# Defining the Affordability of Housing in Canada

## THE RESEARCH

CMHC commissioned a research project to assess affordability of housing in Canada's ten largest census metropolitan areas (CMAs): St. John's, Halifax, Québec, Montréal, Ottawa, Toronto, Winnipeg, Regina, Calgary and Vancouver. The project was undertaken to provide insight on national and international indicators of shelter affordability as well as paint an illustrative picture of housing affordability across those CMAs using two different methods.

## OVERVIEW

This analysis first looked at a variety of methods used to calculate housing affordability, which generally fall into two approaches—using a minimum income threshold (conventional) and a basic needs threshold (residual income) approach to measure affordability pressures. The analysis compared the median incomes for four different types of households across ten CMAs to affordability thresholds for those households in owned and rented housing. Household types included single adult, single adult with two children, adult couple and adult couple with two children. Household types were assigned to different sized units based on the National Occupancy Standard. New homeowner scenarios assumed a 90% loan-to-value ratio with CMHC mortgage loan insurance.

## FAST FACTS

- A conventional measure of housing affordability is the shelter-cost-to-income ratio, which most commonly sets the affordability threshold at 30% of before-tax household income.
- A basic needs approach subtracts from a household's disposable (that is, after-tax) income the cost of non-shelter necessities, based on the size and composition of the household type. What is left after basic needs constitutes what is available, and therefore affordable, for shelter.
- Statistics Canada's Market Basket Measure approach to estimating affordability thresholds is essentially an application of the residual income methodology.
- Here are some comparisons of renters' housing affordability thresholds using a conventional approach versus a basic needs approach:
  - $35,604 vs. $25,716 for a single adult in Halifax (that is, a single adult household in Halifax with an income below $35,604 would experience housing affordability pressures under a conventional measure, whereas under a basic needs measure, an income below $25,716 would signal housing affordability pressures). Refer to table 1 for a detailed example.
  - $35,392 vs. $40,390 for a single adult with two children in Montréal.
  - $50,272 vs. $53,775 for an adult couple in Toronto.
  - $59,998 vs. $60,762 for a family of two adults with two children in Vancouver.

### What is an affordability threshold?

A minimum income that a household would need to cover shelter costs, taxes and basic needs in their area.

### What is a market basket measure (MBM)?

It is a basket of goods and services representing a modest, basic standard of living for a reference family. It includes food, clothing, shelter, transportation and other expenses.

In addition to the items included in the Market Basket Measure, non-shelter necessities in this analysis also include:

- Canada Pension Plan (CPP)/Quebec Pension Plan (QPP) contributions
- Employment Insurance contributions

## KEY FINDINGS

- Both the conventional method and basic needs method identify affordability pressures for single adults and lone-parent households across several Canadian CMAs.
- Lone parents with two children face affordability challenges; the conventional affordability threshold exceeds basic needs thresholds in eight CMAs, while the basic needs income threshold exceeds median income in two CMAs for these households (figure 1).
- The conventional affordability threshold exceeds median income as well as basic needs threshold in five CMAs for single adult households (figure 2).
- The conventional affordability threshold for a single parent with two children living in a two-bedroom or a three-bedroom apartment exceeds the median before-tax income in six of the ten CMAs (figure 3).

- Generally, the results of the analysis suggest that affordability thresholds estimated using the basic needs methodology tend to be lower than the thresholds estimated when the conventional 30% norm is applied. However, household type makes a difference. Affordability thresholds estimated using the residual income methodology are lower than when the conventional 30% norm is applied for single adult renter households but higher for couple renter households.
- In general, the basic needs method suggests less pervasive affordability problems for new home buyers. For a single adult with two children, in five of the ten CMAs, the basic needs threshold is lower than the median income for that household type (figure 4).

**Illustrative example of Conventional and Basic needs thresholds for a single adult renting a bachelor unit in St. John's, 2015.**

**Table 1:** Conventional and Basic needs thresholds for a single adult renting a bachelor unit in St. John's, 2015

| | Conventional | Basic needs |
|---|---|---|
| Annual shelter cost* | $10,562 | $10,562 |
| Non-shelter necessities | - | $13,321 |
| Imputed income taxes | - | $878 |
| Affordability threshold (AT)** | $35,207 | $24,761 |
| Pre-tax median income (MI) | $34,696 | $34,696 |
| Ratio (AT/MI)*** | 101% | 71% |

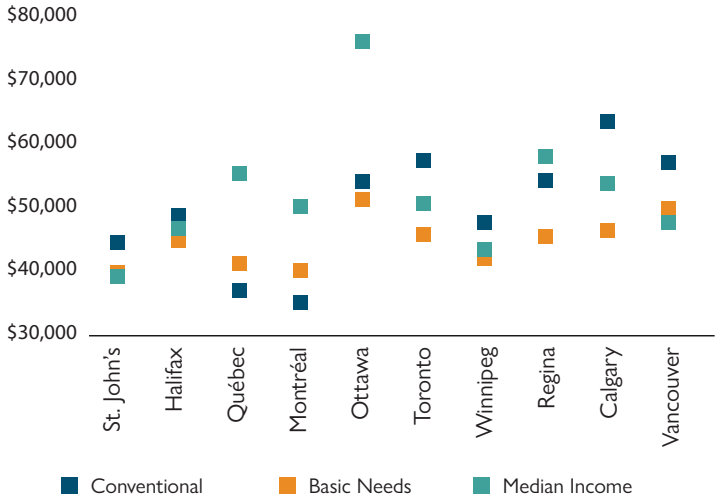
*Annual shelter cost represents the sum of median rents, insurance and utilities.

**For conventional, it equals the annual shelter cost divided by 30% ($10,562/0.3 = $35,207), for basic needs, it is the sum of the annual shelter cost, non-shelter necessities and imputed taxes.

***A ratio above 100% represents affordability pressures ((for conventional $35,207/$34,696 = 1.01, for basic needs $24,761/$34,696 = 0.71).

**This figure illustrates affordability thresholds under the two measures relative to median income. For example, median income falls somewhere between the two thresholds in Halifax whereas median income in Vancouver is below both affordability thresholds. For this demographic, it can be noted that in four CMAs (Quebec city, Montréal, Ottawa and Regina) the median income is above both affordability thresholds.**

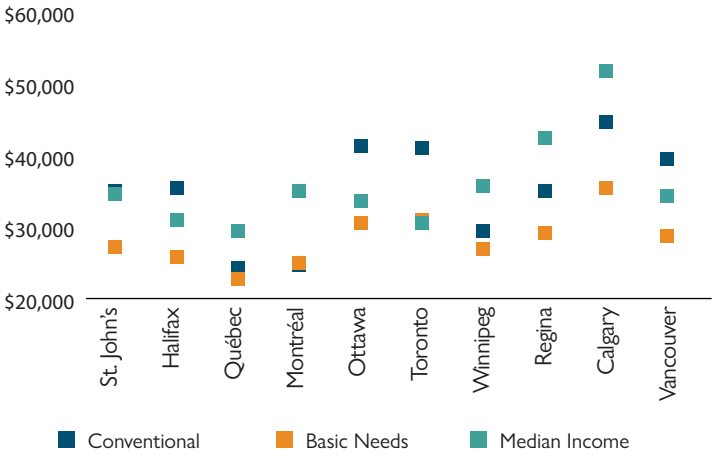
**Figure 1:** Comparison of affordability thresholds and pre-tax median incomes for a renter household (adult with two children) by CMA, 2015




Source: Prism Economics and Analysis

Comparison of affordability thresholds and pre-tax median incomes for a renter household (single adult) by CMA, 2015. This figure illustrates affordability thresholds under the two measures relative to median income. For this demographic, it can be noted that in five CMAs (Québec, Montréal, Winnipeg, Regina and Calgary) the median income is above both affordability thresholds.

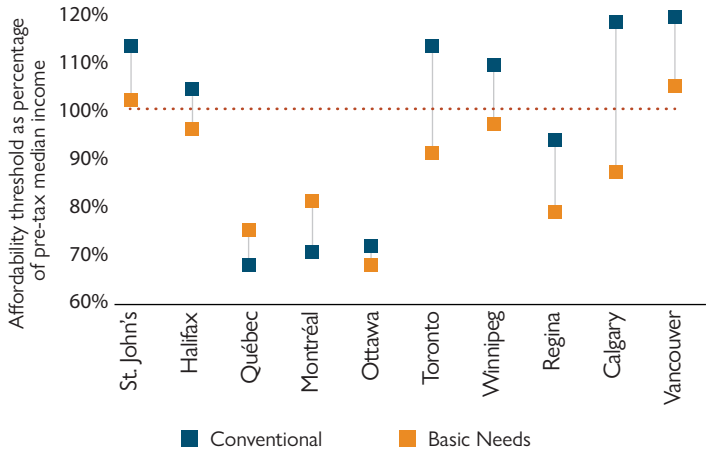
**Figure 2:** Comparison of affordability thresholds and pre-tax median incomes for a renter household (single adult) by CMA, 2015




Source: Prism Economics and Analysis

Both thresholds demonstrate affordability challenges for this household type in St. John's and Vancouver. Halifax, Toronto, Winnipeg and Calgary show affordability pressures only under the conventional measure.

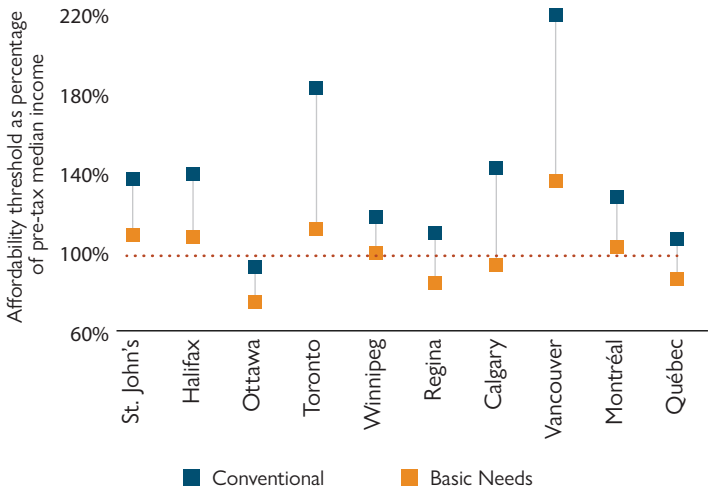
**Figure 3:** Comparison of affordability thresholds as a percentage of median income for a renter household (adult with two children) by CMA, 2015




Source: Prism Economics and Analysis

Ottawa is the only CMA where neither measure indicates affordability pressure for this household type. Basic needs measure displays affordability pressures for this household type in five CMAs.

**Figure 4:** Comparison of affordability thresholds as a percentage of median income for new homeowner households (adult with two children) by CMA, 2015




Source: Prism Economics and Analysis

## IMPLICATIONS

CMHC defines "acceptable housing" as housing that is *adequate* in condition, *suitable* in size and *affordable*, and uses a conventional method for measuring housing affordability. A household whose shelter falls short of any of these *three* standards *and* for whom there is no available housing that would be acceptable is deemed to be in "core housing need." CMHC's measure of core housing need is important both as an estimate of the number of households with unmet housing needs and as a measure of the trend in unmet housing needs over time.

This analysis illustrates how different pictures of affordability conditions are presented whether one uses a conventional or basic needs method. The extent of affordability pressures varies by household types and tenures depending on which affordability measure is used. While some commonalities exist between shelter affordability pressures identified by each measure, each approach has strengths and weaknesses.

The conventional measure has several strengths. It is comparatively straightforward to calculate and easy to understand; uses current income and expenditure data and thus does not require the use of price deflators to construct a time series; it is based on actual, observed behaviour; it is widely used by other jurisdictions and other statistical authorities; and data sources to compute the ratio

are available on a comparatively current basis. Similarly, there are some criticisms of this approach such that it does not take account of the differences in household income, size and composition; after-tax income maybe more appropriate than before-tax income as a ratio denominator; and it does not take adequate account of substitution effects.

The basic needs method can be more efficient in identifying the types of households that are subject to affordability pressures and the nature of those pressures (non-shelter necessities such as food, childcare costs, etc.). The principal challenge in applying the residual income approach is determining the basket of goods and services that comprise "necessities." An important weakness in the residual income approach is that the definition of necessities is intrinsically normative. A second weakness of the residual income approach is that it is not well suited to homeowners.

The findings also suggest that the basic needs methodology may be more relevant for analyzing affordability pressures that arise in the bottom half of the income distribution, and for analyzing affordability among renters. Given limited public funds, an indicator that offers a refined appreciation of pressure points (region, household type, size, income level, tenure type, etc.) can help governments achieve better policy outcomes via a targeted approach.

It is important to highlight that neither the conventional nor the basic needs approach take sufficient account of the role debt and savings have in determining a household's affordability threshold. Both approaches to measuring affordability pressure take income as the denominator. This is particularly important to understand because, as the population ages, savings will play a more important role in financing shelter costs.

## FURTHER READING

Full report – *Defining the Affordability of Housing in Canada* (https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/archive/research_2/defining_affordability_of-housing-in-canada.pdf)

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# ALTERNATIVE TEXT AND DATA FOR FIGURES

Figure 1: Comparison of affordability thresholds and pre-tax median incomes for a renter household (adult with two children) by CMA, 2015

| CMA | Conventional | Basic Needs | Median Income |
|---|---|---|---|
| St. John's | $44,672 | $43,146 | $39,486 |
| Halifax | $48,769 | $44,990 | $46,776 |
| Québec | $37,362 | $41,446 | $55,089 |
| Montréal | $35,392 | $40,390 | $50,075 |
| Ottawa | $53,927 | $51,192 | $75,305 |
| Toronto | $57,167 | $45,801 | $50,622 |
| Winnipeg | $47,676 | $42,185 | $43,571 |
| Regina | $54,068 | $45,511 | $57,779 |
| Calgary | $63,089 | $48,311 | $53,676 |
| Vancouver | $56,825 | $49,850 | $47,660 |

Source: Prism Economics and Analysis

Figure 2: Comparison of affordability thresholds and pre-tax median incomes for a renter household (single adult) by CMA, 2015

| CMA | Conventional | Basic Needs | Median Income |
|---|---|---|---|
| St. John's | $35,209 | $24,761 | $34,696 |
| Halifax | $35,604 | $25,716 | $31,174 |
| Québec | $24,504 | $23,014 | $29,486 |
| Montréal | $24,718 | $25,208 | $35,174 |
| Ottawa | $41,327 | $30,663 | $33,816 |
| Toronto | $41,178 | $31,072 | $30,702 |
| Winnipeg | $29,519 | $26,900 | $35,769 |
| Regina | $35,133 | $29,286 | $42,738 |
| Calgary | $44,932 | $35,486 | $51,795 |
| Vancouver | $39,669 | $28,766 | $34,303 |

Source: Prism Economics and Analysis

Figure 3: Comparison of Conventional and Basic Needs thresholds as a percentage of median income for a renter household (adult with two children) by CMA, 2015

| CMA | Conventional | Basic Needs |
|---|---|---|
| St. John's | 113% | 109% |
| Halifax | 104% | 96% |
| Québec | 68% | 75% |
| Montréal | 71% | 81% |
| Ottawa | 72% | 68% |
| Toronto | 113% | 91% |
| Winnipeg | 109% | 97% |
| Regina | 94% | 79% |
| Calgary | 121% | 92% |
| Vancouver | 119% | 105% |

Source: Prism Economics and Analysis

Figure 4: Comparison of Conventional and Basic Needs thresholds as a percentage of median income for new homeowner households (adult with two children) by CMA, 2015

| CMA | Conventional | Basic Needs |
|---|---|---|
| St. John's | 136% | 116% |
| Halifax | 139% | 107% |
| Ottawa | 92% | 74% |
| Toronto | 182% | 111% |
| Winnipeg | 117% | 99% |
| Regina | 109% | 84% |
| Calgary | 142% | 99% |
| Vancouver | 219% | 135% |
| Montréal | 127% | 102% |
| Québec | 106% | 86% |

Source: Prism Economics and Analysis