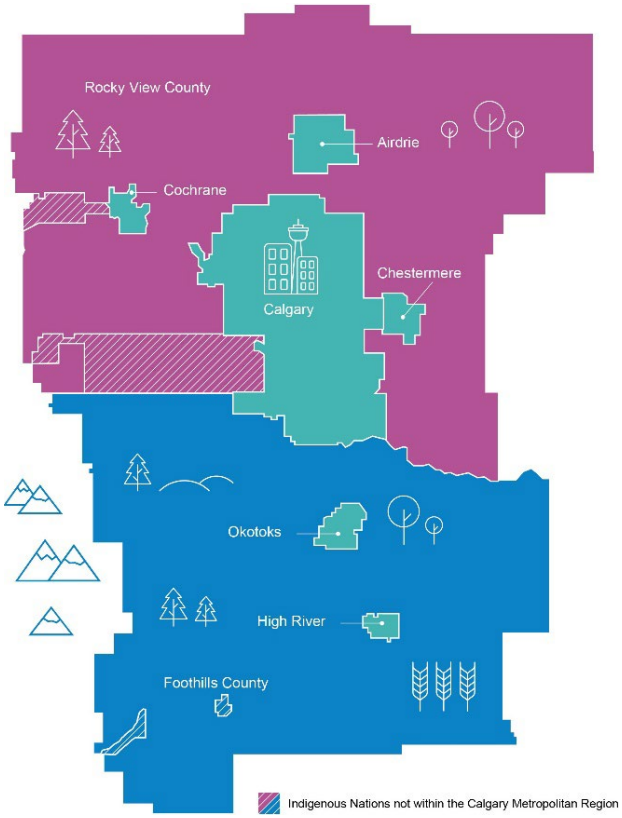
Housing Assessment Resource Tools (HART)

HART Community Housing Report: Calgary Metropolitan Region

CMRB Board Approved Version
April 26, 2024



Report prepared by the Housing Assessment Resource Tools (HART) at the Peter A. Allard School of Law, the University of British Columbia, 2024.

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Glossary of Terms

Affordable shelter cost: HART determines whether housing is affordable or not based on CMHC's benchmark that a shelter is unaffordable if a household pays more than 30% of their pre-tax income towards shelter costs.

Area Median Household Income (AMHI): HART's custom data order grouped households into categories relative to the community's median household income:

- **Very low income:** 20% or less of AMHI, generally equivalent to shelter allowance for welfare recipients.
- **Low income:** 21-50% AMHI, roughly equivalent to one full-time minimum wage job.
- **Moderate income:** 51-80% AMHI, equivalent to starting salary for a professional job.
- **Average Income:** 81-120% AMHI, representing about 20% of total Canadian households.
- **High Income:** More than 120% AMHI, approximately 40% of Canadian households.

Census subdivision (CSD): A geographic area generally corresponding to a municipality.

Census division (CD): An intermediate geographic area between the province/territory level and the municipality (census subdivision).

Core Housing Need (CHN): Defined by the Canada Mortgage and Housing Corp. (CMHC) as: "Core housing need is a 2-stage indicator. It helps to identify households living in dwellings considered unsuitable, inadequate, or unaffordable. It also considers if income levels are such that they could not afford alternative suitable and adequate housing in their community."[1]

Dwellings: In general terms a dwelling is defined as a set of living quarters. Dwelling may be unoccupied, seasonal, or under construction, but for the purposes this report a dwelling will refer to a private dwelling occupied by usual residents. (Full Census definition)

Headship rate: A statistic used to describe the proportion of the population that maintains a household. Furthermore, someone maintains a household when then are responsible for paying the majority of shelter costs associated with the dwelling

Households (HHs): Household refers to a person or group of persons who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada or abroad.

Households examined for Core Housing Need: A subset of Total Households that excludes households that were not assessed for CHN for one reason or another (see disclaimer section below for more detail).

[1] https://www.cmhc-schl.gc.ca/professionals/housing-markets-data-and-research/housing-research/core-housing-need

Primary Household Maintainer (PHM): The person in the household who pays the shelter costs. (Full Census definition)

Subsidized housing: In census data, this refers to whether a renter household lives in a dwelling that is subsidized. Subsidized housing includes rent geared to income, social housing, public housing, government-assisted housing, non-profit housing, rent supplements and housing allowances.

Total Households or **Total Private Households**: This refers to the universe of households included in HART's data order. The full definition is: "Owner and tenant private households with household total income greater than zero in non-farm, non-reserve occupied private dwellings."

Vulnerable/Priority Populations: Canada's National Housing Strategy has identified groups of people who are disproportionately in housing need or experience other barriers to housing.

Disclaimers

1. **Core Housing Need and its Limitations**

   HART relies on the Canadian Census, which is collected every five years by Statistics Canada. While the Census is the most consistent, reliable, nationwide source of disaggregated data, there are gaps and flaws in its data capture. These carry over to our model.

   For one, only private, non-farm, non-reserve, owner- or renter-HHs with incomes greater than zero and shelter-cost-to-income ratios less than 100% are assessed for 'Core Housing Need.' This means there are critical gaps especially within indigenous communities living on reserve and the homeless.

   Other groups that are excluded from measurement include:

   - Non-family HH with at least one HH maintainer aged 15 to 29 attending school.[2]
   - HH within Single Resident Occupancy (SRO) homes, long-term housing, and other forms of congregate housing (including long-term care or rooming houses).[3]
   - Unsheltered households (in encampments or sleeping rough)
   - Those in emergency homelessness or domestic violence shelters
   - People in any form of congregate housing (long term care homes, rooming houses)
   - Those in illegal apartments

   Census data also (beyond data on overcrowding according to National Occupancy Standards), does not adequately capture the housing need experienced by individuals or households who would prefer to be living in other circumstances: adults still living with their parents or roommates who would prefer to have their own homes, or people living in violent relationships. Similarly, this does is not well suited to capture migration pressure and household

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[2] These HH are considered not to be in Core Housing Need, regardless of their housing circumstances. Attending school is considered a transitional phase, and low incomes earned by student households are viewed as being a temporary condition: Statistics Canada.

[3] For census purposes, households are classified into three groups: private households, collective households and households outside Canada. These examples are forms of collective households, and only private households are assessed for CHN.

displacement/replacement in communities outside of major centers due to affordability concerns. As a result, our data likely estimates the floor, not the ceiling, of housing need.

2. **Random rounding, suppression and totals**

   When showing count data, Statistics Canada employs random rounding in order to reduce the possibility of identifying individuals within the tabulations. Random rounding transforms all raw counts to random rounded counts. Reducing the possibility of identifying individuals within the tabulations becomes pertinent for very small (sub)populations. All counts are rounded to a base of 5, meaning they will end in either 0 or 5. The random rounding algorithm controls the results and rounds the unit value of the count according to a predetermined frequency. Counts ending in 0 or 5 are not changed. In cases where count values are very low, to avoid disclosure of individuals, statistic suppression methods are employed. This results in aggregate count data varying slightly from the sum of disaggregated count data.

3. Effect of CERB

   Core Housing Need dropped across the country from 2016 to 2021 in contrast to the rising cost of housing over that period. A likely explanation for this discrepancy was the introduction of the Canada Emergency Response Benefit (CERB), which provided financial support to employed and self-employed Canadians during the pandemic. In Figure 1 we can see that median incomes rose dramatically for the lowest 10% of earners in Canada between 2019 and 2020, when CERB was most active – increasing over 500%. This unusual increase was also apparent in the second decile of earners with an increase of 66%, but quickly drops off, with only a 2% increase for the highest 50% of earners (i.e. the top half of income distribution).

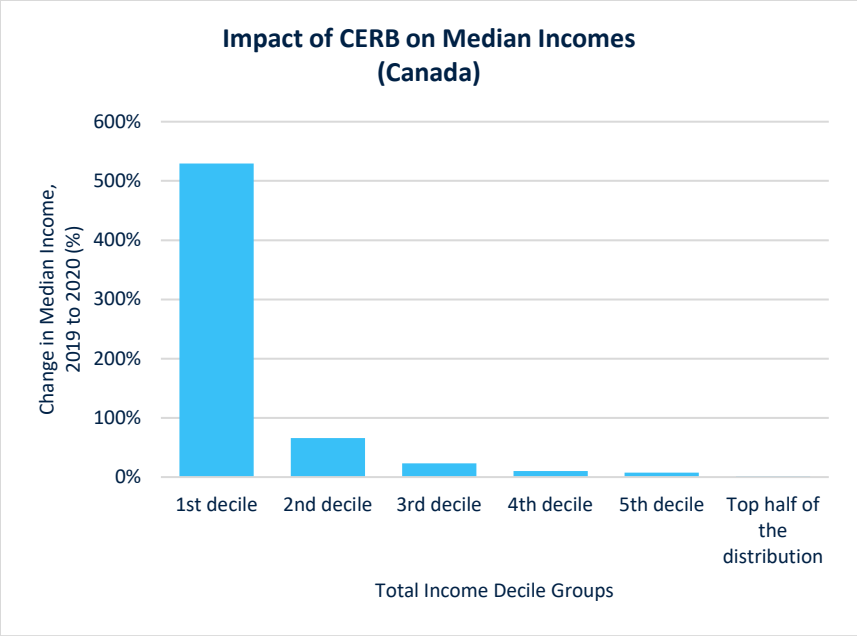

Figure 1: Statistics Canada. Table 98-10-0089-01.

This result can be seen in HART's census data too. The total number of households in Canada grew by 6%, but the number of households in the Very Low income category – capturing households earning equal to or less than 20% of household median income – dropped by 19%. There is also a significant rise in households in the Low income category (13% compared to 6% for all households), and above average increases in the Moderate and Median categories.

Combined, these results support the notion that CERB skewed the low end of the income distribution towards higher incomes, and, since Core Housing Need measures affordability relative to a household's income, likely lifted many households out of Core Housing Need temporarily.

HART Income Categories	2016 – Canada HHs	2021 – Canada HHs	% Change
Very Low	627,130	510,595	-19%
Low	2,304,285	2,603,455	13%
Moderate	2,461,610	2,695,275	9%
Median	2,847,825	3,036,295	7%
High	5,557,455	5,841,730	5%
Total	13,800,321	14,689,371	6%

Table 1: Change in households by income category from 2016 to 2021 - HART.

Introduction

The Housing Assessment Resource Tools (HART) project has been engaged to prepare a report of Housing Need for the Calgary Metropolitan Region Board (CMRB).

HART is funded by the Canada Mortgage and Housing Corporation (CMHC) to research data-based solutions to Canada's housing crisis. This funding allows us to leverage our expertise to generate reports for communities and organizations that will form the foundation of a Housing Needs Assessment (HNA). There are numerous approaches to preparing an HNA. This report will focus on quantitative data on Core Housing Need (CHN) collected by Statistics Canada as part of the Census of Population.

This report will focus on housing need within the census subdivisions (CSD) that correspond to the members of the CMRB: City of Airdrie, City of Calgary, City of Chestermere, Town of Cochrane, Foothills County (Foothills No. 31), Town of High River, Town of Okotoks, and Rocky View County (Rocky View No. 44).

Name of Census Geography	Census Geocode	Level of Geography
Division No. 6, Alberta	4806	CD
Foothills No. 31 ("Foothills County")	4806001	CSD
High River	4806006	CSD
Okotoks	4806012	CSD
Rocky View No. 44 ("Rocky View County")	4806014	CSD
Calgary	4806016	CSD
Chestermere	4806017	CSD
Cochrane	4806019	CSD
Airdrie	4806021	CSD

Table 2: List of geographic regions reviewed.

Before examining housing need, this report will look at the historical demographic trends in the broader region around the Calgary Metropolitan Region as encapsulated by the census division (CD) Division No. 6 of Alberta. This leads into a snapshot of the current state of housing as we review the type and age of dwellings in the housing stock. We study the characteristics of the households occupying those dwellings, paying close attention to renters - particularly those in subsidized housing - and vulnerable populations – particularly single-parents, indigenous households, and senior-led households.

Population and Housing context

Pressure has been slowly building on the housing system, with the problems seen today often linked back to the federal government transferring responsibility of affordable housing to the provinces and territories in 1992.[4] Although this report does not have the space to discuss the complex and interacting elements of the housing system, it would be an oversight to not include a discussion of recent population growth which has a clear and immediate effect on housing demand.

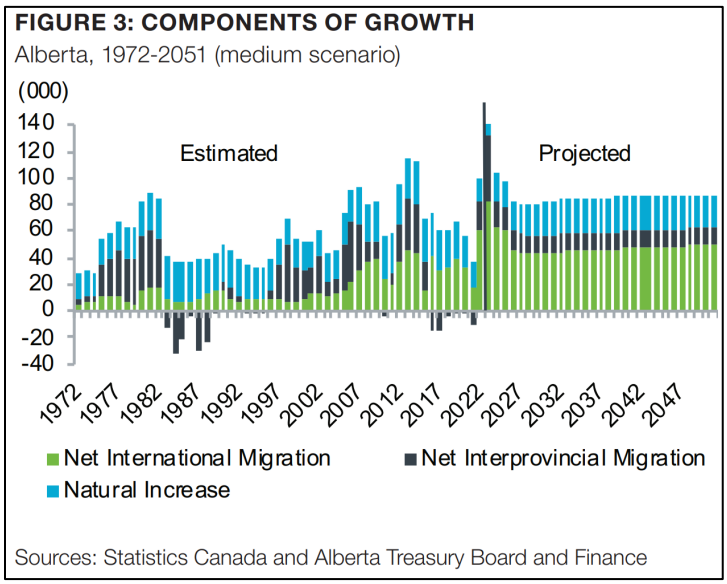

Table 3: Components of population change for Alberta, 1972 to 2051.[5]

According to Alberta's Office of Statistics and Information, Alberta's population grew by a record 4.3% between October 2022 and October 2023, representing about 194,000 people.[6] The year before that

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[4]Carolyn Whitzman and Alexandra Flynn: https://theconversation.com/housing-is-a-direct-federal-responsibility-contrary-to-what-trudeau-said-heres-how-his-government-can-do-better-211082; accessed February 29, 2024.

[5] Alberta population projections 2023-2051: https://open.alberta.ca/opendata/alberta-population-projections-2023-2051-alberta-and-census-divisions-data-tables.

[6] Office of Statistics and Information, Government of Alberta: https://www.alberta.ca/population-statistics; accessed February 29, 2024.

experienced a 2.5% increase. This compares to Canada's growth rate of 3.2% over the same period.[7] About 63% of that growth is from net international migration, 29% from net interprovincial migration, and 8% from natural growth (births minus deaths).

Alberta's population is projected to continue growing too. The Office of Statistics and Information projects an average annual growth rate of 1.5% between 2023 and 2051 (1.8% in census division No. 6), with 55% of net population growth due to international migration and 17% from interprovincial migration. They expect that this growth will be concentrated in the Edmonton-Calgary corridor.

Alongside this population growth is significant growth in the consumer price index (CPI) which tracks the change in prices across a number of goods and services. According to Statistics Canada, the CPI rose 3.9% on an annual average basis in 2023, following a 40-year high increase of 6.8% in 2022 and a 3.4% increase in 2021. Aside from 2022, the annual average increase in 2023 is the largest since 1991.[8]

In Calgary, the cost to rent a 2-bedroom unit grew 14.3% in 2023, the highest year-over-year growth in rent in Calgary since 2007 according to CMHC, with average monthly rent $1,695 for a 2-bedroom purpose-built rental unit, and $1,819 to rent a 2-bedroom condo as of October 2023.[9] According to Rentals.ca, which tracks asking rents for unoccupied units exclusively, the average monthly rent for a 2-bedroom unit in Calgary in January 2024 was $2,073.[10] This coincides with tightening supply as the overall vacancy rate for purpose-built apartments declined from 2.7% in 2022 to 1.4% in 2023.[11]

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[7] Statistics Canada. Table 17-10-0009-01 Population estimates, quarterly: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000901.

[8] Statistics Canada, The Daily: "Consumer Price Index: Annual review, 2023" https://www150.statcan.gc.ca/n1/daily-quotidien/240116/dq240116b-eng.htm; accessed February 29, 2024.

[9] Canada Mortgage and Housing Corporation, Rental Market Report – January 2024; https://assets.cmhc-schl.gc.ca/sites/cmhc/professional/housing-markets-data-and-research/market-reports/rental-market-report/rental-market-report-2023-en.pdf.

[10] Rentals.ca, February 2024 Rentals.ca report: https://rentals.ca/national-rent-report#municipal-overview; accessed February 29, 2024.

[11] Canada Mortgage and Housing Corporation, Rental Market Report – January 2024.

Part 1: Existing Demographics and Housing

Community Demographic Profile

	Calgary			
Census Year	2006	2011	2016	2021
Median age	35.7	36.4	36.7	38.0
Population	988,190	1,096,833	1,239,220	1,306,784
% of population aged 15+	82%	82%	82%	82%
% of population aged 65+	10%	10%	11%	14%

Table 4: Demographic profile – Calgary.

	Division No. 6			
Census Year	2006	2011	2016	2021
Median age	36.0	36.6	36.9	38.4
Population	1,160,935	1,311,020	1,498,780	1,590,640
% of population aged 15+	81%	82%	81%	82%
% of population aged 65+	10%	10%	11%	14%

Table 5: Demographic profile - Division No. 6, Alberta.

The City of Calgary and the surrounding region have been growing over the last 15 years. The population has also been ageing, with the median age rising as well as the proportion of the population age 65 years or older. This trend was mild between 2006 and 2016, but has accelerated over the last 5 years. At the same time, the number of young people has kept pace with the overall population as the proportion of the population 15 years or older has been steady since 2006.

The population split by age group (Table 4748 and Table 4849) also show growth in senior and youth populations. The headship rate is the more interesting measurement for this community housing report however as it represents the fraction of individuals who represent, or lead, a household. The actual headship rate as a value is not necessarily important since it captures cultural differences in what a household looks like – for example, the cultural attitudes towards children moving out, or senior family members moving in with their children – but it does allow for a comparison across age groups and across time. Generally, one would expect a trend of headship starting low in youth and plateauing in middle age as individuals have higher incomes and more savings to pay for their own home.

Figure 2 below plots headship rate in the 2006 and 2021 censuses for Calgary and the region. Over that time, the headship rate dropped across all age groups, albeit a minor reduction for ages 55-75. A reduction in headship rate among youth can be indicative of suppressed household formation as it shows more young people living with others – either roommates or family. A reduction among seniors could be driven by economic or health conditions that make independent living less viable. Further investigation would be needed to conclude what is driving these changes.

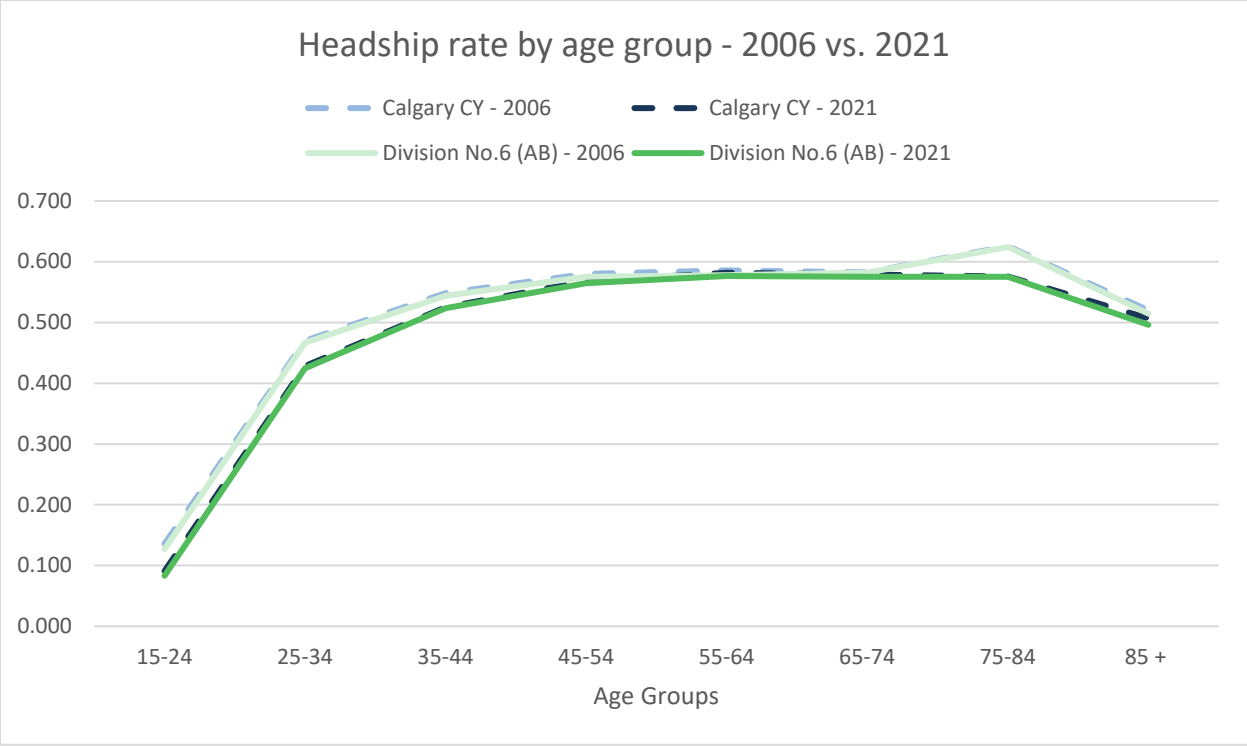

Figure 2: Headship rate by age groups - 2006 vs. 2021.

Profile of Existing Housing Stock – Calgary

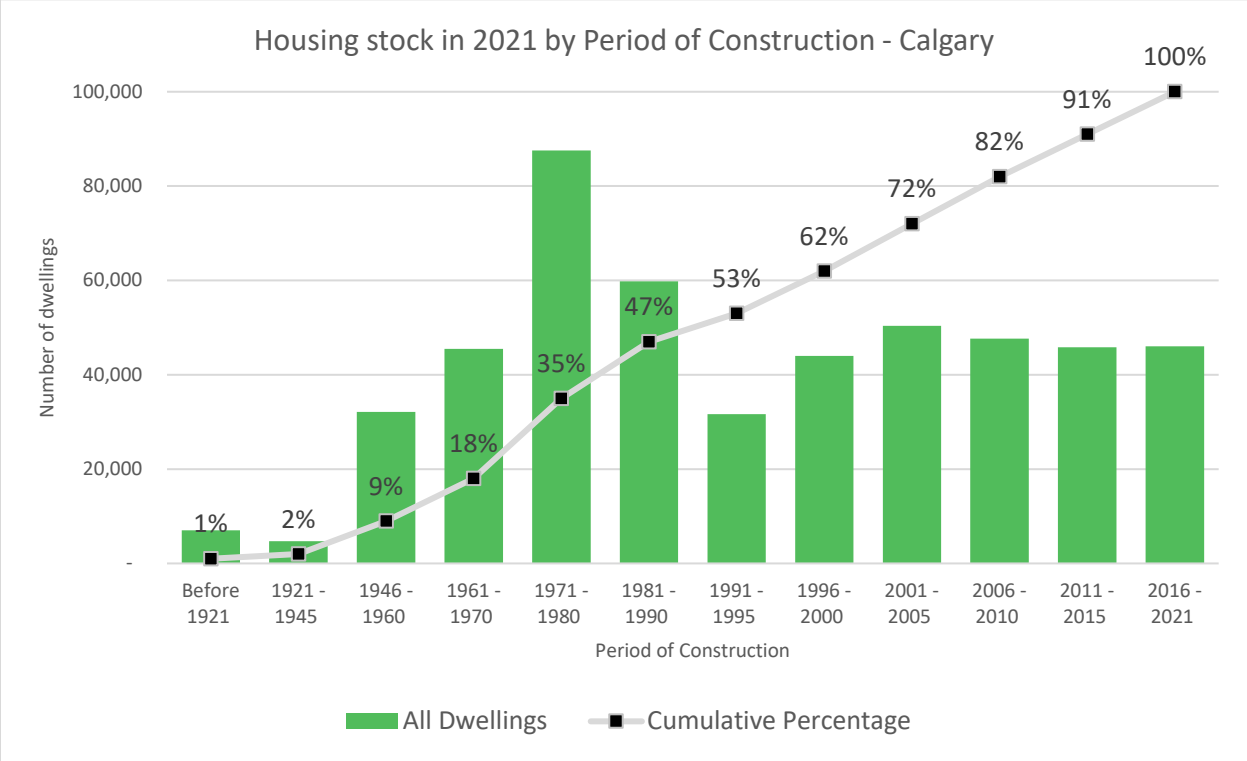

Figure 3: 2021 Housing stock by Period of Construction - Calgary

When looking at the stock of existing housing reported in the census, and visualized in Figure 3 above, please note the uneven time intervals along the horizontal axis that can be misleading.

Construction of new dwellings has been steady since the mid-1990's. Like other parts of Alberta, Figure 3 shows a period of high construction activity in the 1970's was followed by a significant decline in the 1980's. Approximately half of the housing stock was built prior to the 1995, with 9% built prior to 1961. Assuming that a house can last 70+ years, there should be some concern about a loss of housing due to age before 2031. For comparison, Calgary built approximately 9% of housing stock between 2016 and 2021.

In terms of what type of dwellings were built, the majority were single-detached houses (Figure 4). The share of single-detached homes peaked in the early 1990's and since then there has been consistent growth in the share of apartments, duplexes, semi-attached houses, and row houses. Looking at the number of bedrooms by dwelling type in Figure 5, almost all 1- and 2-bedroom units are in apartment buildings or duplexes, while single-detached homes are mostly 3+ bedrooms.

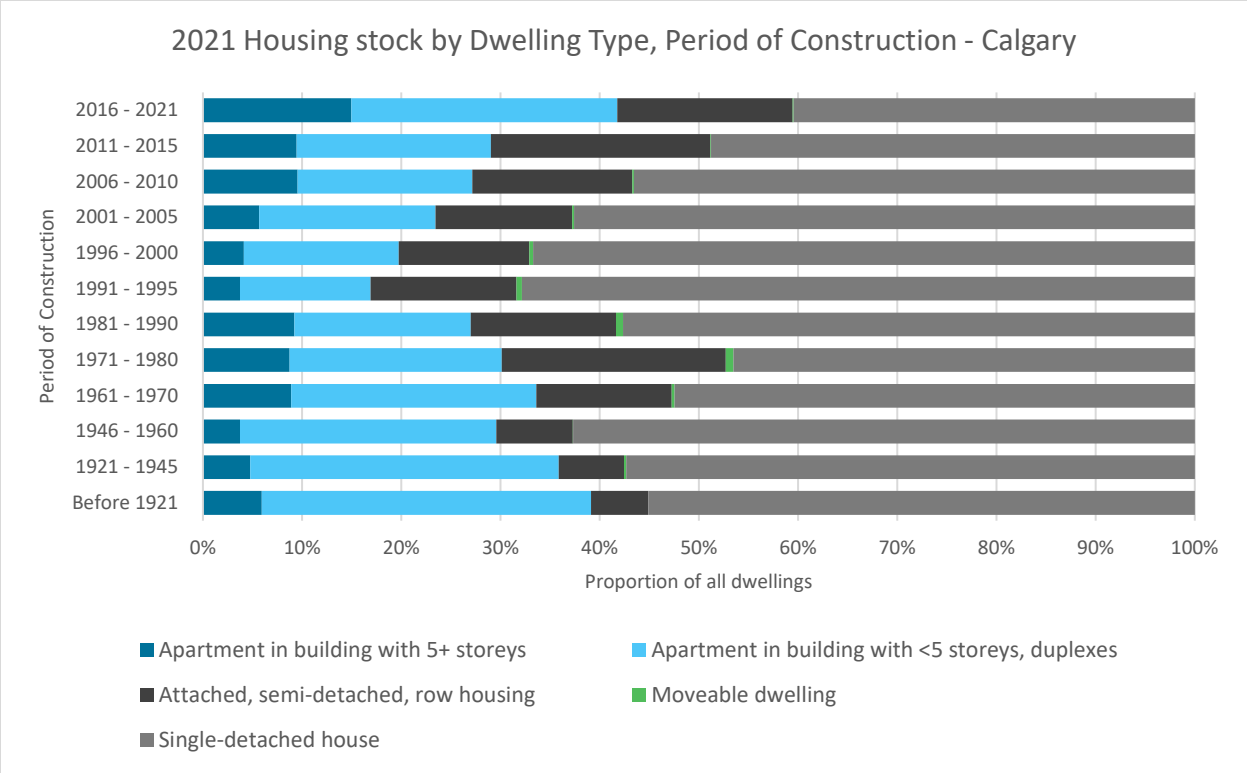

Figure 4: 2021 Housing stock by Dwelling Type, Period of Construction - Calgary.

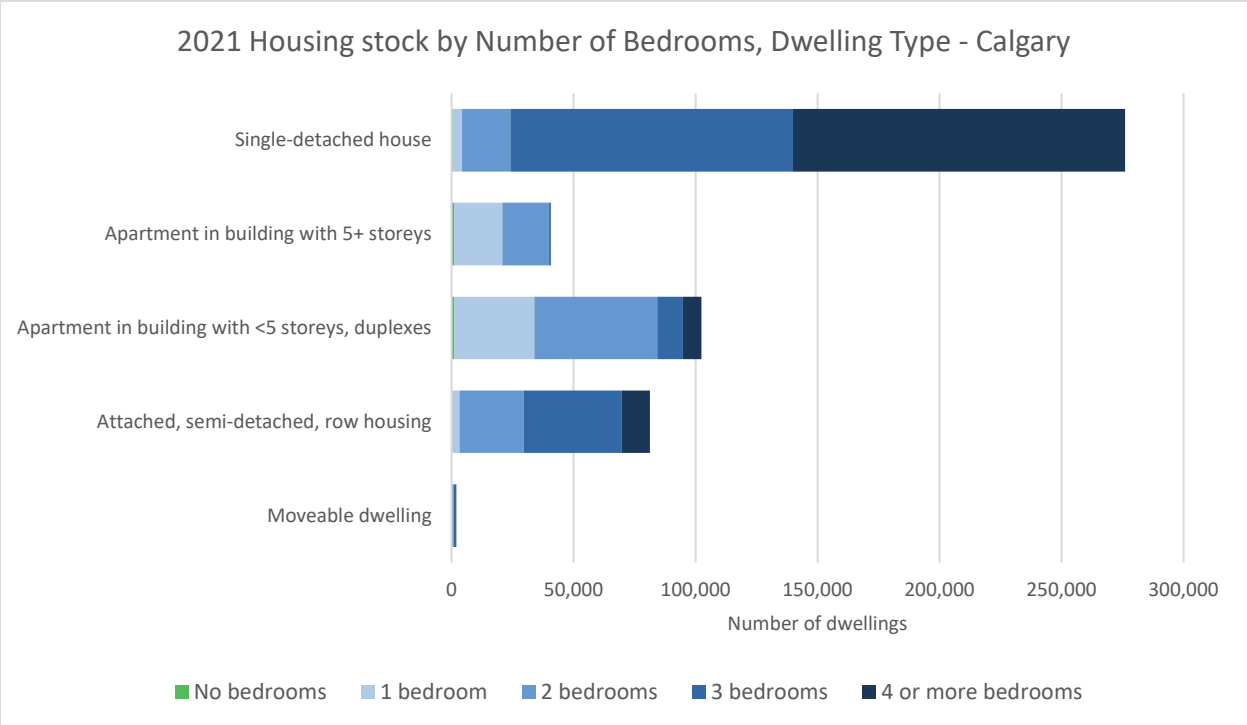

Figure 5: 2021 Housing stock by Number of Bedrooms, Dwelling Type – Calgary.

The same trends in Calgary also appear in the broader region, which saw intense housing construction in the 1970's, dropping in the 1980's, but steadily building around 60,000 dwellings every 5 year period since the year 2000 (Figure 6).

The distribution of dwellings by type in the region also mirrors the Calgary, but with a larger share of single-detached homes (Figure 7 & Figure 9). Likewise, most single-detached homes have 3 or more bedrooms (67%) with 1-bedroom units concentrated in apartment buildings and duplexes (86%).

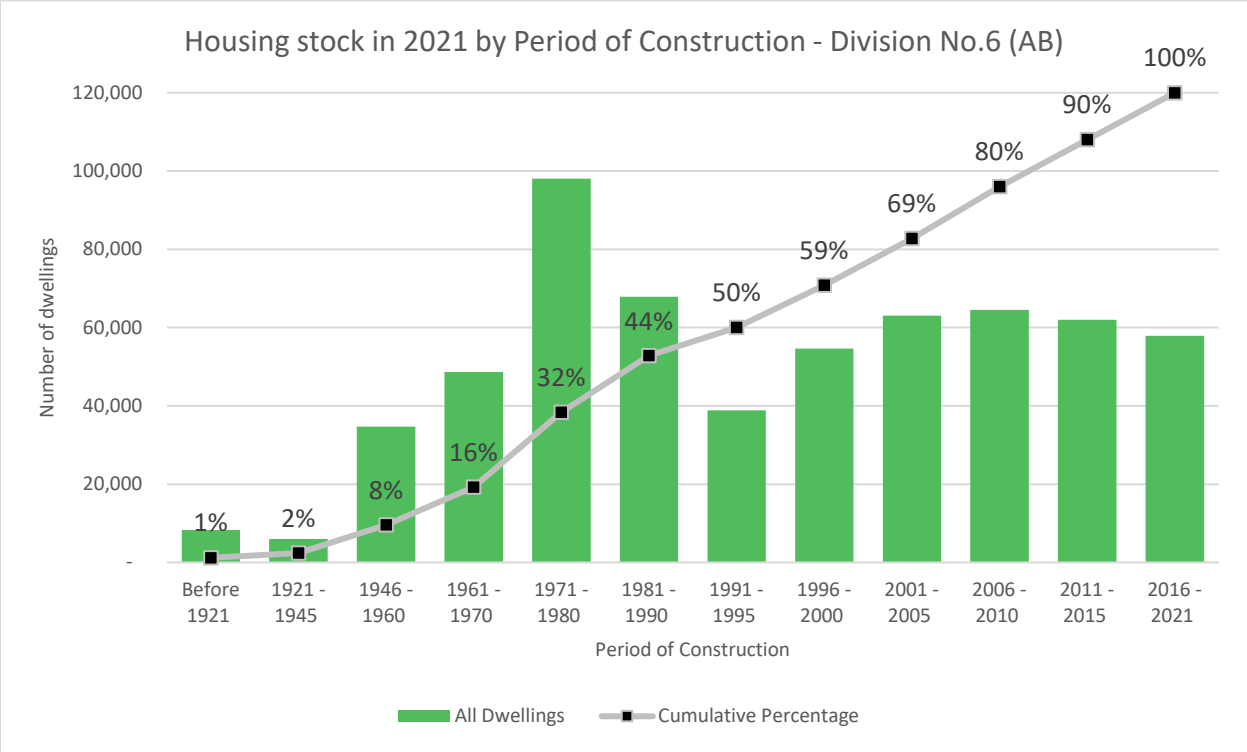

Figure 6: 2021 Housing stock by Period of Construction – Division No. 6, Alberta.

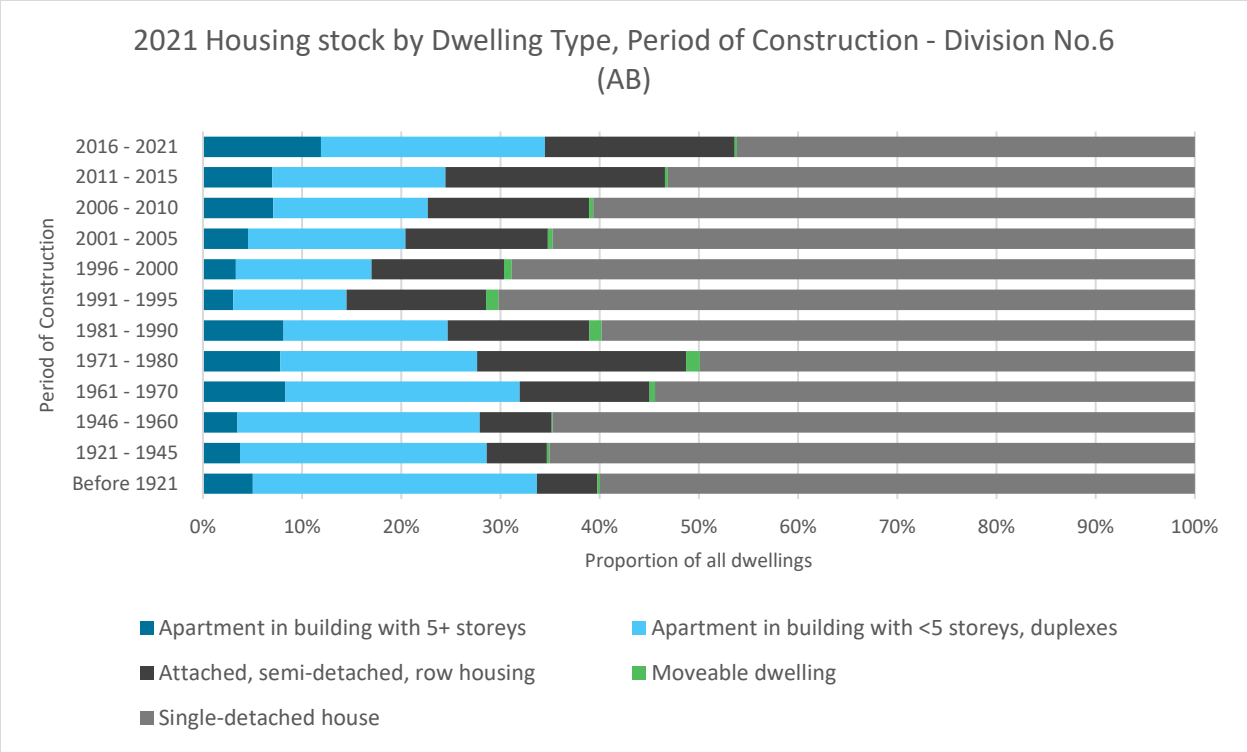

Figure 7: 2021 Housing stock by Dwelling Type, Period of Construction – Division No. 6, Alberta.

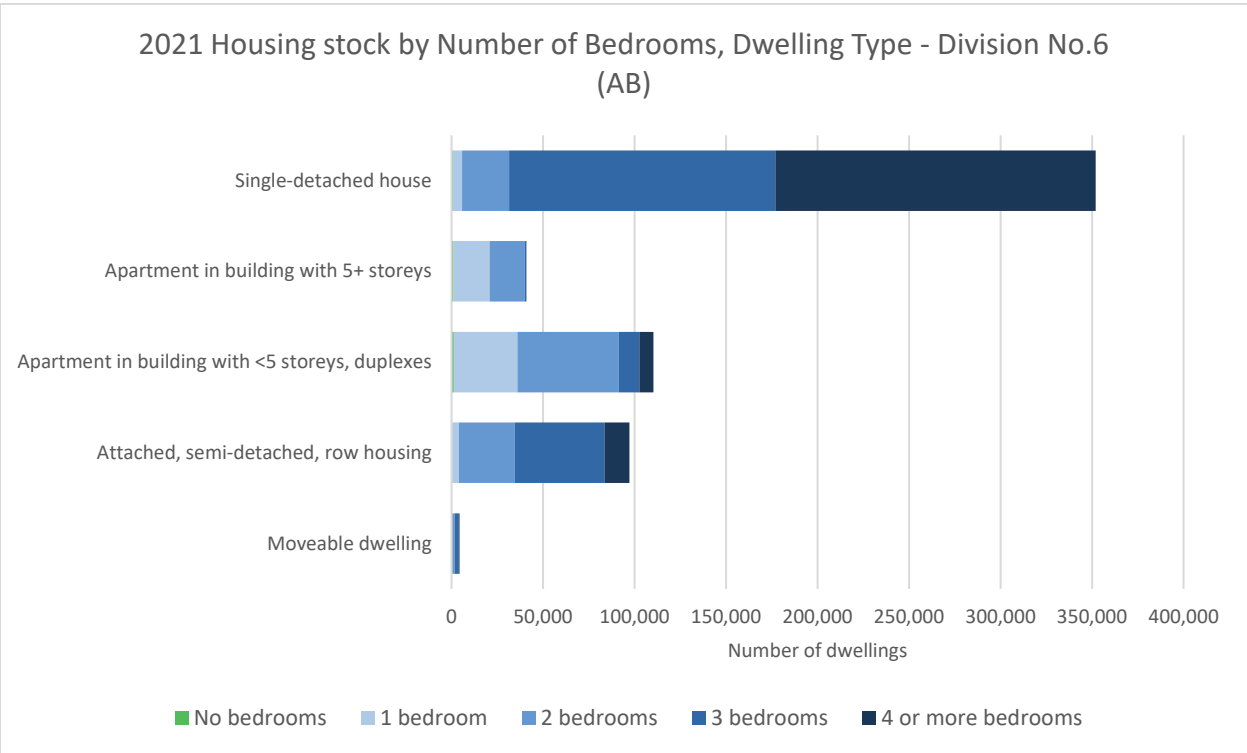

Figure 8: 2021 Housing stock by Number of Bedrooms, Dwelling Type – Division No. 6, Alberta.

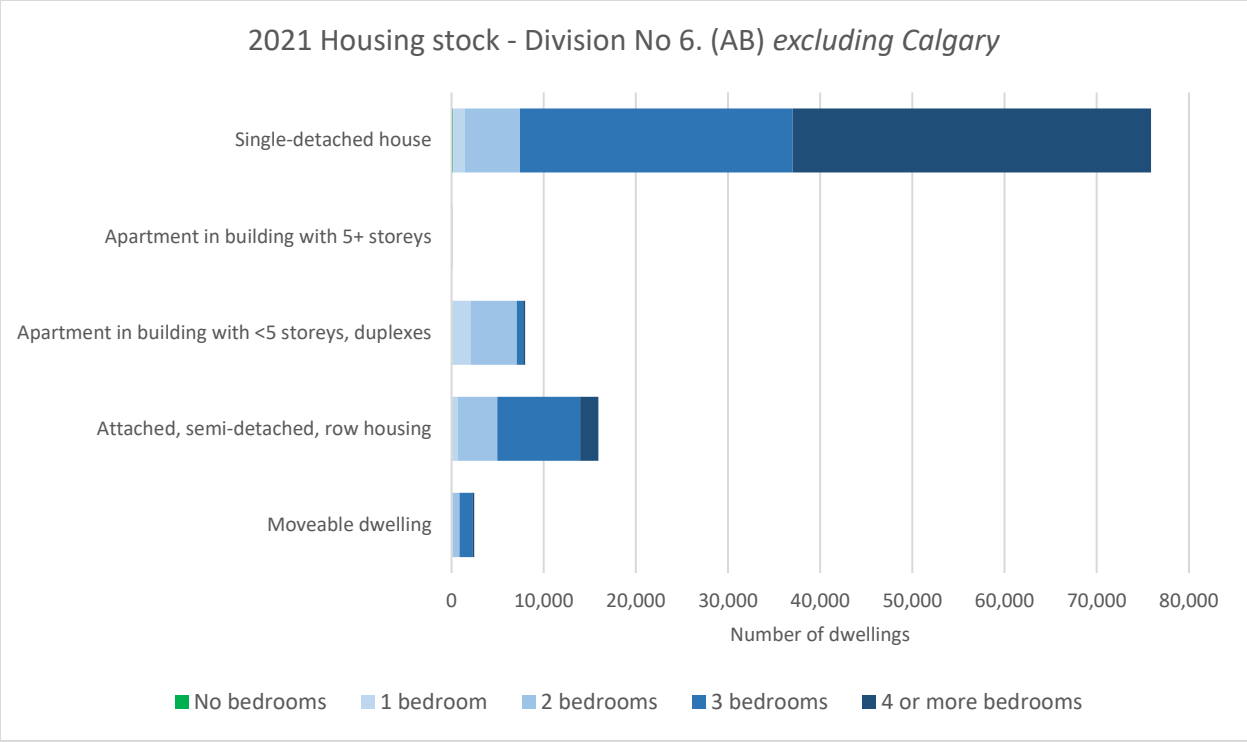

Figure 9: 2021 Housing stock by Number of Bedrooms, Dwelling Type - Division No. 6, Alberta excluding Calgary.

Profile of Households

Before further analysis of Core Housing Need, it will help to examine some characteristics of all households in the community. This section will consider how households are grouped by income, by household size (i.e. how many individuals per household), by owners and renter, and lastly by certain vulnerable population that can be identified with census data.

Households by Income

HART classifies households into five variable categories in relation to Area Median Household Income (AMHI).[12] Median household income changes from year to year and varies at different geographic levels. Therefore, a given household may be in a different income group depending on the median household income of that geography, or if their income changes more or less than the median.

Households by Income - Calgary

	Census Year	2006	2016	2021	2006 to 2016 % Change	2016 to 2021 % Change
Income Categories	AMHI	$67,500 (2005$)	$98,000 (2015$)	$99,000 (2020$)		
Very Low	<20% of AMHI	18,345	21,995	17,065	20%	-22%
Low	21-50%	61,485	74,865	85,890	22%	15%
Moderate	51-80%	69,935	83,160	93,225	19%	12%
Median	81-120%	79,975	98,675	108,030	23%	9%
High	>120%	153,895	185,680	195,650	21%	5%
Total		383,640	464,370	499,855	21%	8%

Table 6: Change in number of households by income in 2006, 2016, and 2021 - Calgary.

[12] Read more about our income categories in our HNA Methodology document on our website: https://hart.ubc.ca/housing-needs-assessment-tool/

Households by Income – Division No. 6 (AB)

	Census Year	2006	2016	2021	2006 to 2016 % Change	2016 to 2021 % Change
Income Categories	AMHI	$68,500 (2005$)	$100,000 (2015$)	$101,000 (2020$)		
Very Low	<20% of AMHI	20,540	25,575	20,335	25%	-20%
Low	21-50%	70,070	88,190	102,225	26%	16%
Moderate	51-80%	81,025	99,595	111,375	23%	12%
Median	81-120%	93,710	119,700	130,770	28%	9%
High	>120%	177,105	219,830	234,890	24%	7%
Total		442,450	552,885	599,605	25%	8%

Table 7: Change in number of households by income in 2006, 2016, and 2021 - Division No. 6, Alberta.

Similar to many communities in Canada, the number of households earning less than 20% of AMHI ("Very Low income") decreased dramatically between 2016 and 2021, with an above-average increase in households with the Low and Moderate incomes. This is a much different result than we say between 2006 and 2016 where the number of Very Low income households grew at roughly the same rate as all households.

Taken on its own this is a positive result, but, as discussed in the Disclaimers, it is more likely that this result is only a temporary one caused by CERB payments. These payments were directed at lower income individuals who saw a loss of income during the COVID-19 pandemic and were greatest in 2020, and the 2021 census calculated household income using tax returns from 2020.

With that in mind, we may still conclude that households earning less than 80% of AMHI grew at a faster pace than those earning over 80% of AMHI for both Calgary and the larger region.

Households by Income	Calgary			Division No. 6 (AB)		
Census Year	2016	2021	% Change	2016	2021	% Change
Equal to & Under 80% AMHI	180,020	196,180	9%	213,360	233,935	10%
Over 80% AMHI	284,355	303,680	7%	339,530	365,660	8%
Total	464,370	499,855	8%	552,885	599,605	8%

Table 8: Change in number of households by income (under/over 80% of AMHI) for 2016 and 2021 – Calgary and Division No. 6, Alberta.

Households by Household Size

The growth in 1-person households has exceeded the growth in any other-sized household by a significant margin in the last 5 years. While other household sizes have seen minor change, 1-person households have grown 16%, now accounting for 26% of all households. This is a reversal of the trend that appears between 2006 and 2016 where 1-person households were the slowest growing size of households. In such cases it's worth exploring whether small households were in decline because there simply were no appropriately-sized dwellings, thereby suppressing the formation of 1-person households. This report can say that Figure 4 and Figure 6 show a growth in apartments and duplexes over that same period, and we know from Figure 5 and Figure 8 that those buildings contain most of the 1-bedroom dwellings being built, so there is no clear sign of suppression. Further investigation should be considered nevertheless since a mismatch of dwelling sizes with household size preference can worsen affordability.

Households by Household Size - Calgary					
HH Size (# of persons)	2006	2016	2021	%Δ 2006-2016	%Δ 2016-2021
1 p.	99,030	112,840	131,220	14%	16%
2 p.	125,625	50,425	59,485	20%	6%
3 p.	63,525	78,205	79,715	23%	2%
4 p.	60,840	75,125	79,435	23%	6%
5+ p.	34,625	47,775	49,990	38%	5%
Total	383,640	464,370	499,855	21%	8%

Table 9: Change in number of households by household size between 2006, 2016, and 2021 – Calgary.

Households by Household Size - Division No. 6 (AB)					
HH Size (# of persons)	2006	2016	2021	%Δ 2006-2016	%Δ 2016-2021
1 p.	108,425	127,940	149,790	18%	17%
2 p.	146,845	182,340	195,330	24%	7%
3 p.	73,395	92,860	95,480	27%	3%
4 p.	72,425	91,665	97,350	27%	6%
5+ p.	41,360	58,085	61,660	40%	6%
Total	442,450	552,885	599,605	25%	8%

Table 10: Change in number of households by household size between 2006, 2016, and 2021 – Division No. 6, Alberta.

Households by Tenure, Subsidized Housing

Home ownership has declined in Calgary and the overall region between 2006 and 2021, but is still higher than the Canadian average (67% in 2021).

	Calgary			Division No. 6 (AB)		
Census Year	2006	2016	2021	2006	2016	2021
Owner HHs	279,600	332,710	344,795	330,660	407,830	428,445
Renter HHs	104,040	131,655	155,060	111,790	145,050	171,160
% Owner	73%	72%	69%	75%	74%	71%
% Renter	27%	28%	31%	25%	26%	29%

Table 11: Number of households by tenure (owner/renter) between 2006, 2016, and 2021 – Calgary and Division No. 6, Alberta.

The census also allows for renter households to be split by those in subsidized housing and those not. This definition of subsidized housing includes rent geared to income, social housing, public housing, government-assisted housing, non-profit housing, rent supplements and housing allowances. In each of the last two censuses the proportion of renters in subsidized housing has fallen slightly for Calgary and the region.

	Calgary		Division No. 6 (AB)	
Census Year	2016	2021	2016	2021
Renter HHs in Subsidized Housing	13,555	14,005	14,225	14,640
(Examined for CHN)	(12,970)	(13,735)	(13,605)	(14,355)
Renter HHs not Subsidized	118,100	141,050	130,830	156,520
(Examined for CHN)	(111,065)	(135,545)	(122,980)	(150,485)
% Renters in Subsidized Housing	10%	9%	10%	9%

Table 12: Change in renter households with subsidized housing, or not, between 2016 and 2021 – Calgary and Division No. 6, Alberta. Households Examined for CHN have been included in parenthesis to be referenced against Table 1312 and Table 1413.

Households by Actual Shelter Cost

HART's census data order included a custom arrangement of households by the actual monthly shelter cost they report. This arrangement grouped households in a similar manner to HART's income grouping above which starts with AMHI, but seeks to group households by shelter costs that would be affordable to each income category. For each income category we first multiple each value by 30%, our affordability benchmark, and then convert the *annual* income value to a *monthly* shelter cost by dividing by 12 months. This allows us to see how housing affordability has changed over time while accounting for any changes in income that may have occurred.

Table 1312 and Table 1413 look at the distribution of households by shelter costs paid, looking all private households (i.e. "Total HHs"). The actual shelter cost categories did not change much between 2016 and 2021 since the categories are linked to AMHI which only increased slightly in Calgary and the region.

Total HHs by Actual Shelter Cost - Calgary					
Actual monthly shelter cost			Households		
Affordable to income group	**2016** (AMHI = $98,000)	**2021** (AMHI = $99,000)	**2016**	**2021**	%Δ 2016-2021
Very Low	< $490	< $495	70,510	48,705	-31%
Low	$490-$1,225	$495-$1,238	114,230	141,845	24%
Moderate	$1,225-$1,960	$1,238-$1,980	166,765	165,300	-1%
Median	$1,960-$2,940	$1,980-$2,970	87,900	107,505	22%
High	> $2,940	> $2,970	24,955	36,495	46%
Total			**464,370**	**499,855**	**8%**

Table 13: Total households by actual monthly shelter cost paid in 2016 vs 2021 – Calgary.

Total HHs by Actual Shelter Cost – Division No. 6 (AB)					
Actual monthly shelter cost			Households		
Affordable to income group	**2016** (AMHI = $100,000)	**2021** (AMHI = $101,000)	**2016**	**2021**	%Δ 2016-2021
Very Low	< $500	< $505	87,125	64,745	-26%
Low	$500-$1,250	$505-$1,263	133,755	168,210	26%
Moderate	$1,250-$2,000	$1,263-$2,020	199,715	196,875	-1%
Median	$2,000-$3,000	$2,020-$3,030	103,850	126,290	22%
High	> $3,000	> $3,030	28,430	43,480	53%
Total			552,885	599,605	8%

Table 14: Total households by actual monthly shelter cost paid in 2016 vs 2021 – Division No. 6, Alberta

Between 2016 and 2021 there was a lot of fluctuation in the actual shelter costs paid by households. Most concerning is the 31% decrease in homes affordable to households earning less than 20% of AMHI, which in 2021 translates to a maximum shelter cost of $495 per month. This loss is balanced numerically by the growth in dwellings that are affordable to Low income earners, which grew by 24%, adding 27k dwellings compared to the loss of 21k Very Low income dwellings. This change points to shelter costs increasing more rapidly than income over that time frame. This observation is supported by growth in dwellings affordable only to Median and High income households that significantly outpace the growth in households earning those incomes.

That being said, the number of households earning 80% of AMHI or higher is much greater than the number of dwellings affordable to those households – 304k households compared to 144k dwellings. This could be that households are all competing for inexpensive dwellings, or could be that households with older members have both higher incomes and lower shelter costs.

We can investigate the second hypothesis somewhat using HART's data by restricting the households to those led by an individual aged 65 or older and compare the income and shelter cost distribution of those households with all households. Indeed, Table 1514 shows that 55% of dwellings affordable to Very Low income households are senior-led, compared to only 17% of senior-led households earning Very Low income.

Distribution of Senior-led HHs in 2021 - Division No. 6 (AB)						
	Income			Shelter Costs		
Income group/Affordable to ___ HHs	**HHs led by senior (65+)**	**All HHs**	**% Led by Senior**	**HHs led by senior (65+)**	**All HHs**	**% Led by Senior**
Very Low	3,450	20,335	17%	35,680	64,745	55%
Low	32,230	102,225	32%	36,690	168,210	22%
Median	21,250	111,375	19%	15,465	196,875	8%
Moderate	17,470	130,770	13%	4,340	126,290	3%
High	19,200	234,890	8%	1,425	43,480	3%
Total	**93,605**	**599,605**	**19%**	**93,605**	**599,605**	**19%**

Table 15: Distribution of Senior-led households by income and actual monthly shelter cost paid in 2021, compared with all households – Division No. 6, Alberta

We can also perform the same analysis on households led by an individual under age 25. As expected we see the opposite relationship, with 11% of youth-led households earning Very Low income while only occupying 2% of dwellings affordable to that income group (Table 1615).

Distribution of Youth-led HHs in 2021 - Division No. 6 (AB)						
	Income			Shelter Costs		
Income group/Affordable to ___ HHs	**HHs led by youth (under 25)**	**All HHs**	**% Led by Youth**	**HHs led by youth (under 25)**	**All HHs**	**% Led by Youth**
Very Low	2,315	20,335	11%	1,000	64,745	2%
Low	4,420	102,225	4%	4,935	168,210	3%
Median	3,760	111,375	3%	7,325	196,875	4%
Moderate	2,710	130,770	2%	1,525	126,290	1%
High	1,715	234,890	1%	130	43,480	0%
Total	**14,920**	**599,605**	**2%**	**14,920**	**599,605**	2%

Table 16: Distribution of Youth-led households by income and actual monthly shelter cost paid in 2021, compared with all households – Division No. 6, Alberta

Part 2: Existing Housing Need in 2021

This section will explore Core Housing Need (CHN) at the CSD level for those communities in Table 2. CHN will be explored from several different dimensions: affordability, size of household, tenure, and amongst vulnerable populations.

HART uses CMHC's affordability benchmark that a shelter is unaffordable if a household pays more than 30% of their pre-tax income towards shelter costs. HART's custom data order grouped households into categories relative to the community's median household income:

- **Very low income:** 20% or less of Area Median Income (AMHI), generally equivalent to shelter allowance for welfare recipients.
- **Low income:** 21-50% AMHI, equivalent to one full-time minimum wage job.
- **Moderate income:** 51-80% AMHI, equivalent to starting salary for a professional job.
- **Average Income:** 81-120% AMHI, representing about 20% of total Canadian households.
- **High Income:** More than 120% AMHI, approximately 40% of Canadian households.

To calculate the affordable shelter cost for each group we apply the 30% shelter-cost-to-income benchmark to the range of household incomes captured in each income group. We also convert the annual incomes into monthly affordable shelter costs since rents, mortgages, and utilities are usually paid monthly. Appendix A has the complete tables of incomes and affordable shelter costs for each income group, by community, for census years 2016 and 2021.

Please note that the totals may not match the sum of the categories due to random rounding and suppression applied to the underlying data by Statistics Canada. The total given in the tables below is the total reported in the data and is more accurate than the sum of the categories since some categories may be suppressed due to low cell count. Likewise, random rounding may lead to the sum of groups being greater than the total if the groups were all rounded up.

CERB and Core Housing Need in 2021

The Disclaimers section discusses how the CERB income benefit impacted households, having the result of significantly increasing the annual incomes of the households in the lowest 20-30% of the household income distribution in 2020. Since CHN in the 2021 census uses tax returns from 2020 to determine affordability, HART expects that CERB benefits caused a significant number of Very Low and Low income households to be temporarily lifted out of CHN. Unless a similar benefit is in place at the time of the next census, the rate of CHN in the 2016 census should be viewed as a better reflection of housing need than the rate in the 2021 census.

Private Households vs Households Examined for Core Housing Need

Nearly all of the households reported in Part 1 of this report are the "full universe" of private households included in HART's census data order – see the Definitions section for more detail. We generally use this data variable as often as possible since it includes the most households. However, when calculating the rate of CHN, it is more accurate to compare those HHs in CHN with those HHs that were examined for CHN. The difference is trivial sometimes, but other times there may be a significant difference between the two. Looking at Table 1716 below for example, we can see Calgary had about 14,255 private households that were not examined for CHN in 2016.

	Calgary		Division No. 6 (AB)	
Census Year	2016	2021	2016	2021
Total – Private HHs	464,370	499,855	552,885	599,605
HHs Examined for CHN	450,115	488,045	536,435	585,890
HHs in CHN	52,965	49,860	58,680	55,440
% of HHs in CHN	12%	10%	11%	9%

Table 17: Total Private Households, Households Examined for CHN, and HHs in CHN for 2016 and 2021 - Calgary and Division No. 6, Alberta.

Core Housing Need by Income/Affordability

Calgary had an overall rate of CHN of 12% in 2016, decreasing slightly to 10% in 2021. The vast majority of those households in CHN, as of 2021, were in the Low income category, earning between 21-50% of AMHI (see Table 5152, Table 5253, Table 5556Table 5657 for actual income ranges). These 39k households represent 47% of all households in Low income, which is a higher rate than the other CMRB municipalities with the exception of High River (51%).

Generally though, it is the lowest earning households that are most likely to be in CHN. Most households in Very Low income are in CHN across the region, exceeding 80% in many CMRB municipalities. Compare this with households earning 80% or more of median where there is near-zero CHN across the CMRB (we say "near-zero" since some zeroes in HART's data may represent 10 or fewer households that were suppressed for privacy).

2016 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
Income	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Very Low	140	54%	30	100%	120	63%	195	63%
Low	60	5%	500	55%	160	11%	335	18%
Moderate	0	0%	55	6%	0	0%	0	0%
Median	0	0%	0	0%	0	0%	0	0%
High	0	0%	0	0%	0	0%	0	0%
Total	**205**	**3%**	**585**	**11%**	**285**	**3%**	**530**	**5%**

Table 18: Households in core housing need, and the rate of core housing need, by income in 2016 – Foothills County, High River, Okotoks, Rocky View County.

2016 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
Income	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Very Low	7,305	74%	110	88%	175	83%	325	78%
Low	38,710	53%	345	42%	535	41%	1,370	49%
Moderate	6,950	8%	0	0%	30	2%	85	2%
Median	0	0%	0	0%	0	0%	0	0%
High	0	0%	0	0%	0	0%	0	0%
Total	**52,965**	**12%**	**465**	**8%**	**740**	**8%**	**1,780**	**8%**

Table 19: Households in core housing need, and the rate of core housing need, by income in 2016 – Calgary, Chestermere, Cochrane, and Airdrie.

2021 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
Income	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Very Low	235	81%	15	100%	115	82%	275	73%
Low	25	2%	435	51%	220	14%	235	12%
Moderate	0	0%	30	2%	0	0%	0	0%
Median	0	0%	0	0%	0	0%	0	0%
High	0	0%	0	0%	0	0%	0	0%
Total	**260**	**3%**	**480**	**8%**	**330**	**3%**	**510**	**4%**

Table 20: Households in core housing need, and the rate of core housing need, by income in 2021 – Foothills County, High River, Okotoks, Rocky View County.

2021 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
Income	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Very Low	6,080	79%	55	69%	195	81%	290	88%
Low	38,910	47%	225	26%	585	34%	1,555	42%
Moderate	4,870	5%	0	0%	20	1%	145	3%
Median	0	0%	0	0%	0	0%	0	0%
High	0	0%	0	0%	0	0%	0	0%
Total	**49,860**	**10%**	**295**	**4%**	**800**	**7%**	**1,990**	**8%**

Table 21: Households in core housing need, and the rate of core housing need, by income in 2021 – Calgary, Chestermere, Cochrane, and Airdrie.

Core Housing Need by Household Size

Across the CMRB, the rate of CHN among 1 person-sized households is significantly above the community average, reaching 26% in High River and 20% in Calgary. These households also account for the largest number of households in CHN in 2021, although there are a significant number of households in CHN in households of all sizes as measured by the census.

As mentioned in Part 1, such a result is sometimes due to a mismatch of desired household sizes and available dwellings. Perhaps these 1 person households are paying for a larger home than they need due to a scarcity of small homes? This report does not think such an effect is a significant concern, but would highlight this question as one for further investigation.

2016 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
HH Size (persons)	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
1 p.	80	9%	310	26%	85	6%	160	13%
2 p.	65	2%	125	6%	45	1%	145	3%
3 p.	25	2%	75	11%	40	2%	65	3%
4 p.	0	0%	45	7%	65	3%	65	3%
5 or more	20	3%	30	6%	50	4%	95	5%
Total	**205**	**3%**	**585**	**11%**	**285**	**3%**	**530**	**5%**

Table 22: Households in core housing need, and the rate of core housing need, by household size in 2016 – Foothills County, High River, Okotoks, Rocky View County.

2016 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
HH Size (persons)	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
1 p.	21,610	20%	90	16%	275	16%	625	18%
2 p.	13,305	9%	85	5%	200	6%	435	6%
3 p.	7,370	10%	110	10%	125	8%	295	8%
4 p.	5,700	8%	100	7%	70	4%	250	6%
5 or more	4,975	11%	85	8%	70	8%	180	7%
Total	**52,965**	**12%**	**465**	**8%**	**740**	**8%**	**1,780**	**8%**

Table 23: HHs in CHN, and the rate of CHN, by household size in 2016 – Calgary, Chestermere, Cochrane, and Airdrie.

2021 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
HH Size (persons)	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
1 p.	140	13%	305	21%	150	9%	200	14%
2 p.	70	2%	90	4%	85	2%	180	4%
3 p.	30	3%	25	3%	45	3%	60	3%
4 p.	0	0%	45	6%	25	1%	35	1%
5 or more	0	0%	0	0%	20	1%	40	2%
Total	**260**	**3%**	**480**	**8%**	**330**	**3%**	**510**	**4%**

Table 24: Households in core housing need, and the rate of core housing need, by household size in 2021 – Foothills County, High River, Okotoks, Rocky View County.

2021 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
HH Size (persons)	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
1 p.	25,410	21%	70	10%	370	16%	805	17%
2 p.	12,030	8%	70	4%	205	5%	530	7%
3 p.	5,960	8%	55	4%	110	6%	265	6%
4 p.	3,480	4%	35	2%	85	4%	210	4%
5 or more	2,980	6%	65	5%	25	3%	180	6%
Total	**49,860**	**10%**	**295**	**4%**	**800**	**7%**	**1,990**	**8%**

Table 25: Households in core housing need, and the rate of core housing need, by household size in 2021 – Calgary, Chestermere, Cochrane, and Airdrie.

Core Housing Need by Tenure

In Calgary, the rate of CHN among owner households dropped slightly from 7% in 2016 to 6% in 2021. All the other CMRB municipalities have equal or lower rates of CHN among owners. Among renter households, the rate of CHN also dropped, from 25% in 2016 to 21% in 2021. This means that renters are 4 times more likely to be in CHN than owners, which is in line with Canada as a whole.

The decrease in CHN is seen in the other municipalities too, although renters went the opposite direction in Cochrane, increasing from 22% to 24%. With the growth of renter households in Cochrane, this slight increase in rate of CHN translates to almost a doubling of the number of renter households in CHN.

Please note that CHN among renters in subsidized housing tends to be high, in part, as these households are predominantly low income. In Calgary, 79% of all households in subsidized housing earn 50% or under of AMHI.

2016 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
Tenure	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Owner	155	2%	300	7%	145	2%	390	4%
With mortgage	40	1%	215	9%	100	2%	200	3%
Without mortgage	115	4%	80	5%	50	3%	185	4%
Renter	45	6%	285	26%	135	10%	145	15%
Subsidized housing	0	-	50	59%	0	0%	0	0%
Not subsidized	45	6%	235	23%	120	9%	135	15%
Total	**205**	**3%**	**585**	**11%**	**285**	**3%**	**530**	**5%**

Table 26: Households in core housing need, and the rate of core housing need, by tenure in 2016 - Foothills County, High River, Okotoks, and Rocky View County.

2016 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
Tenure	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Owner	21,960	7%	370	7%	450	5%	1,025	6%
With mortgage	16,395	8%	270	6%	335	6%	850	6%
Without mortgage	5,560	5%	95	8%	120	5%	175	5%
Renter	31,005	25%	95	21%	285	22%	755	21%
Subsidized housing	6,335	49%	0	-	40	47%	55	55%
Not subsidized	24,665	22%	95	21%	250	21%	700	20%
Total	**52,965**	**12%**	**465**	**8%**	**740**	**8%**	**1,780**	**8%**

Table 27: Households in core housing need, and the rate of core housing need, by tenure in 2016 - Calgary, Chestermere, Cochrane, and Airdrie.

2021 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
Tenure	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Owner	170	2%	230	5%	200	2%	390	3%
With mortgage	30	1%	155	6%	115	2%	210	3%
Without mortgage	140	4%	70	4%	85	3%	180	3%
Renter	90	12%	250	18%	130	9%	120	13%
Subsidized housing	0	-	30	21%	0	0%	0	-
Not subsidized	90	12%	220	18%	130	9%	120	13%
Total	**260**	**3%**	**480**	**8%**	**330**	**3%**	**510**	**4%**

Table 28: Households in core housing need, and the rate of core housing need, by tenure in 2021 - Foothills County, High River, Okotoks, and Rocky View County.

2021 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
Tenure	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
Owner	19,120	6%	235	4%	360	4%	955	5%
With mortgage	12,445	6%	175	4%	265	4%	760	5%
Without mortgage	6,680	6%	60	4%	95	3%	190	5%
Renter	30,740	21%	55	9%	445	24%	1,035	20%
Subsidized housing	5,315	39%	0	-	40	47%	35	39%
Not subsidized	25,425	19%	55	9%	400	22%	995	19%
Total	**49,860**	**10%**	**295**	**4%**	**800**	**7%**	**1,990**	**8%**

Table 29: Households in core housing need, and the rate of core housing need, by tenure in 2021 - Calgary, Chestermere, Cochrane, and Airdrie.

Core Housing Need by Priority Populations

Note: A given household could fall into several priority populations simultaneously. For example, a single mother-led household would also be counted in the women-led category, and additional characteristics may also apply. Separate categories should not be combined.

A description of each population is provided in Appendix D:

The population with the highest rate of CHN in the Calgary was single mother-led households, in both 2016 and 2021, followed by households led by someone over the age of 85. In 2021 there were approximately 7,700 single mother-led households in CHN in Calgary. Women-led households also experience higher-than-average CHN and represent the largest number of households in CHN in Calgary with over 26,000.

CHN among seniors is also higher than average across the metro region. The rates of CHN are not especially high among households led by someone 65 or older, but they rise noticeably one those households are led by someone age 85 or older. Section 1 of this report noted the ageing population and Figure 10 below shows the growth in seniors, which has nearly doubled between 2006 and 2021. The growth has been most strong in the 65 to 74 age range, but the oldest of the baby boomer generation will be entering the 75 to 85 age range by the time of the next census in 2026.

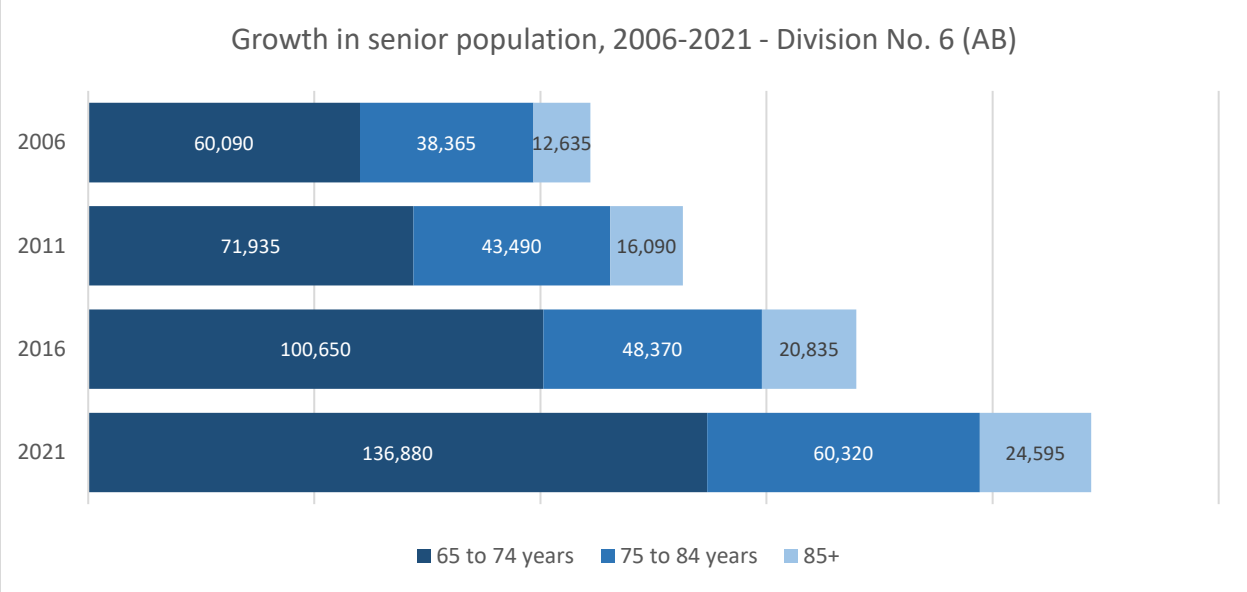

Figure 10: Growth in senior (age 65+) population from 2006 to 2021, Division No. 6, Alberta.

Note: The population with the highest rate of CHN in each municipality has been highlighted in dark green.

2016 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
HH with physical activity limitation	75	3%	165	10%	90	3%	165	4%
HH with cognitive, mental, or addictions activity limitation	25	3%	70	10%	20	1%	50	3%
Indigenous HH	0	0%	40	15%	25	5%	30	7%
Visible minority HH	0	0%	35	8%	30	5%	45	4%
Women-led	115	6%	395	21%	160	5%	195	7%
Black-led HH	0	0%	0	0%	0	0%	0	0%
New migrant-led HH	0	0%	0	0%	0	0%	0	0%
Refugee claimant-led HH	0	0%	0	0%	0	0%	0	0%
Single mother-led HH	35	17%	105	30%	70	10%	60	17%
HH head under 25	0	0%	15	16%	0	0%	0	0%
HH head over 65	65	4%	210	12%	45	3%	165	7%
HH head over 85	0	0%	15	14%	0	0%	20	14%

Table 30: Households in core housing need, and the rate of core housing need, by priority population in 2016 – Foothills County, High River, Okotoks, and Rocky View County.

2016 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
HH with physical activity limitation	14,480	12%	105	6%	170	7%	520	9%
HH with cognitive, mental, or addictions activity limitation	6,190	11%	80	9%	105	7%	280	8%
Indigenous HH	2,820	16%	40	14%	50	10%	105	8%
Visible minority HH	20,080	14%	180	10%	40	6%	305	11%
Women-led	26,175	16%	240	13%	405	13%	1,000	13%
Black-led HH	3,255	22%	0	0%	0	0%	50	12%
New migrant-led HH	4,395	20%	0	0%	20	9%	55	13%
Refugee claimant-led HH	4,365	22%	35	11%	15	38%	45	17%
Single mother-led HH	7,800	27%	90	25%	150	27%	395	28%
HH head under 25	2,250	19%	0	0%	30	15%	85	14%
HH head over 65	13,340	18%	65	11%	180	11%	360	16%
HH head over 85	2,075	26%	0	0%	0	0%	40	31%

Table 31: Households in core housing need, and the rate of core housing need, by priority population in 2016 – Calgary, Chestermere, Cochrane, and Airdrie.

2021 (table 1 of 2)								
	Foothills County		**High River**		**Okotoks**		**Rocky View County**	
	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
HH with physical activity limitation	40	2%	110	6%	100	3%	150	4%
HH with cognitive, mental, or addictions activity limitation	35	3%	65	7%	75	3%	80	4%
Indigenous HH	20	5%	0	0%	25	3%	20	3%
Visible minority HH	0	0%	25	3%	20	3%	65	4%
Women-led	100	4%	295	13%	215	5%	235	6%
Black-led HH	0	0%	0	0%	0	0%	0	0%
New migrant-led HH	0	0%	0	0%	0	0%	0	0%
Refugee claimant-led HH	0	0%	0	0%	0	0%	0	0%
Single mother-led HH	0	0%	65	15%	55	7%	50	14%
HH head under 25	0	0%	0	0%	0	0%	0	0%
HH head over 65	85	4%	230	11%	105	4%	220	6%
HH head over 85	0	0%	35	14%	0	0%	35	15%

Table 32: Households in core housing need, and the rate of core housing need, by priority population in 2021 – Foothills County, High River, Okotoks, and Rocky View County.

2021 (table 2 of 2)								
	Calgary		**Chestermere**		**Cochrane**		**Airdrie**	
	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN	HHs in CHN	% in CHN
HH with physical activity limitation	11,295	9%	60	3%	165	5%	560	8%
HH with cognitive, mental, or addictions activity limitation	7,095	9%	40	3%	150	6%	395	7%
Indigenous HH	3,355	15%	0	0%	65	10%	170	10%
Visible minority HH	18,215	10%	140	6%	75	7%	365	7%
Women-led	26,440	13%	115	5%	500	10%	1,180	11%
Black-led HH	3,170	15%	20	16%	15	20%	85	10%
New migrant-led HH	3,145	14%	0	0%	0	0%	70	10%
Refugee claimant-led HH	3,965	16%	35	9%	15	20%	65	11%
Single mother-led HH	7,690	22%	35	8%	185	27%	405	20%
HH head under 25	2,120	17%	0	0%	20	14%	75	15%
HH head over 65	13,665	14%	60	6%	260	9%	555	15%
HH head over 85	1,965	19%	0	0%	45	22%	55	23%

Table 33: Households in core housing need, and the rate of core housing need, by priority population in 2021 – Calgary, Chestermere, Cochrane, and Airdrie.

Part 3: Future Housing Need in 2031

Methodology

There are numerous ways to perform projection estimates for the growth in households, all with unique advantages and drawbacks. One of HART's goals is to use methods that are nationally applicable and are easily understood for results to be comparable between communities and widely accepted by national agencies.

HART's method for projecting household growth, which is applied to each cross section of income category and household size, allows us to estimate the number of households, their size, and income, assuming 'Business as Usual' growth and policy. The estimation of growth uses a line of best fit for each income category and household size across 3 historical censuses: 2006, 2016, and 2021.

Specifically, we use the "TREND" function in MS Excel, setting the number of households in 2006 as period 0, 2016 as period 2, and 2021 as period 3. Then we as the "TREND" function to extrapolate period 5, which is equivalent to 2031. Last, we round to the nearest ten or hundred households to communicate the roughness of the estimate. We apply this method to the subtotals and the totals separately, so this method will result in different subtotals by income or household size than it will for the total number of households in the community.

These projections should be contextualized in every community based on immigration, demographic shifts, changes to housing supply (growth and demolitions), and impacts from economic development that lead to growth or declines in key industries that could impact housing demand.

Estimating Unit Mix

In addition to income and household size, HART is able to estimate the household growth by family type, which allows our projections to be used for community planning by estimating the types of units required. See Appendix C for more information on this methodology.

Calculating household growth by income or household size is possible for most communities since we are only disaggregating by one dimension (i.e., total households split by income, or total households split by household size). To estimate the units needed by number of bedrooms however, we need to disaggregate households by 3 dimensions: household income, household size, and family type. Performing this split on small communities may result in values being suppressed, and the estimate

being inaccurate. Therefore, we generally only estimate the unit mix in 2031 for communities with over 10,000 total households.

How communities could build upon these projections

Household growth and housing stock influence each other, which makes household projections difficult. However, it also points to additional information communities may leverage to fine-tune their projections.

Incorporating information on planned development is likely fruitful. Official community plans (OCPs) typically identify what kind of housing is being prioritized in terms of supply. Development cost charges (DCC), fees levied on new developments to offset cost of infrastructure (such as sewer and water) required to service the constructed units, are a part of many municipalities' 10-year plans and can indicate what types of developments are most likely to happen. In addition, local Finance and Planning departments often set estimates and goals regarding the number of dwellings planned for a ten-year period. These could be used to project changes in housing stock, which could refine estimates of unit mix.

Secondly, while birth/mortality rates, international and intra-provincial migration are too detailed to incorporate into our projection methodology - which aims to be replicable over time, accessible, and comparable across geographies - they may be more reasonably integrated at the local scale and may help to fine-tune community projections. Communities are experts in their local dynamics and are best suited to make such adjustments. Similarly, changing demographics, e.g., age cohort structures, divorce rates, and changes in single person-household formation, for instance, could help fine-tune household growth projections. Moreover, many municipalities have already been conducting population projections; these projections could be used to triangulate projections produced via the HART methodology.

This section will first estimate future housing need for Calgary in terms both affordability and number of bedrooms. Then we will estimate future housing need for all CMRB municipalities by affordability as well as by household size, but not together.

Discussion of results

Based on trends between 2006 and 2021, HART's projection of the number of households in 2031, converted to need by unit size and affordability, shows that the majority of net new housing need will be in the form of 1-bedroom units: 34,080 out of a total 79,330 (43%). This need is balanced across all levels of affordability although 1-bedroom units represent a larger proportion of total need for lower income households: 95% of future need for Very Low income households and 71% of need for Low income households.

The remainder of the projected growth in households generally reflects the existing trend that households with higher incomes need more bedrooms – or conversely that income tends to increase with more people in the household. The majority of future housing need for 3 or more bedrooms is found in the High-income category, including 62% of net new demand for 5-or-more-bedroom homes.

Although those households that need 4-or-more bedrooms represent a relatively small number of all households, our projections show that housing need is growing fastest for homes with 5-or-more bedrooms (23%) and 4-bedroom homes (22%). Given the existing housing stock in Calgary and the current housing market, this high rate of growth could expose a gap in housing options in the future.

The vast majority of existing dwellings with 4-or-more bedrooms are single-detached homes (88% in Calgary, 89% in Division No. 6; see Table 5051), so households needing that many bedrooms will have limited choice in terms of type of dwelling to meet their needs. As of 2021, Calgary's High income households earn over $118,800/yr (Table 5657). The City of Calgary's Housing Needs Assessment report notes that, in 2023, a household income of $156,000/yr was needed to adequately afford the median single-detached home.[13] This income is well above the lower end of HART's High income category, meaning that these all these fast-growing Median and High income households that need 4 or more bedrooms may be challenged to find a home that is both affordable and with enough bedrooms to meet the needs of the household.

Having said that, it is also possible that this growth in larger households represents a reaction to rising shelter costs. Household formation can be suppressed if multiple households choose to live together if by doing so they achieve lower per person shelter cost. There are other reasons that people may want

[13] City of Calgary: 2023 Housing Needs Assessment. https://www.calgary.ca/content/dam/www/csps/cns/documents/affordable-housing/housing-needs-assessment-2023.pdf page 47; accessed February 20, 2024.

to live together, including multi-generational support of seniors or children, and this report does not attempt to estimate the existence or extend of suppressed household formation.[14]

Please note that the relative growth between income groups should be viewed with caution since this analysis does not attempt to forecast how the distribution of income might change in the next 10 years. Yet the relative composition of unit sizes by income/affordability may still be helpful to understand what type of housing will be needed at different price points, based on the trend from the last 15 years.

Results

The tables below are organized as follows:

a) Projected change in Number of Households between 2021 and 2031,
    - Equal to Table (c) minus Table (d)

b) Implied 10-year growth rate in Number of Households (2021 to 2031),
    - Equal to Table (c) divided by Table (d)

c) Projected Number of Households in 2031

d) Number of Households in 2021, and

e) Number of Households in CHN in 2021 (for comparison).

[14] A more detailed discussion of suppressed household formation is done by Nathan Lauster and Jens von Bergmann: https://homefreesociology.com/2022/05/06/estimating-suppressed-household-formation/; accessed February 20, 2024.

a) Projected change in Number of Households between 2021 to 2031

Projected change in Number of Households 2021 to 2031 – Calgary CY						
# of Bedrooms	Very Low Income	Low	Moderate	Median	High Income	**Total**
1	1,820	10,300	7,190	7,010	7,760	**34,080**
2	10	2,380	3,410	3,850	6,220	**15,870**
3	-50	1,110	2,050	4,310	9,510	**16,930**
4	110	590	1,210	2,390	4,030	**8,330**
5+	20	130	320	1,110	2,540	**4,120**
Total	**1,910**	**14,510**	**14,180**	**18,670**	**30,060**	**79,330**

Table 34: Projected change in number of households between 2021 and 2031, by income (affordability) and unit size (number of bedrooms) - Calgary CY.

b) Implied 10-year growth rate in Number of Households (2021 to 2031)

Implied 10-year growth rate in Number of Households (2021 to 2031) – Calgary CY						
# of Bedrooms	Very Low Income	Low	Moderate	Median	High Income	**Total**
1	13%	16%	13%	14%	12%	**14%**
2	1%	19%	17%	16%	16%	**16%**
3	-5%	20%	17%	20%	16%	**17%**
4	38%	31%	21%	26%	19%	**22%**
5+	33%	28%	23%	29%	21%	**23%**
Total	**11%**	**17%**	**15%**	**17%**	**15%**	**16%**

Table 35: Implied 10-year growth rate in number of households between 2021 and 2031, by income (affordability) and unit size (number of bedrooms) - Calgary CY.

c) Projected Number of Households in 2031 by need in terms of Unit Size & Affordability

Projected Number of Households in 2031 – Calgary CY						
# of Bedrooms	Very Low Income	Low	Moderate	Median	High Income	**Total**
1	15,600	76,000	60,900	56,200	71,700	**280,400**
2	1,900	14,700	23,700	28,400	45,100	**113,800**
3	1,000	6,600	14,200	25,600	68,600	**116,000**
4	400	2,500	6,900	11,600	25,600	**47,000**
5+	80	600	1,700	4,900	14,700	**21,980**
Total	**18,980**	**100,400**	**107,400**	**126,700**	**225,700**	**579,180**

Table 36: Projected change in number of households in 2031, by income (affordability) and unit size (number of bedrooms) - Calgary CY.

d) Households in 2021 by need in terms of Unit Size & Affordability

Number of Households in 2021 – Calgary CY						
# of Bedrooms	Very Low Income	Low	Moderate	Median	High Income	**Total**
1	13,780	65,700	53,710	49,190	63,940	**246,320**
2	1,890	12,320	20,290	24,550	38,880	**97,930**
3	1,050	5,490	12,150	21,290	59,090	**99,070**
4	290	1,910	5,690	9,210	21,570	**38,670**
5+	60	470	1,380	3,790	12,160	**17,860**
Total	**17,070**	**85,890**	**93,220**	**108,030**	**195,640**	**499,850**

Table 37: Estimated number of households in 2021 by income (affordability) and unit size (number of bedrooms) - Calgary CY. Note that estimating the needs of households by unit size may resulted in a different grand total that actual households in 2021.

e) Existing Core Housing Need by need in terms of Unit Size & Affordability

2021 Households in CHN – Calgary CY						
# of Bedrooms	Very Low Income	Low	Moderate	Median	High Income	**Total**
1	5,150	25,340	0	0	0	**30,490**
2	605	7,830	1,075	0	0	**9,510**
3	255	3,925	1,640	0	0	**5,820**
4	65	1,445	1,530	0	0	**3,040**
5+	0	370	635	0	0	**1,005**
Total	**6,075**	**38,910**	**4,880**	**0**	**0**	**49,865**

Table 38: Actual number of households in core housing need in 2021, by income and number of bedrooms - Calgary CY. Note that estimating the needs of households by unit size may resulted in a different grand total that actual households in 2021.

These communities have too few total households to perform HART's unit mix process to estimate housing need by number of bedrooms, but we can still apply the projection methodology to estimate housing need by household size and by income/affordability in 2031.

Similar to above, tables will be presented first for Household Size and then Income/Affordability in the following order:

a) Projected change in Number of Households between 2021 and 2031,
    - Equal to Table (c) minus Table (d)

b) Implied 10-year growth rate in Number of Households (2021 to 2031),
    - Equal to Table (c) divided by Table (d)

c) Projected Number of Households in 2031, and

d) Number of Households in 2021.

Discussion of results

In the discussion of the projections by unit size above we noted that the need for large dwellings was growing at a faster rate than smaller dwellings in the City of Calgary. This result consistent with the below projections of household size, where 5+ person-sized households are projected to grow at a rate noticeably above all other-sized households (24% growth of 5+ person households versus 16% for all households).

Table 40 shows High River and Chestermere showing a similar, though less pronounced, pattern as Calgary with 5+ person-sized households growing at a faster rate than the community. However, both High River and Chestermere also show high growth among 1 person-sized households too. In both cases, historical growth was more concentrated in the period between 2006-2016 compared to 2016-2021 – especially for Chestermere (Tables 59-61).

The other municipalities show balanced growth across the different household sizes with the exception of Cochrane which has the highest growth among 1 person households, with growth rates slowing as household sizes increase.

Growth across income (Table 44) is balanced, with the larger rates seen in Very Low income likely related to this group being the smallest and more sensitive to variation and rounding. Still, Foothills County and Chestermere are projecting considerably larger growth rates in Very Low income households – Foothills County's based on a doubling of these households between 2006-2016 that stayed flat between 2016-2021 despite CERB, and Chestermere's on a three-fold increase between 2016-2021 that dropped considerably between 2016-2021 (Tables 62-64).

Overall, it's noteworthy that 3 communities are projected to grow 40% or more over the next 10 years: Chestermere, Cochrane, and Airdrie; with Okotoks not far behind at 35%. These high rates seem to be driven by the remarkable growth that occurred between 2006-2016, where these 4 communities more-or-less doubled the number of households living in their communities, slowing between 2016-2021.

By household size:

a) Projected change in Number of Households between 2021 to 2031

HH Size (persons)	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
1 p.	145	365	620	275	17,080	320	1,140	2,160
2 p.	525	425	1,270	780	23,815	725	1,870	3,620
3 p.	140	90	640	195	12,985	460	805	1,950
4 p.	150	70	665	155	13,465	570	730	2,120
5+ p.	30	130	455	205	11,910	640	330	1,395
Total	990	1,080	3,650	1,610	79,255	2,715	4,875	11,245

Table 39: Projected change in number of households between 2021 and 2031, by household size - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

b) Implied 10-year growth rate in Number of Households (2021 to 2031)

HH Size (persons)	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
1 p.	13%	24%	37%	17%	13%	44%	46%	43%
2 p.	16%	19%	36%	15%	15%	39%	42%	44%
3 p.	12%	12%	36%	10%	16%	37%	40%	43%
4 p.	12%	10%	31%	6%	17%	37%	34%	40%
5+ p.	4%	24%	34%	11%	24%	47%	33%	44%
Total	13%	19%	35%	12%	16%	40%	40%	43%

Table 40: Implied 10-year growth rate in number of households between 2021 and 2031, by household size - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

c) Projected Number of Households in 2031

HH Size (persons)	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
1 p.	1,300	1,900	2,300	1,900	148,300	1,040	3,600	7,200
2 p.	3,900	2,700	4,800	6,000	183,300	2,600	6,300	11,800
3 p.	1,300	820	2,400	2,100	92,700	1,700	2,800	6,500
4 p.	1,400	770	2,800	2,700	92,900	2,100	2,900	7,400
5+ p.	870	670	1,800	2,100	61,900	2,000	1,330	4,600
Total	8,770	6,860	14,100	14,800	579,100	9,440	16,930	37,500

Table 41: Projected number of households in 2031, by household size - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

d) Number of Households in 2021

HH Size (persons)	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
1 p.	1,155	1,535	1,680	1,625	131,220	720	2,460	5,040
2 p.	3,375	2,275	3,530	5,220	159,485	1,875	4,430	8,180
3 p.	1,160	730	1,760	1,905	79,715	1,240	1,995	4,550
4 p.	1,250	700	2,135	2,545	79,435	1,530	2,170	5,280
5+ p.	840	540	1,345	1,895	49,990	1,360	1,000	3,205
Total	7,780	5,780	10,450	13,190	499,845	6,725	12,055	26,255

Table 42: Actual number of households in 2021, by household size - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

By household income/affordability:

a) Projected change in Number of Households between 2021 to 2031

Income	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
Very Low	160	-15	75	120	1,735	115	155	340
Low	165	205	560	420	14,610	455	640	1,560
Moderate	100	185	760	280	14,175	600	955	2,265
Median	240	270	715	325	18,670	640	1,405	2,850
High	265	420	1,375	535	30,050	970	1,760	4,215
Total	930	1,065	3,485	1,680	79,240	2,780	4,915	11,230

Table 43: Projected change in number of households between 2021 and 2031, by income - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

b) Implied 10-year growth rate in Number of Households (2021 to 2031)

Income	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
Very Low	36%	-33%	29%	18%	10%	79%	36%	52%
Low	13%	23%	34%	20%	17%	51%	36%	41%
Moderate	7%	14%	39%	12%	15%	40%	39%	43%
Median	15%	20%	28%	12%	17%	36%	49%	42%
High	8%	19%	34%	10%	15%	40%	39%	44%
Total	12%	18%	33%	13%	16%	41%	41%	43%

Table 44: Implied 10-year growth rate in number of households between 2021 and 2031, by income - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

c) Projected Number of Households in 2031

Income	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
Very Low	610	30	330	770	18,800	260	580	990
Low	1,400	1,100	2,200	2,500	100,500	1,340	2,400	5,400
Moderate	1,500	1,500	2,700	2,700	107,400	2,100	3,400	7,500
Median	1,800	1,600	3,300	3,000	126,700	2,400	4,300	9,700
High	3,400	2,600	5,400	5,900	225,700	3,400	6,300	13,900
Total	8,710	6,830	13,930	14,870	579,100	9,500	16,980	37,490

Table 45: Projected number of households in 2031, by income - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

d) Number of Households in 2021

Income	Foothills County	High River	Okotoks	Rocky View County	Calgary	Chestermere	Cochrane	Airdrie
Very Low	450	45	255	650	17,065	145	425	650
Low	1,235	895	1,640	2,080	85,890	885	1,760	3,840
Moderate	1,400	1,315	1,940	2,420	93,225	1,500	2,445	5,235
Median	1,560	1,330	2,585	2,675	108,030	1,760	2,895	6,850
High	3,135	2,180	4,025	5,365	195,650	2,430	4,540	9,685
Total	7,780	5,765	10,445	13,190	499,860	6,720	12,065	26,260

Table 46: Actual number of households in 2021, by income - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

Appendix A: Full data tables

Households, population, and headship rates (2006, 2011, 2016, 2021)

Calgary

Census Year	2006			2011			2016			2021		
Age Groups	Households	Population	Headship Rate	Households	Population	Headship Rate	Households	Population	Headship Rate	Households	Population	Headship Rate
0-14 years	0	178,450	-	0	196,415	-	0	226,980	-	0	235,855	-
15-24	19,380	142,815	0.136	16,645	144,150	0.115	13,340	148,370	0.090	13,825	151,855	0.091
25-34	75,790	161,330	0.470	84,565	183,715	0.460	90,125	209,585	0.430	83,280	194,345	0.429
35-44	89,815	163,800	0.548	91,550	172,150	0.532	101,440	193,805	0.523	110,700	210,845	0.525
45-54	90,415	155,860	0.580	98,675	171,235	0.576	99,335	174,700	0.569	100,130	176,110	0.569
55-64	53,470	91,300	0.586	69,635	119,980	0.580	85,310	147,385	0.579	93,305	160,360	0.582
65-74	29,315	50,305	0.583	33,865	58,360	0.580	45,945	80,510	0.571	62,865	108,615	0.579
75-84	20,815	33,275	0.626	Unavailable	36,900	n/a	22,960	40,030	0.574	27,860	48,370	0.576
85 +	5,750	11,060	0.520	Unavailable	13925	n/a	8,280	17,860	0.464	10,345	20,420	0.507
(75+)	-	-	-	28485	50825	0.560	-	-	-	-	-	-
Total	384,740	988,190	-	423,415	1,096,833	-	466,740	1,239,220	-	502,305	1,306,784	-

Table 47: Number of households, population, and headship rate for census years 2006, 2011, 2016, and 2021. Calgary.

Division No. 6, Alberta

Census Year	2006			2011			2016			2021		
Age Groups	Households	Population	Headship Rate	Households	Population	Headship Rate	Households	Population	Headship Rate	Households	Population	Headship Rate
0-14 years	0	215,500	-	0	241,460	-	0	282,180	-	0	294,075	-
15-24	21,140	166,250	0.127	18,455	171,155	0.108	15,110	178,370	0.085	15,275	183,540	0.083
25-34	84,125	180,240	0.467	95,760	209,740	0.457	103,365	241,845	0.427	95,360	224,470	0.425
35-44	104,170	191,415	0.544	107,945	203,505	0.530	121,600	232,550	0.523	132,875	253,780	0.524
45-54	107,150	186,240	0.575	118,130	206,715	0.571	119,875	212,215	0.565	121,205	214,670	0.565
55-64	63,695	110,190	0.578	84,625	146,930	0.576	104,290	181,750	0.574	114,325	198,315	0.576
65-74	34,985	60,090	0.582	41,885	71,935	0.582	57,455	100,650	0.571	78,705	136,880	0.575
75-84	23,945	38,365	0.624	Unavailable	43,490	n/a	27,880	48,370	0.576	34,680	60,320	0.575
85 +	6,500	12,635	0.514	Unavailable	16090	n/a	9,335	20,835	0.448	12,200	24,595	0.496
(75+)	-	-	-	33295	59580	0.559	-	-	-	-	-	-
Total	445,715	1,160,935	-	500,100	1,311,020	-	558,915	1,498,780	-	604,630	1,590,640	-

Table 48: Number of households, population, and headship rate for census years 2006, 2011, 2016, and 2021. Division No. 6, Alberta.

Dwellings by structural type and period of construction (2021)

Calgary													
	Total	Before 1921	1921 - 1945	1946 - 1960	1961 - 1970	1971 - 1980	1981 - 1990	1991 - 1995	1996 - 2000	2001 - 2005	2006 - 2010	2011 - 2015	2016 - 2021
Total	502,305	7,025	4,715	32,115	45,485	87,540	59,780	31,675	44,010	50,390	47,665	45,850	46,050
Single-detached house	276,040	3,865	2,700	20,125	23,855	40,710	34,460	21,485	29,360	31,530	26,960	22,360	18,630
Apartment in building with 5+ storeys	40,700	415	225	1,200	4,050	7,645	5,520	1,180	1,815	2,865	4,550	4,335	6,895
Apartment in building with <5 storeys, duplexes (1)	102,375	2,330	1,465	8,295	11,240	18,720	10,620	4,170	6,875	8,945	8,390	8,970	12,340
Attached, semi-detached, row housing (2)	81,340	405	310	2,480	6,210	19,770	8,755	4,665	5,795	6,940	7,700	10,160	8,130
Moveable dwelling	1,850	-	10	15	130	705	410	175	170	105	65	25	45

Division No. 6, Alberta													
	Total	Before 1921	1921 - 1945	1946 - 1960	1961 - 1970	1971 - 1980	1981 - 1990	1991 - 1995	1996 - 2000	2001 - 2005	2006 - 2010	2011 - 2015	2016 - 2021
Total	604,625	8,275	6,005	34,650	48,695	98,080	67,920	38,870	54,645	63,060	64,555	62,005	57,870
Single-detached house	351,940	4,960	3,910	22,430	26,505	48,935	40,625	27,280	37,645	40,835	39,155	32,955	26,705
Apartment in building with 5+ storeys	40,755	415	225	1,200	4,050	7,650	5,525	1,185	1,815	2,875	4,570	4,345	6,895
Apartment in building with <5 storeys, duplexes (1)	110,370	2,370	1,495	8,465	11,495	19,450	11,235	4,445	7,475	10,000	10,060	10,815	13,060
Attached, semi-detached, row housing (2)	97,270	505	365	2,520	6,385	20,670	9,695	5,470	7,295	9,050	10,505	13,725	11,075
Moveable dwelling	4,295	20	15	25	260	1,380	830	485	425	300	260	175	130

Table 49: Number of dwellings by structural type and period of construction, 2021. (1) Category "Apartment in building with <5 storeys, duplexes" represents the sum of the original Statistics Canada categories "Apartment or flat in a duplex" and "Apartment in a building that has fewer than five storeys". (2) Category "Attached, semi-detached, row housing" represents the sum of original Statistics Canada categories "Other single-attached house", "Row house", and "Semi-detached house".

Dwellings by structural type and number of bedrooms (2021)

	Calgary						Division No. 6					
	Total	No bedrooms	1 bedroom	2 bedrooms	3 bedrooms	4 or more	Total	No bedrooms	1 bedroom	2 bedrooms	3 bedrooms	4 or more
Total	502,305	2,920	59,385	116,630	167,890	155,480	604,625	3,180	63,480	132,675	208,565	196,730
Single-detached house	276,045	535	3,725	19,820	115,840	136,120	351,940	690	5,020	25,800	145,425	175,000
Apartment in building with 5+ storeys	40,700	1,040	19,780	19,140	670	70	40,750	1,040	19,795	19,165	685	70
Apartment in building with <5 storeys, duplexes (1)	102,380	1,135	32,755	50,425	10,520	7,535	110,370	1,185	34,760	55,460	11,195	7,765
Attached, semi-detached, row housing (2)	81,345	205	3,040	26,435	39,965	11,705	97,280	245	3,690	30,720	48,940	13,675
Moveable dwelling	1,850	-	90	815	900	45	4,295	15	210	1,530	2,320	225

Table 50: Number of dwellings by structural type and number of bedrooms, 2021. (1) Category "Apartment in building with <5 storeys, duplexes" represents the sum of the original Statistics Canada categories "Apartment or flat in a duplex" and "Apartment in a building that has fewer than five storeys". (2) Category "Attached, semi-detached, row housing" represents the sum of original Statistics Canada categories "Other single-attached house", "Row house", and "Semi-detached house".

Income categories and affordable monthly shelter costs (2016, 2021)

2016 – Income (table 1 of 2)				
	Foothills County	High River	Okotoks	Rocky View County
AMHI	$137,000	$79,500	$117,000	$159,000
Very Low	< $27,400	< $15,900	< $23,400	< $31,800
Low	$27,401-$68,500	$15,901-$39,750	$23,401-$58,500	$31,801-$79,500
Moderate	$68,501-$109,600	$39,751-$63,600	$58,501-$93,600	$79,501-$127,200
Median	$109,601-$164,400	$63,601-$95,400	$93,601-$140,400	$127,201-$190,800
High	> $164,400	> $95,400	> $140,400	> $190,800

Table 51: Annual household income ranges for HART income categories, 2016 – Foothills County, High River, Okotoks, and Rocky View County.

2016 – Income (table 2 of 2)				
	Calgary	Chestermere	Cochrane	Airdrie
AMHI	$98,000	$134,000	$113,000	$111,000
Very Low	< $19,600	< $26,800	< $22,600	< $22,200
Low	$19,601-$49,000	$26,801-$67,000	$22,601-$56,500	$22,201-$55,500
Moderate	$49,001-$78,400	$67,001-$107,200	$56,501-$90,400	$55,501-$88,800
Median	$78,401-$117,600	$107,201-$160,800	$90,401-$135,600	$88,801-$133,200
High	> $117,600	> $160,800	> $135,600	> $133,200

Table 52: Annual household income ranges for HART income categories, 2016 – Calgary, Chestermere, Cochrane, and Airdrie.

2016 – Affordable monthly shelter cost by income (table 1 of 2)				
	Foothills County	High River	Okotoks	Rocky View County
AMHI	$137,000	$79,500	$117,000	$159,000
Very Low	< $685	< $398	< $585	< $795
Low	$685-$1,713	$398-$994	$585-$1,463	$795-$1,988
Moderate	$1,713-$2,740	$994-$1,590	$1,463-$2,340	$1,988-$3,180
Median	$2,740-$4,110	$1,590-$2,385	$2,340-$3,510	$3,180-$4,770
High	> $4,110	> $2,385	> $3,510	> $4,770

Table 53: Implied affordable monthly shelter costs for each HART income category, 2016 - Foothills County, High River, Okotoks, and Rocky View County.

2016 – Affordable monthly shelter cost by income (table 2 of 2)				
	Calgary	Chestermere	Cochrane	Airdrie
AMHI	$98,000	$134,000	$113,000	$111,000
Very Low	< $490	< $670	< $565	< $555
Low	$490-$1,225	$670-$1,675	$565-$1,413	$555-$1,388
Moderate	$1,225-$1,960	$1,675-$2,680	$1,413-$2,260	$1,388-$2,220
Median	$1,960-$2,940	$2,680-$4,020	$2,260-$3,390	$2,220-$3,330
High	> $2,940	> $4,020	> $3,390	> $3,330

Table 54: Implied affordable monthly shelter costs for each HART income category, 2016 - Calgary, Chestermere, Cochrane, and Airdrie.

2021 – Income (table 1 of 2)				
	Foothills County	High River	Okotoks	Rocky View County
AMHI	$137,000	$82,000	$117,000	$153,000
Very Low	< $27,400	< $16,400	< $23,400	< $30,600
Low	$27,401-$68,500	$16,401-$39,750	$23,401-$58,500	$30,601-$79,500
Moderate	$68,501-$109,600	$41,001-$63,600	$58,501-$93,600	$76,501-$127,200
Median	$109,601-$164,400	$65,601-$98,400	$93,601-$140,400	$122,401-$183,600
High	> $164,400	> $98,400	> $140,400	> $183,600

Table 55: Annual household income ranges for HART income categories, 2021 – Foothills County, High River, Okotoks, and Rocky View County.

2021 – Income (table 2 of 2)				
	Calgary	Chestermere	Cochrane	Airdrie
AMHI	$99,000	$136,000	$113,000	$110,000
Very Low	< $19,800	< $27,200	< $22,600	< $22,000
Low	$19,801-$49,000	$27,201-$67,000	$22,601-$56,500	$22,001-$55,500
Moderate	$49,501-$78,400	$68,001-$107,200	$56,501-$90,400	$55,001-$88,800
Median	$79,201-$118,800	$108,801-$163,200	$90,401-$135,600	$88,001-$132,000
High	> $118,800	> $163,200	> $135,600	> $132,000

Table 56: Annual household income ranges for HART income categories, 2021 – Calgary, Chestermere, Cochrane, and Airdrie.

2021 – Affordable monthly shelter cost by income (table 1 of 2)				
	Foothills County	High River	Okotoks	Rocky View County
AMHI	$137,000	$82,000	$117,000	$153,000
Very Low	< $685	< $410	< $585	< $765
Low	$685-$1,713	$410-$1,025	$585-$1,463	$765-$1,913
Moderate	$1,713-$2,740	$1,025-$1,640	$1,463-$2,340	$1,913-$3,060
Median	$2,740-$4,110	$1,640-$2,460	$2,340-$3,510	$3,060-$4,590
High	> $4,110	> $2,460	> $3,510	> $4,590

Table 57: Implied affordable monthly shelter costs for each HART income category, 2021 - Foothills County, High River, Okotoks, and Rocky View County.

2021 – Affordable monthly shelter cost by income (table 2 of 2)				
	Calgary	Chestermere	Cochrane	Airdrie
AMHI	$99,000	$136,000	$113,000	$110,000
Very Low	< $495	< $680	< $565	< $550
Low	$495-$1,238	$680-$1,700	$565-$1,413	$550-$1,375
Moderate	$1,238-$1,980	$1,700-$2,720	$1,413-$2,260	$1,375-$2,200
Median	$1,980-$2,970	$2,720-$4,080	$2,260-$3,390	$2,200-$3,300
High	> $2,970	> $4,080	> $3,390	> $3,300

Table 58: Implied affordable monthly shelter costs for each HART income category, 2021 - Calgary, Chestermere, Cochrane, and Airdrie

Total households by household size (2006, 2016, 2021)

2006								
HH Size (persons)	**Foothills County**	**High River**	**Okotoks**	**Rocky View County**	**Calgary**	**Chestermere**	**Cochrane**	**Airdrie**
1 p.	860	880	820	1,105	99,030	260	710	1,660
2 p.	2,625	1,740	1,760	3,780	125,625	950	1,695	3,130
3 p.	1,005	600	1,045	1,730	63,525	635	845	1,935
4 p.	1,125	590	1,335	2,385	60,840	785	1,035	2,215
5+ p.	770	370	780	1,585	34,625	435	525	1,125
Total	6,390	4,180	5,745	10,585	383,640	3,065	4,815	10,070

Table 59: Total households by household size, 2006 - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

2016								
HH Size (persons)	**Foothills County**	**High River**	**Okotoks**	**Rocky View County**	**Calgary**	**Chestermere**	**Cochrane**	**Airdrie**
1 p.	1,045	1,265	1,395	1,320	112,840	585	1,810	3,740
2 p.	3,125	2,225	3,090	4,425	150,425	1,805	3,680	6,940
3 p.	1,125	695	1,735	1,975	78,205	1,115	1,675	3,965
4 p.	1,345	655	2,090	2,640	75,125	1,435	1,680	4,420
5+ p.	780	505	1,320	1,790	47,775	1,145	860	2,530
Total	7,420	5,345	9,635	12,150	464,370	6,095	9,705	21,585

Table 60: Total households by household size, 2016 - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

2021								
HH Size (persons)	**Foothills County**	**High River**	**Okotoks**	**Rocky View County**	**Calgary**	**Chestermere**	**Cochrane**	**Airdrie**
1 p.	1,155	1,535	1,680	1,625	131,220	720	2,460	5,040
2 p.	3,375	2,275	3,530	5,220	159,485	1,875	4,430	8,180
3 p.	1,160	730	1,760	1,905	79,715	1,240	1,995	4,550
4 p.	1,250	700	2,135	2,545	79,435	1,530	2,170	5,280
5+ p.	840	540	1,345	1,895	49,990	1,360	1,000	3,205
Total	7,785	5,775	10,450	13,185	499,855	6,725	12,060	26,260

Table 61: Total households by household size, 2021 - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

Total households by income/affordability (2006, 2016, 2021)

2006								
Income	**Foothills County**	**High River**	**Okotoks**	**Rocky View County**	**Calgary**	**Chestermere**	**Cochrane**	**Airdrie**
Very Low	265	115	240	525	18,345	80	200	330
Low	1,085	690	800	1,535	61,485	330	740	1,330
Moderate	1,115	850	975	1,885	69,935	610	910	1,940
Median	1,160	935	1,525	2,155	79,975	925	995	2,875
High	2,770	1,595	2,205	4,485	153,895	1,115	1,970	3,600
Total	6,390	4,180	5,745	10,585	383,640	3,065	4,815	10,070

Table 62: Total households by household income, 2006 - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

2016								
Income	**Foothills County**	**High River**	**Okotoks**	**Rocky View County**	**Calgary**	**Chestermere**	**Cochrane**	**Airdrie**
Very Low	450	125	370	665	21,995	245	365	760
Low	1,245	940	1,415	1,910	74,865	855	1,350	2,865
Moderate	1,230	990	1,825	2,165	83,160	1,150	1,755	4,230
Median	1,425	1,240	2,305	2,420	98,675	1,630	2,490	5,830
High	3,060	2,055	3,715	4,985	185,680	2,215	3,745	7,900
Total	7,420	5,345	9,635	12,150	464,370	6,095	9,705	21,585

Table 63: Total households by household income, 2016 - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

2021								
Income	**Foothills County**	**High River**	**Okotoks**	**Rocky View County**	**Calgary**	**Chestermere**	**Cochrane**	**Airdrie**
Very Low	450	45	255	650	17,065	145	425	650
Low	1,235	895	1,640	2,080	85,890	885	1,760	3,840
Moderate	1,400	1,315	1,940	2,420	93,225	1,500	2,445	5,235
Median	1,560	1,330	2,585	2,675	108,030	1,760	2,895	6,850
High	3,135	2,180	4,025	5,365	195,650	2,430	4,540	9,685
Total	7,785	5,775	10,450	13,185	499,855	6,725	12,060	26,260

Table 64: Total households by household income, 2021 - Foothills County, High River, Okotoks, Rocky View County, Calgary, Chestermere, Cochrane, and Airdrie.

Appendix B: Data Sources

1. Population, number of households
    a. 2006 Census Profile https://www12.statcan.gc.ca/census-recensement/2006/dp-pd/prof/92-591/
    b. 2011 Census Profile https://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E
    c. 2016 Census Profile: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E
    d. 2021 Census Profile: https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E
2. Number of households by age of primary household maintainer (note that HART data was used for the 85+ age group in 2006, 2016, and 2021)
    a. 2006 Census: Statistics Canada. Data table 97-554-XCB2006034
    b. 2011 National Household Survey: Statistics Canada. Data table 99-014-X2011045
    c. 2016 Census: Statistics Canada Catalogue no. 98-400-X2016227
    d. 2021 Census: Statistics Canada. Table 98-10-0232-01 Age of primary household maintainer by tenure: Canada, provinces and territories, census divisions and census subdivisions
3. Dwellings by structural type and period of construction
    a. 2016 Census: Statistics Canada Catalogue no. 98-400-X2016222
    b. 2021 Census: Statistics Canada. Table 98-10-0233-01 Dwelling condition by tenure: Canada, provinces and territories, census divisions and census subdivisions
4. Households by tenure, presence of mortgage, subsidized housing
    a. 2016 Census: Statistics Canada, 2023, "HART - 2016 Census of Canada - Selected Characteristics of Census Households for Housing Need - Canada, all provinces and territories at the Census Division (CD) and Census Subdivision (CSD) level [custom tabulation]", https://doi.org/10.5683/SP3/QMNEON, Borealis, V1

b. 2021 Census: Statistics Canada, 2023, "HART - 2021 Census of Canada - Selected Characteristics of Census Households for Housing Need - Canada, all provinces and territories at the Census Division (CD) and Census Subdivision (CSD) level [custom tabulation]", https://doi.org/10.5683/SP3/8PUZQA, Borealis, V8

5. Households by vulnerable population
    a. 2016 Census: HART (see source 4 above)
    b. 2021 Census: HART (see source 4 above)
6. Households by income category and household size
    a. 2006 Census: Statistics Canada, 2023, "HART - 2006 Census of Canada - Selected Characteristics of Census Households for Housing Need - Canada, all provinces and territories at the Census Division (CD) and Census Subdivision (CSD) level [custom tabulation]", https://doi.org/10.5683/SP3/KW09ZA, Borealis, V1
    b. 2016 Census: HART (see source 4 above)
    c. 2021 Census: HART (see source 4 above)

Appendix C: Family type bedroom requirements

We use the National Occupancy Standards[15] (NOS) as our basic set of assumptions. However, the NOS allows for children to share a bedroom if they are the same sex which introduces some complication. For simplicity, we assume that each child needs their own bedroom.

For the purpose of translating household sizes to bedroom requirements, HART uses only the specific categories **bolded** in the list below:

- Census family households
    - One-census-family households without additional persons
        - One couple census family without other persons in the household
            - **Without children**
            - **With children**
        - **One lone-parent census family without other persons in the household**
    - One-census-family households with additional persons
        - **One couple census-family with other persons in the household**
            - Without children
            - With children
        - **One lone-parent census family with other persons in the household**
    - **Multiple-family households**
- **Non-census-family households**
    - Non-family households: One person only
    - Two-or-more person non-census-family household

HART elected to use these groups because they account for all categories that would affect the type of unit needed to house them. For example, the aggregate category "non-census-family households" was chosen as both (i) one person households and (ii) two or more-person non-census-family households would have the same type of bedroom requirement, i.e., one bedroom per individual in the non-census-family household.

[15] https://www.cmhc-schl.gc.ca/professionals/industry-innovation-and-leadership/industry-expertise/affordable-housing/provincial-territorial-agreements/investment-in-affordable-housing/national-occupancy-standard

Family Type	Description	Bedroom requirements
One couple census family without other persons in the household - Without children	Married or common-law couple. These will always be two-person households.	Couples may share a bedroom. This family type requires a minimum of 1 bedroom. Beds = 1
One couple census family without other persons in the household - With children	Married or common-law couple with child(ren).	Couples may share a bedroom. This family type requires a unit with bedrooms equal to the household size - 1. For instance, a couple with 2 children (household size = 4) requires a unit with (4 - 1=3) 3 bedrooms. Beds = HH size - 1
One lone-parent census family without other persons in the household	Single parent with child(ren).	As parent and child(ren) each require their own bedroom, the required number of bedrooms is equal to the size of the household. Beds = HH size
One census-family households with additional persons	One census family (couple with child[ren]) with other persons in the household, such as grandparent, roommate.	The couple can share a bedroom but we assume each child needs their own bedroom. Beds = HH size - 1
One lone-parent census-family household with additional persons	One lone-parent census family (single parent with child[ren]) with other persons in the household, such as grandparent, roommate.	Since adults and child(ren) each require their own bedroom, the required number of bedrooms is equal to the size of the household. Beds = HH size
Multiple-family households	A household in which two or more census families live. An example of this could be two single mothers sharing a home with their respective children, or a married couple living with one partner's parents. Household size will be four or more in nearly all cases In most communities, this family type is rare.	We cannot infer how many members are adults or children so we assume all are adults with at least two couples who can each share a bedroom. Beds = HH size - 2
Non-census-family households	A non-couple or parent household. This classification includes one-person households and two or more-person non-census-family household.	Since each adult requires their own bedroom, the required number of bedrooms is equal to the size of the household. Beds = HH size

Appendix D: Priority Populations

Priority population	Census Variable	Definition
Women-led HH	PHM is female	A female-led HH.
Single mother-led HH	PHM is a female lone-parent	A female-led sole parent HH with children, defined as a priority population by the CMHC.
Indigenous HH	Indigenous HH status	Indigenous HH status is defined as 50% or more of HH members self-identifying as indigenous in the census.
Racialized HH	Visible minority HHs	Racialized HH status is defined as 50% or more of HH member self-identifying as a visible minority in the census.
Black-led HH	PHM is black	A HH where the PHM self-identifies as black.
New migrant-led HH	PHM is a recent immigrant (immigrated 2016 - 2021)	A HH led by an individual who immigrated within 5 years of the census.
Refugee claimant-led HH	PHM immigrated with a refugee status	A HH led by an individual who immigrated with refugee status.
HH head under 25	PHM is 24 years or under	A HH led by an individual who is 24 years old or younger.
HH head over 65	PHM is between 65 years and over	This census measure (PHM is 24 years or under) is under-represented in the survey for CHN because non-family HHs with at least one maintainer aged 15 to 29 attending school are considered not to be in 'core housing need' regardless of their housing circumstances.
HH head over 85	PHM is between 85 years and over	A HH where a senior, 65 years of age or older, is the PHM.
HH with physical activity limitation	HH has at least one person with activity limitations reported for (q11a, q11b, q11c or q11f or combined)	A HH where a senior, 85 years of age or older, is the PHM. This category is a subset of HH head over 65.
HH with mental activity limitation	HH has at least one person with activity limitations reported for q11d and q11e or combined q11d and q11e health issues	A HH with one or more persons with an activity limitation.