
<th>Total Number of LIHTC Affordable Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>17596</td>
<td>16253</td>
</tr>
<tr>
<td>1988</td>
<td>37067</td>
<td>34821</td>
</tr>
<tr>
<td>1989</td>
<td>44885</td>
<td>40827</td>
</tr>
<tr>
<td>1990</td>
<td>47211</td>
<td>41512</td>
</tr>
<tr>
<td>1991</td>
<td>49658</td>
<td>45196</td>
</tr>
<tr>
<td>1992</td>
<td>48487</td>
<td>43813</td>
</tr>
<tr>
<td>1993</td>
<td>62017</td>
<td>56858</td>
</tr>
<tr>
<td>1994</td>
<td>68172</td>
<td>64761</td>
</tr>
<tr>
<td>1995</td>
<td>93226</td>
<td>85833</td>
</tr>
<tr>
<td>1996</td>
<td>97223</td>
<td>88529</td>
</tr>
<tr>
<td>1997</td>
<td>94168</td>
<td>82482</td>
</tr>
<tr>
<td>1998</td>
<td>100566</td>
<td>87979</td>
</tr>
</tbody>
</table>

The number of units that would be created with Option 1 in the first year of the program is estimated based on the units created with the LIHTC program in 1988, adjusted for Canada’s population:

The estimated 2018 Canadian population is 36,505,000 based on Statistics Canada projections, according to a low-growth scenario\(^1\). The population of the US in 1988 was about 244,499,000 according to the U.S Census.

It is estimated that there is an 11% increase in the number of units created each year, based on the average increase in the number of units created in the LIHTC program from 1989 to 1998:

\[
\text{Total Number of Units (2019) = Total Number of Units (2018)*1.11}
\]

**Calculation of Total Number of Affordable Units**

The minimum number of affordable units is 30% based on the requirements of the program. The maximum number of affordable units is estimated by the percentage of units created in the LIHTC program that were affordable from 1988 to 1998, approximately 90%. A probability distribution was estimated for the likelihood of 30% to 90% of units being affordable. The likelihood of only 30% of units being affordable is very low because it is a competitive process for the allocation of credits. This program is less likely to achieve 90% affordable than in the US because the amount of the subsidy is lower.

The probability distribution was constructed as follows: 30% affordable units (5% probability), 40% affordable units (10% probability) 50% affordable units (15% probability), 60% affordable units (20% probability), 70% affordable units (20% probability), 80% affordable units (15% probability), 90% affordable units (15% probability).

The number of affordable units was calculated based on the percentage of affordable units and the probability for each year of the program.

\[
\text{Number of Affordable Units (2018) = Total Number of Units (2018)*(0.30*0.05) + Total Number of Units (2018)*(0.40*0.10) + Total Number of Units (2018)*(0.50*0.15) \ldots etc.}
\]

Net Number of Units and Affordable Units

A crowd out rate of 50% is estimated for the net number of new rental units on the market in the long term. A crowd out rate of 25% is estimated for the net number of new affordable rental units on the market in the long term.

\[
\text{Net Number of Units} = \text{Total Number of Units} \times 0.5
\]

\[
\text{Net Number of Affordable Units} = \text{Number of Affordable Units} \times 0.75
\]

Average Annual Tax Credit per Unit

The HUD (2015) provides data on the amount of the annual credit allocation per unit for projects funded by the LIHTC program from 1987 to 2013. These values were converted into real dollars (2013 USD) and averaged for each year. The average real value of credits increased substantially each year, from $3,600 in 1988 to $14,600 in 2013.

Data on tax credit values and total development costs is available from Cummings and Dipasquale (1999) on a sample of projects from 1987 to 1995. According to their data, the total present value of tax credits was equal to, on average, 45% of total development costs. Average annual tax credit values during this time were $5,250. In present value terms, this is $37,400 over 10 years. At 45% of total development costs, average total development costs are approximately $83,000.

The current policy option would cover 15% of total development costs, which would be equal to $12,500 of $83,000 over 10 years, or $1,250 per year. This is approximately one quarter of the value of the LIHTC credit. The value of the credit must also account for real increases in development costs over time. The average tax credit value from 2007 to 2013 was 2.5 times higher compared to the 1987 to 1995 period.

In order to calculate the estimated average value of the credit for the policy option, the $5,250 USD (2013) value was converted to $6,879 CAD (2015). It was then adjusted for the proportion of development costs covered and the estimated increase in the real cost of development:

\[
\text{Average Annual Tax Credit Per Unit (2018)} = \text{LIHTC Average Annual Tax Credit (2015 CAD)} \times \text{Ratio of LIHTC Annual Credit to a Credit worth 15% of Total Development Costs} \times \text{Ratio of Real Credit Value from 2007 to 2013 to Real Credit Value from 1987 to 1995}
\]

\[
\text{Average Annual Tax Credit Per Unit (2018)} = 6,879 \times 0.25 \times 2.5 = 4,300
\]

In subsequent years, the real value of the credit is expected to increase due to increasing development costs. This is estimated at 3% per year, though the actual increase may be more or less.
The cost of the program is calculated by distributing the payments for each unit over 10 years until the final tax credits are claimed in 2037 (see Table C2).

### Table C2 Estimated Number of Units and Costs for Option 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Units</th>
<th>Net Number of Units</th>
<th>Number of Affordable Units</th>
<th>Net Number of Affordable Units</th>
<th>Cost (Tax Credit Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>5,534</td>
<td>2,767</td>
<td>3,576</td>
<td>2,682</td>
<td>$23,794,745</td>
</tr>
<tr>
<td>2019</td>
<td>6,143</td>
<td>3,072</td>
<td>3,970</td>
<td>2,977</td>
<td>$50,999,276</td>
</tr>
<tr>
<td>2020</td>
<td>6,819</td>
<td>3,409</td>
<td>4,406</td>
<td>3,305</td>
<td>$82,102,217</td>
</tr>
<tr>
<td>2021</td>
<td>7,569</td>
<td>3,784</td>
<td>4,891</td>
<td>3,668</td>
<td>$117,662,209</td>
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<tr>
<td>2022</td>
<td>8,401</td>
<td>4,201</td>
<td>5,429</td>
<td>4,072</td>
<td>$158,317,949</td>
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<tr>
<td>2023</td>
<td>9,326</td>
<td>4,663</td>
<td>6,026</td>
<td>4,520</td>
<td>$204,799,655</td>
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<tr>
<td>2024</td>
<td>10,351</td>
<td>5,176</td>
<td>6,689</td>
<td>5,017</td>
<td>$257,942,191</td>
</tr>
<tr>
<td>2025</td>
<td>11,490</td>
<td>5,745</td>
<td>7,425</td>
<td>5,569</td>
<td>$318,700,051</td>
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<tr>
<td>2026</td>
<td>12,754</td>
<td>6,377</td>
<td>8,242</td>
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<td>$388,164,513</td>
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<td>2027</td>
<td>14,157</td>
<td>7,078</td>
<td>9,148</td>
<td>6,861</td>
<td>$467,583,232</td>
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<tr>
<td>2028</td>
<td>15,714</td>
<td>7,857</td>
<td>10,154</td>
<td>7,616</td>
<td>$534,587,910</td>
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<tr>
<td>2029</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$507,383,378</td>
</tr>
<tr>
<td>2030</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$476,280,437</td>
</tr>
<tr>
<td>2031</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$440,720,445</td>
</tr>
<tr>
<td>2032</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$400,064,706</td>
</tr>
<tr>
<td>2033</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$353,582,999</td>
</tr>
<tr>
<td>2034</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$300,440,464</td>
</tr>
<tr>
<td>2035</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$239,682,603</td>
</tr>
<tr>
<td>2036</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$170,218,141</td>
</tr>
<tr>
<td>2037</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$90,799,422</td>
</tr>
<tr>
<td>Total</td>
<td>108,259</td>
<td>54,129</td>
<td>69,956</td>
<td>52,467</td>
<td></td>
</tr>
</tbody>
</table>

**Total Costs and Cost Effectiveness**

The present value cost of the program is calculated using a discount rate of 8%. The cost effectiveness of the program is calculated using the discounted cost and the number of units and affordable units created by the program (see Table C3).
Table C3  Total Costs and Cost Effectiveness of Option 1

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Discounted Cost (r=8%):</td>
<td>$2,373,041,515</td>
</tr>
<tr>
<td>Non-Discounted Cost:</td>
<td>$5,583,826,542</td>
</tr>
<tr>
<td>Cost per unit:</td>
<td>$21,920</td>
</tr>
<tr>
<td>Cost per net unit:</td>
<td>$43,840</td>
</tr>
<tr>
<td>Cost per affordable unit:</td>
<td>$33,922</td>
</tr>
<tr>
<td>Cost per net affordable unit:</td>
<td>$45,229</td>
</tr>
<tr>
<td>Affordable units created for $1 billion budget:</td>
<td>22,110</td>
</tr>
</tbody>
</table>

Option 2: A per-unit competitive tax credit for affordable units within rental housing projects

Calculation of Total Number of Units

The NRAS Quarterly Performance Report (Australia 2015) provides data on the number of affordable units created from 2009 to 2019. The number of units is much lower than the intended creation of 50,000 by 2012 and another 50,000 in subsequent years. The potential number of units that could have been created through the program with improved implementation is estimated by averaging the expected number of units and the actual number of units created. This is calculated over an 11 year period. The expected number of units after 2012 is estimated by dividing 50,000 units over a 7 year period.

Table C4  Number of NRAS Units (Total, Expected, and Potential)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of NRAS Units</th>
<th>Expected Number of NRAS Units</th>
<th>Potential Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>330</td>
<td>3,500</td>
<td>1,915</td>
</tr>
<tr>
<td>2010</td>
<td>1,418</td>
<td>7,500</td>
<td>4,459</td>
</tr>
<tr>
<td>2011</td>
<td>2,092</td>
<td>14,000</td>
<td>8,046</td>
</tr>
<tr>
<td>2012</td>
<td>4,462</td>
<td>25,000</td>
<td>14,731</td>
</tr>
<tr>
<td>2013</td>
<td>5,300</td>
<td>7,143</td>
<td>6,221</td>
</tr>
<tr>
<td>2014</td>
<td>7,930</td>
<td>7,143</td>
<td>7,536</td>
</tr>
<tr>
<td>2015</td>
<td>7,395</td>
<td>7,143</td>
<td>7,269</td>
</tr>
<tr>
<td>2016</td>
<td>4,567</td>
<td>7,143</td>
<td>5,855</td>
</tr>
<tr>
<td>2017</td>
<td>1,296</td>
<td>7,143</td>
<td>4,219</td>
</tr>
<tr>
<td>2018</td>
<td>1,296</td>
<td>7,143</td>
<td>4,219</td>
</tr>
<tr>
<td>2019</td>
<td>1,296</td>
<td>7,143</td>
<td>4,219</td>
</tr>
<tr>
<td>Total</td>
<td>37,382</td>
<td>100,000</td>
<td>68,691</td>
</tr>
</tbody>
</table>
The number of units that would be created in Canada is adjusted by the ratio of the 2018 projected Canadian population to the 2009 Australian population. This calculation is done for each year of the program from 2018 to 2028.

\[
\text{Total Number of Units} = \text{Adjusted Number of NRAS units} \times \left(\frac{\text{Estimated CDN Population 2018}}{\text{AUS Population 2009}}\right)
\]

The estimated 2018 Canadian population is 36,505,000 based on Statistics Canada (2015) projections, according to a low-growth scenario. The population of Australia in 2009 was about 21,692,000 according to the Australian Bureau of Statistics.

**Net Number of Units and Affordable Units**

A crowd out rate of 50% is estimated for the net number of new rental units on the market in the long term. A crowd out rate of 25% is estimated for the net number of new affordable rental units on the market in the long term.

\[
\text{Net Number of Units} = \text{Total Number of Units} \times 0.5
\]
\[
\text{Net Number of Affordable Units} = \text{Total Number of Units} \times 0.75
\]

**Average Annual Tax Credit Per Unit**

The value of the NRAS benefit was $6,000 in the first year of the program and indexed annually according to changes in the Housing Group Consumer Price Index. Therefore, the real value of the credit is structured to remain constant over time.

The annual value of the tax credit for Option 2 is set at $6,000 in the first year. It would be indexed annually with inflation and the real value would be constant over time. Option 2 only funds affordable units, therefore the annual value of the credit is set at a higher value than Option 1. The cost of the program is calculated by distributing the payments for each unit over 10 years until the final tax credits are claimed in 2037 (see Table C5).
Table C5  Estimated Number of Units and Costs for Option 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Units</th>
<th>Net Number of Units</th>
<th>Net Number of Affordable Units</th>
<th>Cost (Tax Credit Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>3,223</td>
<td>1,611</td>
<td>2,417</td>
<td>$19,336,273.74</td>
</tr>
<tr>
<td>2019</td>
<td>7,504</td>
<td>3,752</td>
<td>5,628</td>
<td>$64,360,004.61</td>
</tr>
<tr>
<td>2020</td>
<td>13,540</td>
<td>6,770</td>
<td>10,155</td>
<td>$145,602,646.14</td>
</tr>
<tr>
<td>2021</td>
<td>24,790</td>
<td>12,395</td>
<td>18,593</td>
<td>$294,345,543.52</td>
</tr>
<tr>
<td>2022</td>
<td>10,470</td>
<td>5,235</td>
<td>7,852</td>
<td>$357,164,993.09</td>
</tr>
<tr>
<td>2023</td>
<td>12,683</td>
<td>6,341</td>
<td>9,512</td>
<td>$433,262,353.86</td>
</tr>
<tr>
<td>2024</td>
<td>12,233</td>
<td>6,116</td>
<td>9,175</td>
<td>$506,658,694.68</td>
</tr>
<tr>
<td>2025</td>
<td>9,853</td>
<td>4,927</td>
<td>7,390</td>
<td>$565,777,494.47</td>
</tr>
<tr>
<td>2026</td>
<td>7,101</td>
<td>3,550</td>
<td>5,326</td>
<td>$608,382,207.73</td>
</tr>
<tr>
<td>2027</td>
<td>7,101</td>
<td>3,550</td>
<td>5,326</td>
<td>$650,986,920.98</td>
</tr>
<tr>
<td>2028</td>
<td>7,101</td>
<td>3,550</td>
<td>5,326</td>
<td>$674,255,360.50</td>
</tr>
<tr>
<td>2029</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$629,231,629.63</td>
</tr>
<tr>
<td>2030</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$547,988,988.11</td>
</tr>
<tr>
<td>2031</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$399,246,090.72</td>
</tr>
<tr>
<td>2032</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$336,426,641.16</td>
</tr>
<tr>
<td>2033</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$260,329,280.38</td>
</tr>
<tr>
<td>2034</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$186,932,939.56</td>
</tr>
<tr>
<td>2035</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$127,814,139.78</td>
</tr>
<tr>
<td>2036</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$85,209,426.52</td>
</tr>
<tr>
<td>2037</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$42,604,713.26</td>
</tr>
<tr>
<td>Total</td>
<td>115,599</td>
<td>57,799</td>
<td>86,699</td>
<td></td>
</tr>
</tbody>
</table>

**Total Costs and Cost Effectiveness**

The present value cost of the program is calculated using a discount rate of 8%. The cost effectiveness of the program is calculated using the discounted cost and the number of units and affordable units created by the program (see Table C6).
Table C6  Total Costs and Cost Effectiveness for Option 2

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discounted Cost (r=8%):</td>
<td>$3,298,217,276</td>
</tr>
<tr>
<td>Non-Discounted Cost:</td>
<td>$6,935,916,342</td>
</tr>
<tr>
<td>Cost per unit:</td>
<td>$28,532</td>
</tr>
<tr>
<td>Cost per net unit:</td>
<td>$57,063</td>
</tr>
<tr>
<td>Cost per affordable unit:</td>
<td>$28,532</td>
</tr>
<tr>
<td>Cost per net affordable unit:</td>
<td>$38,042</td>
</tr>
<tr>
<td>Affordable units created for $1 billion</td>
<td>26,287</td>
</tr>
</tbody>
</table>

Option 3: A non-transferable and non-competitive tax credit for rental housing projects with a minimum proportion of affordable units

*Calculation of Total Number of Units*

RHCTC program application data was used from the inception of the program until January 2016. Some of these projects have already received tax credit certificates and some will potentially receive the RHC tax credit. Projects which have been confirmed as program beneficiaries were classified under the year 2015 and the remainder were classified under the year 2016. The pending projects totaled $4.2 million in potential tax credits, close to the anticipated program budget. Assuming a budget of $4.4 million in subsequent years, the number of units created from 2017 to 2025 was estimated with the following formula:

\[
\text{Number of Units (2017 to 2025) = Number of Units (2016) } \times (\frac{$4.4 \text{ million}}{$4.2 \text{ million}})
\]

The total estimated number of RHCTC units and affordable units is provided in Table C7.

Table C7  Number of RHCTC Units

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of RHCTC Units</th>
<th>Total Number of RHCTC Affordable Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>118</td>
<td>70</td>
</tr>
<tr>
<td>2016</td>
<td>419</td>
<td>222</td>
</tr>
<tr>
<td>2017</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2018</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2019</td>
<td>439</td>
<td>222</td>
</tr>
</tbody>
</table>
The number of units that would be created in Canada is adjusted by the ratio of the 2018 projected Canadian population to the population of Manitoba in 2015. This calculation is done for each year of the program from 2018 to 2028.

<table>
<thead>
<tr>
<th>Year</th>
<th>Units</th>
<th>Affordable Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2021</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2022</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2023</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2024</td>
<td>439</td>
<td>222</td>
</tr>
<tr>
<td>2025</td>
<td>439</td>
<td>222</td>
</tr>
</tbody>
</table>

The estimated 2018 Canadian population is 36,505,000 from Statistics Canada (2015) projections, according to a low-growth scenario. The population of Manitoba in 2015 was about 1,293,400 according to Statistics Canada.

**Calculation of Total Number of Affordable Units**

The minimum number of affordable units is 20% based on the requirements of the program. The maximum number of affordable units is estimated by the percentage of units in the RHCTC program that are affordable, approximately 55%. A probability distribution was estimated for the likelihood of 20% to 60% of units being affordable. This program may be able to achieve 60% affordable units because the amount of the subsidy is higher than the RHCTC program.

The probability distribution was constructed as follows: 20% affordable units (10% probability), 30% affordable units (20% probability), 40% affordable units (30% probability), 50% affordable units (30% probability), 60% affordable units (10% probability).

The number of affordable units was calculated based on the percentage of affordable units and the probability for each year of the program.

\[
\text{Number of Affordable Units (2018)} = \text{Total Number of Units (2018)} \times (0.20 \times 0.10) + \text{Total Number of Units (2018)} \times (0.30 \times 0.20) + \text{Total Number of Units (2018)} \times (0.40 \times 0.30) \ldots \text{etc.}
\]
Net Number of Units and Affordable Units

A crowd out rate of 50% is estimated for the net number of new rental units on the market in the long term. A crowd out rate of 25% is estimated for the net number of new affordable rental units on the market in the long term.

\[
\text{Net Number of Units} = \text{Total Number of Units} \times 0.5
\]
\[
\text{Net Number of Affordable Units} = \text{Total Number of Units} \times 0.75
\]

Average Annual Tax Credit Per Unit

The Government of Manitoba has data on the amount of the total tax credit allocation per project for all received applications to date. The average value of tax credits per unit is approximately $9,800. This value is 82% of the maximum value of the tax credits per unit, which is $12,000.

Assuming that the average value of tax credits for the current policy option would be a similar proportion of the maximum value of $25,000, the estimated average tax credit value per unit is $20,400. The maximum value of the credit would be indexed annually with inflation; therefore, the real value of the credit would remain approximately the same. Distributed over 10 years, the average annual value of the tax credit was estimated to be $2,040.

The cost of the program is calculated by distributing the payments for each unit over 10 years until the final tax credits are claimed in 2037 (see Table C8).

Table C8 Estimated Number of Units and Costs for Option 3

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Units</th>
<th>Net Number of Units</th>
<th>Number of Affordable Units</th>
<th>Net Number of Affordable Units</th>
<th>Cost (Tax Credit Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>3,330</td>
<td>1,665</td>
<td>1,380</td>
<td>1,035</td>
<td>$6,788,312.61</td>
</tr>
<tr>
<td>2019</td>
<td>11,826</td>
<td>5,913</td>
<td>4,899</td>
<td>3,674</td>
<td>$30,892,575.20</td>
</tr>
<tr>
<td>2020</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$56,144,659.82</td>
</tr>
<tr>
<td>2021</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$81,396,744.44</td>
</tr>
<tr>
<td>2022</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$106,648,829.06</td>
</tr>
<tr>
<td>2023</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$131,900,913.67</td>
</tr>
<tr>
<td>2024</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$157,152,998.29</td>
</tr>
<tr>
<td>2025</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$182,405,082.91</td>
</tr>
<tr>
<td>2026</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$207,657,167.52</td>
</tr>
</tbody>
</table>
**Total Costs and Cost Effectiveness**

The present value cost of the program is calculated using a discount rate of 8%. The cost effectiveness of the program is calculated using the discounted cost and the number of units and affordable units created by the program (see Table C9).

**Table C9 Total Costs and Cost Effectiveness for Option 3**

<table>
<thead>
<tr>
<th>Year</th>
<th>Affordable Units</th>
<th>Affordable Units</th>
<th>Affordable Units</th>
<th>Affordable Units</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2027</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$232,909,252.14</td>
</tr>
<tr>
<td>2028</td>
<td>12,389</td>
<td>6,195</td>
<td>5,132</td>
<td>3,849</td>
<td>$251,373,024.14</td>
</tr>
<tr>
<td>2029</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$227,268,761.56</td>
</tr>
<tr>
<td>2030</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$202,016,676.94</td>
</tr>
<tr>
<td>2031</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$176,764,592.32</td>
</tr>
<tr>
<td>2032</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$151,512,507.70</td>
</tr>
<tr>
<td>2033</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$126,260,423.09</td>
</tr>
<tr>
<td>2034</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$101,008,338.47</td>
</tr>
<tr>
<td>2035</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$75,756,253.85</td>
</tr>
<tr>
<td>2036</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$50,504,169.23</td>
</tr>
<tr>
<td>2037</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$25,252,084.62</td>
</tr>
<tr>
<td>Total</td>
<td>126,657</td>
<td>63,329</td>
<td>52,465</td>
<td>39,349</td>
<td>$1,175,398,636</td>
</tr>
</tbody>
</table>

Discounted Cost (r=8%): $1,175,398,636
Non-Discounted Cost: $2,581,613,368
Cost per unit: $9,280
Cost per net unit: $18,560
Cost per affordable unit: $22,403
Cost per net affordable unit: $29,871
Affordable units created for $1 billion budget: 33,477