New Rental Data to Assess Housing Needs

CMHC is continually exploring new data sources to fulfil data gaps and improve measures and indicators related to the housing market. The core housing need (CHN) indicator is a widely used measure of the incidence of housing needs in Canada. It has certain limitations and one among them is data availability (for example, rental data used for core need income thresholds covers only purpose-built structures). In this work, we examine the CHN indicator using a new source of rental data, which covers not only the primary but also the secondary rental market. In particular, we use Census 2016 rental data for households who recently moved to their current place of residence. Results using census rents indicate that the incidence of CHN is, on average, about 10% (in some cases 18% to 24%) higher in major cities (Montréal, Toronto, Vancouver) than when CHN is estimated using the Rental Market Survey rents.

1. Core housing need (CHN) as an indicator for housing needs

Canada's National Housing Strategy (NHS), the $70+ billion, 10-year plan will strengthen the middle class, cut chronic homelessness in half and fuel our economy. Most importantly, it will give more Canadians across the country a place to call home. Canada Mortgage and Housing Corporation (CMHC) leads the implementation of the NHS programs and works with key partners to maximize results for Canadians.

One of the priority areas of the NHS is to support households, especially renter households, which currently face housing affordability challenges. In order to target this support well and measure progress accurately, CMHC needs access to data to create accurate and timely indicators and metrics.

There are several measures used to quantify housing needs. However, these measures have some limitations and gaps. For example, during the National Housing Conference hosted by CMHC in 2018, participants raised concerns about data gaps in the rental market. Measuring this market in terms of degree of affordability and market conditions is crucial to fulfilling the NHS objectives and maximizing the impact of housing policies. This is why CMHC has dedicated much time and

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effort to develop/adjust existing measures.[1] In this report, we explore the use of census data, as opposed to the Rental Market Survey (RMS) data, to assess the measurement of a key statistic used to identify households facing housing issues: the core housing need indicator.

1.1 Definition of the CHN indicator

CMHC has been researching and publishing data around core housing need since the 1980s. CMHC developed the indicator, and then refined it through a joint effort with Statistics Canada and other federal partners, as well as the provincial and territorial partners. A household in core housing need is one whose dwelling is unsuitable, inadequate and/or unaffordable and whose income levels are such that they could not afford alternative suitable and adequate housing in their community.[2]

Core housing need is a two-stage indicator that helps to identify who needs housing assistance.

Stage 1: A household is considered to be in core housing need if its housing is unacceptable (does not meet one or more of the adequacy, suitability or affordability standards)

1. Adequate housing: Housing that does not need any major repairs as reported by residents is adequate housing. Major repairs include defective plumbing or electrical wiring, or structural repairs to walls, floors or ceilings.

2. Suitable housing: Suitable housing makes sure that there are enough bedrooms for the size and makeup of resident households, according to the National Occupancy Standard (NOS).

3. Affordable housing: Housing that has shelter costs equal to or less than 30% of total before-tax household income is considered affordable housing.

Stage 2: A household whose housing is unacceptable is considered to be in core housing need if acceptable alternative housing in the community would cost 30% or more of its before-tax income.

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[1] For example, housing hardship concept, https://www.cmhc-schl.gc.ca/en/data-and-research/publications-and-reports/research-insight-introducing-housing-hardship-concept

[2] CHN definition: https://www.cmhc-schl.gc.ca/en/data-and-research/core-housing-need/calculating-core-housing-need

1.2 The measure of the cost of an acceptable alternative

As mentioned above, to establish stage 2, we compare the household total before-tax income with the Core Need Income Thresholds (CNITs) for the place of the household's residence. The CNITs is the income level at which the shelter cost[3] (the cost of an acceptable alternative[4] using median rent or carrying cost of newly constructed home) in the neighborhood[5] is less than 30% of that income. A commonly used source of data for median market rents is CMHC's Rental Market Survey (RMS).

2. Current rental data sources

2.1 The Rental Market Survey (RMS)

Strengths of the RMS data for calculating CNITs

CMHC's RMS is an annual survey that covers the primary rental market, which consists of purpose-built rental buildings.[6] It provides confidence that the results are representative of the entire stock in the primary rental market. No other readily available data source has better coverage of the primary rental market and frequency than the RMS. The survey allows us to estimate median/average rents as well as market vacancy rates. CMHC and Statistics Canada has used the RMS as a reasonable surrogate to calculate CNITs for many years. Nevertheless, as new data becomes available, it is worthwhile examining if we can improve the measure of CNITs.

Limitations of the RMS data for calculating CNITs

Using the RMS to estimate the shelter costs of alternative housing in the CHN measure and other affordability indicators may lead to conclusions that may not represent a complete understanding of the situation. We attribute these biases to the three following factors:

- **Does not cover secondary market:** If the secondary market is a relatively big part of the rental market, then it is a significant limitation in obtaining a full picture of the Canadian rental market. The distinction between rental units in the primary and secondary markets is important because these markets tend to be different in size and location, and rents generally vary within and between them (see table 2).

- **Includes currently unavailable (occupied) units:** The RMS rental data used for calculating CNITs generally comes from the rents recorded for both occupied and vacant units. Rents for occupied units, especially in high-priced markets with low vacancy rates, tend to be legacy rents set many years ago, and may not reflect (usually underestimate) the cost of available rental units. If these long rented units become available, the rents tend to be instantly increased to reflect current market conditions. The impact of this issue on the data also varies by jurisdiction depending on the presence and scope of the rent control rules. While the data collected in the RMS could allow us to isolate vacant units and measure their rents, there are usually a limited number of units available at the time of the survey (often less than 2% of the surveyed units in tight markets). This makes the measure highly volatile and dependent on the type of units available at that specific time.

- **Limited geographic precision:** Using cities (CMAs, CAs and some CSDs) that vary considerably in size as the geographic units could be inappropriate. For example, in a large city, for a renter who lives near their work in the west side of the city, the rent of a similar unit in the east side may not be relevant if transportation time and costs are prohibitive. In such a case, the median market rent of the entire city may not represent the true alternative rent available to the renter; it would lead to a biased measure of their CHN status.

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3   Shelter costs are estimated based on median market rents.

4   The cost of an acceptable alternative: 1.Using the median rent of rental units with the number of bedrooms the household requires. This happens where market rents can be estimated. 2. When we can't estimate market rents, we use the cost of acceptable local housing. We calculate this by using the estimated monthly carrying cost of a newly constructed home with the number of bedrooms the household requires.

5   The cost of an acceptable alternative: 1.Using the median rent of rental units with the number of bedrooms the household requires. This happens where market rents can be estimated. 2. When we can't estimate market rents, we use the cost of acceptable local housing. We calculate this by using the estimated monthly carrying cost of a newly constructed home with the number of bedrooms the household requires.

6   The RMS targets only privately initiated structures with at least three rental units. https://www03.cmhc-schl.gc.ca/hmip-pimh/en/TableMapChart/RmsMethodology.

2.2 The Condominium Apartment Survey (CAS)

In addition to the RMS, CMHC conducts an annual Condominium Apartment Survey[7] that covers available units and the rents of rented units. Building managers and/or condominium board members answer the survey. While this would provide additional data to estimate rents for part of the secondary rental market, we continue to face a gap as it covers only condominium buildings, leaving aside many other types of secondary market units.

3. Potential new data: Census 2016

In theory, we should estimate CNITs and CHN based on data meeting the following criteria:

• covers both primary and secondary rental markets;

• represents rents of available (or recently rented) units;

• is available at fine geographic levels; and

• is high frequency data.

Census data fills some gaps. While there is no readily available source for such data that satisfies all of these criteria, data from the 2016 long-form census shows how we can fill some gaps. Using data on rental shelter costs[8] of recent movers allows us to generate rent estimates aligned with concurrent market rents at a granular geographical level. We use this proxy data to show how much CHN incidence is understated when we omit data from the secondary rental market and the lack of sufficient data on the rents of currently available units. In particular, to estimate CNITs, we use data for renters who moved within one year of completing the census. We expect this limitation of one year to be more representative of current market prices.[9] To better reflect market rents, we exclude rents for households that resided in subsidized housing.[10]

Despite the census allowing us to use lower geographic level data, we still stick to the CSD level rental data to preserve the methodology of estimating CNITs using the RMS. Therefore, the difference comes only from rents and not from the level of geographic aggregation. We then compare census data to the RMS data for the same year. This is discussed below.

3.1 Comparing shares of the primary market and secondary market

If most of the rental units are in the primary rental market, omitting the secondary market should not significantly bias rent estimates. To assess the share of the primary market, we used the count of census private households who live in non-subsidized rental units to represent the entire rental market.[11] Next, we computed the share of the primary market as the ratio of the purpose-built rental units from the RMS to the census renter household count. We calculated this ratio for all census tracts (CTs) for four census subdivisions (CSDs): Vancouver, Montréal, Toronto and Calgary (see figure 1).

Results

Two things become obvious:

• The RMS barely covers CTs that are located outside of the downtown cores. This may reflect the fact that suburban zoning regulations largely favour single-detached, row and other attached low-rise housing and restrict larger rental projects to specific areas, and the few units presented were probably suppressed for confidentiality reasons.

• Even in the downtown cores, shares of the primary market in many CTs are well below 50%; except in Montréal, which is a very different rental market and where almost all CTs have a primary market share above 70%.

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7 https://www.cmhc-schl.gc.ca/en/data-and-research/data-tables/condominium-apartment-survey-non-resident-ownership-rate

8 In data from the RMS and Census 2016, shelter costs for renter households include, where applicable, the rent and the costs of electricity, heat, water and other municipal services.

9 We acknowledge that in some cases alternative arrangements can exist (for example subleasing) so that rent does not adjust/increase significantly after new residents move in.

10 Note that the data is at the household level. However, a small proportion of households contain more than one economic/census family. We drop these households from our calculations. This is because one of the families in the said multi-family household may be renting from another family in that household (for example, renting a basement) and identifying who pays whom and how much is difficult.

11 For this analysis we used all renters not just those who recently moved in.

3.2 Comparing rents between primary and secondary rental markets

We then looked at whether the price of units in the primary rental market, measured in the RMS, were representative of prices found in the secondary rental market. If the prices of units are similar, then partial coverage of the rental market may not be such an issue, that is, the RMS data would be representative of the entire rental market. To perform this comparison, we used census data by dwelling type to separate rental units into two categories:

- Primary rental market: apartments (purpose-built), which we use as a proxy for all purpose-built units; and

- Secondary rental market: all other rental types, which we assume to be representative of the secondary market.[12]

We calculated the median rents for units with 0, 1, 2, 3 and 4+ bedrooms separately across various census subdivisions (CSDs) (see table 2).

Results

In all selected CSDs, we find that median rents of the units in the secondary market are generally higher than rents for units typically found in the primary market. In some CSDs, such as Toronto, the difference is more significant for smaller units than for bigger units. This implies that the structures of the secondary and primary markets are different across CSDs. We identified that measuring only the primary market tends to underestimate median rents in the overall rental market. Thus, we suspect that CHN may also be underestimated.

3.3 Comparing CHN using Census 2016 versus using the RMS

To preserve the methodology of estimating CNITs using the RMS, we used census data for median rents at the CSD level.

Results

When using the census rents data for CNITs, we observe more CHN than when using the RMS rents. Many CTs had 10% to 30% more households in CHN (figure 2). The three largest CSDs also showed more households in CHN: Toronto (48,000 more), Montréal (20,000 more) and Vancouver (12,000 more) (see table 3).

We find a small and positive correlation, 0.1271, between the share of the primary market and the gap in the CHN measures of CTs. In other words, the underestimation of CHN tends to be more significant when using the RMS data in areas where the secondary rental market accounts for a larger share of the total rental market. One potential factor driving this finding is that areas where the secondary market is predominant will also see a large variation in the types of rental dwellings. For example, the suburbs' secondary rental markets tend to include bedrooms, basements or suites within a single-family home, or apartments in multiplexes, while downtown secondary rental markets tend to be composed of condominium apartments (which may be luxurious or fully furnished), which come with higher rents.

4. Limitations of using census rental data

While using census rental data allows us to overcome some of the limitations in the RMS data, it also has some drawbacks. It is currently only available in census years. This is an important limitation, especially as we hope to develop measures of rents that are timelier and allow us to support responsive policy. The low frequency of the data limits our ability to assess whether changes are part of trends or are simply the result of timing with the census periods. One more issue is this measure relies on the long form of the census, which is only completed by 25% of all households.

Table 1 in appendix B gives an overview of the strengths and limitations of using both the RMS and census data to assess CHN. The gaps and limitations indicate how CHN may continue to be underestimated.

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12 Structural type of dwellings: https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/001/98-500-x2016001-eng.cfm

5. Conclusion

The Rental Market Survey (RMS) is a critical source of data that is used by CMHC, policy makers, industry and Canadians for making decision on housing. It provides reliable and consistent information on many key indicators of the conditions in the rental market, such as rents and vacancy rates. It provides information on the entire stock of purpose-built rental buildings in Canada. Many affordable housing initiatives rely on the RMS to evaluate needs and impacts.

When assessing the broader issue of housing affordability in Canada, however, the RMS has limitations, such as limited geographic precision, omission of the secondary rental market and the use of rents for occupied units that are unrepresentative of the market conditions for households who need a home at current prices.

Using the census median rents, we find that the number of households in CHN may be higher than current estimation using the RMS data. This is especially true for areas where the secondary market accounts for a large share of the rental supply, such as areas around downtown Vancouver. The low frequency of this alternative source and some of the assumptions needed to develop the measure limit its usability as an ongoing measure of affordability issues. Nevertheless, it exposes the importance to develop the right data necessary to identify Canadians who face housing challenges, and we will continue to explore new data toward the ideal requirements to inform policies, and assess the effectiveness of the various programs aiming at developing an efficient rental market in Canada.

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Appendix A: List of Acronyms

Acronym	Definition
CA	Census agglomeration
CAS	Condominium Apartment Survey (CMHC)
CHN	Core housing need
CMA	**Census metropolitan areas:** Area consisting of one or more neighbouring municipalities situated around a core. A census metropolitan area must have a total population of at least 100,000 of which 50,000 or more live in the core. Canada has 35 CMAs (2016 Census).
CMHC	Canada Mortgage and Housing Corporation
CNITs	Core Need Income Thresholds
CSD	**Census subdivision:** The general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories). (Source: https://www150.statcan.gc.ca/n1/pub/92-637-g/2011001/2011005-eng.htm#L9)
CT	**Census tract:** A small, relatively stable geographic area that usually has a population between 2,500 and 8,000 persons. They are located in census metropolitan areas and in census agglomerations that had a core population of 50,000 or more in the previous census.
NHS	National Housing Strategy
RMS	Rental Market Survey (CMHC)
RRM	Rent for recent movers

Appendix B: Figures and Tables

Figure 1: Share of primary rental market in Canada's four largest CSDs
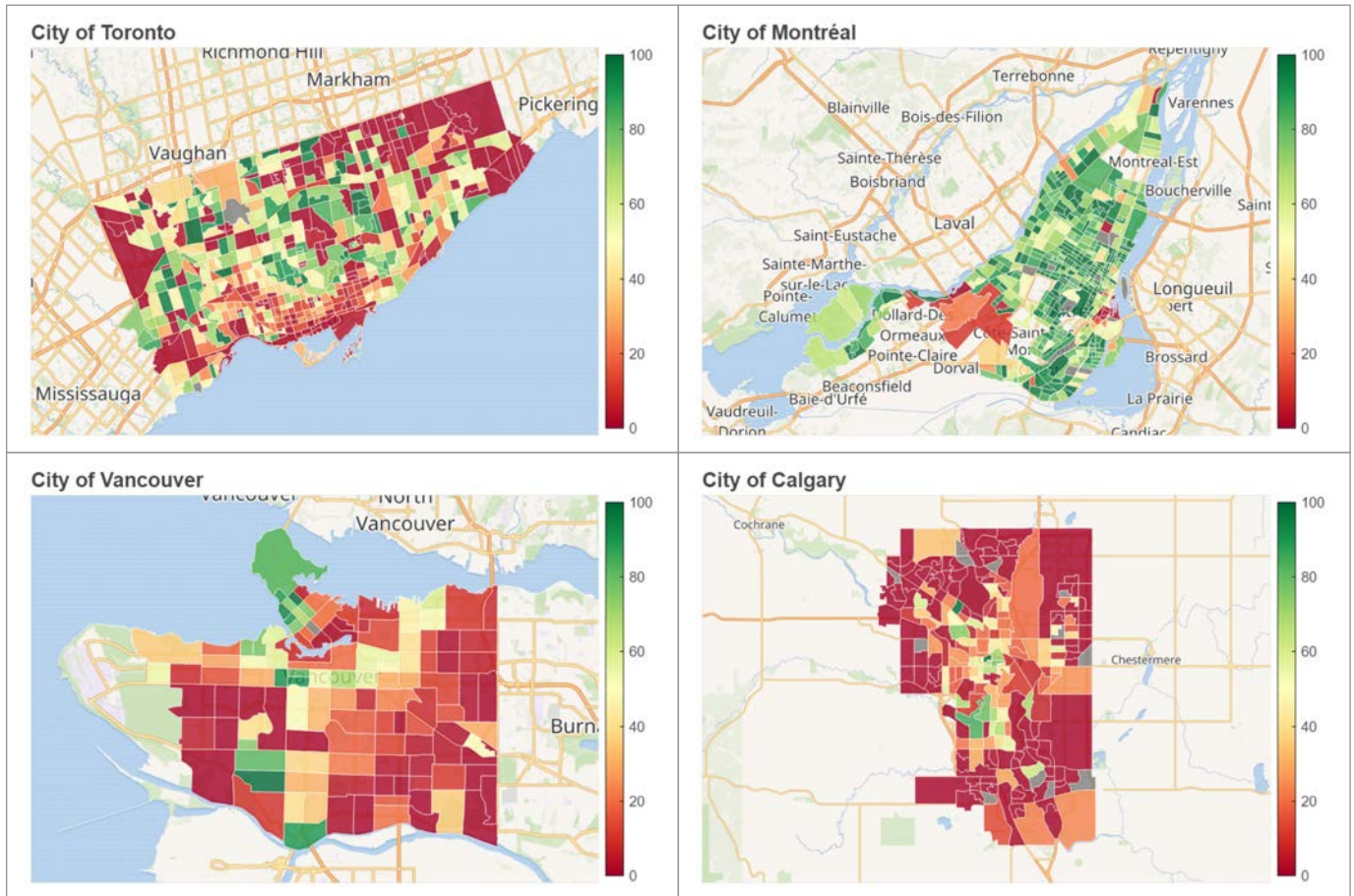
Source: Rental Market Survey (RMS) 2016 and Statistics Canada, Census of population, 2016

Notes: RMS share (CT) = RMS universe / Number of renter households in Census 2016.

For areas where RMS does not cover due to either no records or confidential suppression, we simply assign zero to the RMS counts.

Figure 2: Percentage difference of CHN using census median rents versus RMS median rents
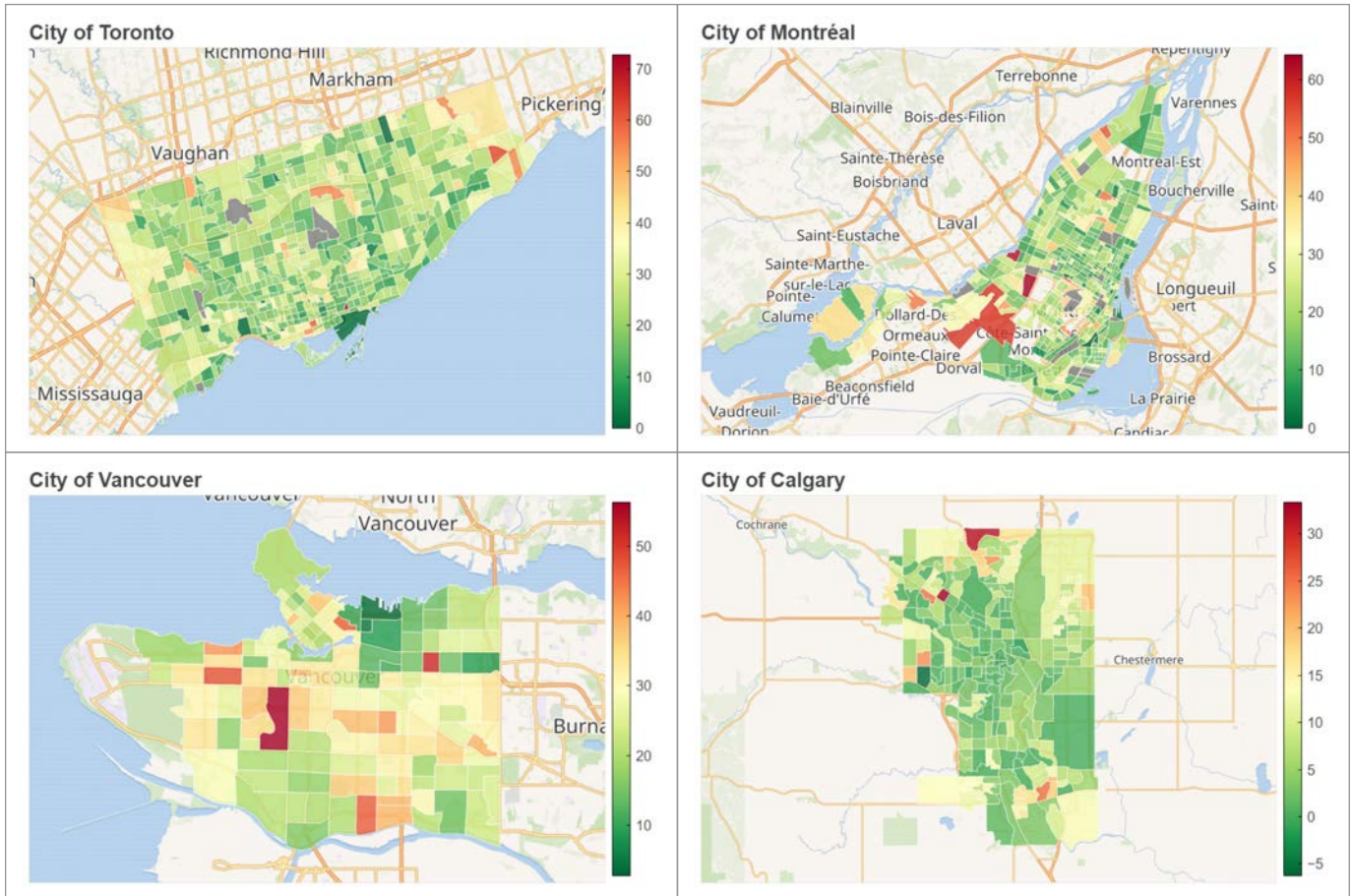
Source: Statistics Canada, Census of population, 2016

Notes: % Diff. of CHN (CT) = (CHN_RRM – CHN_RMS) / CHN_RMS

CHN_RRM means number of households in CHN using census recent movers (move within last year) gross rent for CNITs.

CHN_RMS means original number of households in CHN using RMS rent for CNITs, which is already derived in Census 2016.

Table 1: Data attributes for assessing affordability for CHN

Data source	Market	Strengths	Limitations
RMS (CMHC): **The Rental Market Survey covers purpose-built rental buildings with at least three rental units; excludes subsidized units.**	Primary[1]	• Covers all rents • Can isolate vacant and occupied	• Data available on annual basis only • Usually only a few units available at the time of survey so isolating vacant and occupied not relevant. • In high-priced housing markets, unit rents may be legacy rents due to slow turnover; impact varies by jurisdictional rules on rent control • Limited geographic precision
	Secondary[2]	-	• Does not cover this market. In areas where this market has a larger share than the primary market, the RMS median rent may differ significantly from the median rent of the entire market.
CAS (CMHC): **The Condominium Apartment Survey; excludes subsidized units. (not currently used to measure CNITs)**	Primary	-	• Does not cover this market.
	Secondary	• Covers both vacant and occupied condominiums	• Covers only a portion (condominiums) of this market.
Census 2016: **Section of the long form census; excludes subsidized units.**	Primary	• Covers all rents. Shelter cost is available at fine geographic levels. • Recent mover flag to represent the more recent rents.	• Limited to census years. • Relies on the long form of the census, so covers only 25% of households
	Secondary	• Covers all rents. Shelter cost is available at fine geographic levels. • Recent mover flag to represent the more recent rents.	-

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[1] Primary rental market: purpose-built rental buildings with at least three rental units.

[2] Secondary market: Non-purpose-built units; includes basements of detached homes, duplexes, triplexes, condominium apartments, single-family homes, townhouses, etc.

Table 2: Median rents and percentage difference between dwelling types (number of rooms), by CSD

CSD	0 Bedroom		1 Bedroom		2 Bedrooms		3 Bedrooms		4+ Bedrooms	
(Median Rent)	Apt. ($)	Others (+ %)	Apt. ($)	Others (+ %)	Apt. ($)	Others (+ %)	Apt. ($)	Others (+ %)	Apt. ($)	Others (+ %)
Québec	525	28.6	655	20.2	805	22.4	942	13.2	1,200	9.3
Montréal	625	20.0	720	29.6	878	25.3	1,045	19.6	1,500	11.7
Ottawa	852	10.9	995	36.0	1,204	20.4	1,383	16.4	1,600	15.0
Toronto	1,000	40.0	1,150	41.9	1,378	45.1	1,639	22.5	1,709	28.7
Mississauga	925	41.4	1,137	31.9	1,300	30.8	1,500	29.4	1,700	28.4
Hamilton	-	-	850	14.7	1,000	30.0	1,200	30.5	1,330	27.8
Winnipeg	-	-	850	14.7	1,085	14.5	1,215	18.5	1,300	23.7
Calgary	900	32.8	1,032	26.0	1,215	23.5	1,450	20.7	1,642	22.3
Edmonton	864	10.0	1,000	15.0	1,250	15.2	1,449	15.3	1,608	22.3
Vancouver	1,017	32.7	1,192	37.8	1,450	48.3	1,800	27.8	2,412	12.4

Source: Statistics Canada, Census of population, 2016

Table 3: Difference in CHN ratios between RMS (all rents) and Census (recent movers), by CSD

CSD	CHN by RMS	CHN by RRM	CHN Ratio by RMS	CHN Ratio by RRM	Difference	% Difference
Québec	20,845	20,255	8.5%	8.2%	-590	-2.8%
Montréal	110,645	130,580	15.0%	17.7%	19,935	18.0%
Ottawa	47,145	49,215	13.1%	13.7%	2,070	4.4%
Toronto	240,780	288,565	23.3%	27.9%	47,785	19.9%
Mississauga	40,510	48,725	17.7%	21.3%	8,215	20.3%
Hamilton	30,765	33,255	15.1%	16.3%	2,490	8.1%
Winnipeg	34,630	35,985	12.8%	13.3%	1,355	3.9%
Calgary	52,965	55,370	11.8%	12.3%	2,405	4.5%
Edmonton	49,210	48,970	14.2%	14.1%	-240	-0.5%
Vancouver	51,405	63,565	19.8%	24.5%	12,160	23.7%

Source: Statistics Canada, Census of population, 2016

Notes:
CHN by the RMS refers to households in CHN using the RMS (all rents) for CNITs, which is currently reported in the Census 2016 tables.

CHN by RRM refers to households in CHN using Census 2016 gross rent for recent movers (RRM) (within last year) for CNITs.

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