

# ***How Large is the Housing Shortage in Canada?***

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## **The Summary**

CMHC has estimated that as of 2021 the housing supply in Canada was 3.5 million dwelling units less than it needs to be (this is in addition to the housing that will be required by population growth). That estimate fails a reality check: if we had 3.5 million more dwellings, there would be an extremely high and wasteful vacancy rate in Canada. I conclude that as of 2021 the deficit was about 600,000 units. Subsequent population growth has added to the deficit, which might now be about 1.25-1.3 million. This is still a large number, with expensive implications. But, it can lead to goals that are achievable. Annual housing production targets should have two parts:

- The amount related to growth of the population.
- Plus, at least 100,000 units per year, to address accumulated shortages.

CMHC has commented recently that fixing the supply crisis has a \$1 trillion price tag<sup>1</sup>. This is also a very large over-estimate. That said, the problem is still very large and will be very costly.

This is an extract (with a few updates) from a larger report – “7 Short Essays”.

## **The CMHC Estimate**

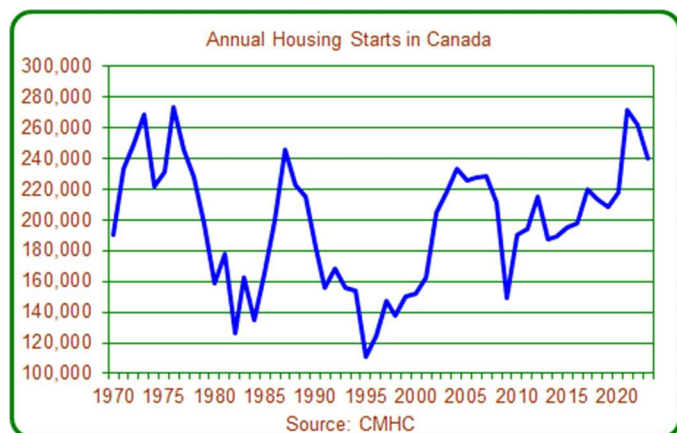
There have been several reports that calculate the housing supply deficit in Canada. At this time, the most influential is a report issued by CMHC on June 23, 2022. That report concludes that to restore housing affordability in Canada, the housing inventory needs to expand to more than 22 million dwelling units by 2030 (versus about 16.3 million in 2021).

About 5.8 million dwellings must be created during the nine years up to 2030, or almost 650,000 per year. This is about 3.5 million larger than might be expected. During 2017 to 2021, housing starts in Canada averaged about 226,000 units per year. Prior to that, annual production figures were even lower. Over the period shown in this chart, the average was about 209,000 per year.

You can access the CMHC report via the Download button on this page:

<https://www.cmhc-schl.gc.ca/en/professionals/housing-markets-data-and-research/housing-research/research-reports/accelerate-supply/housing-shortages-canada-solving-affordability-crisis>

My comments here are an update of what I wrote in July 2022, in the Canada edition of my Housing Market Digest report<sup>2</sup>. As well, I am creating my own alternative estimates of what the deficit might have been in 2021, and what it might be today.



<sup>1</sup> For example: <https://www.cmhc-schl.gc.ca/blog/2023/achieving-housing-affordability-next-decade>

<sup>2</sup> The HMD reports are available here: <https://www.wdunning.com/housing-market-digest>



The CMHC estimate has certainly provoked discussion about what actions are needed. It remains to be seen whether there is any possible program of action that could result in a tripling of housing starts in Canada, and if there is any hope of achieving the target.

I have concluded that CMHC has over-estimated the shortage by a very large amount: we still have a very big challenge that is going to require a vast effort. I am hoping that we can reset the targets, to numbers that are less overwhelming.

In looking at the CMHC report, I ask myself – is the methodology sound and are the assumptions reasonable? The concept is original and creative and I like it: how much housing supply is required as of 2030 so that the level of affordability will be the same as in 2003/04 (the period of the best affordability of the past three decades.) That said, I have not attempted a detailed assessment of the CMHC analysis.

I see two points for discussion. Firstly, I suspect that the CMHC methodology didn't completely incorporate the effects of interest rates. Secondly, and I think this is more revealing than any discussion of the methodology, a reality check tells me that CMHC's bottom-line estimate is too high, by a very large amount.

### **The Methodological Issues**

CMHC assumes that during the analysis period “the 5-year fixed discount mortgage rate will be just over 5% in 2030.” At this time, that assumption does not seem impossible. But, because it is so much higher than has been experienced during the past decade, the methodology needs to take account of the various impacts that would result from those increased interest rates.

- The prolonged increase in interest rates would weigh on the economy, which can be expected to impair employment (and likely wages as well). This economic impact would reduce household formation rates, which would reduce the requirement for new housing construction. (In the household formation data there are relationships, albeit weak, between local economic conditions and housing costs, versus local formation rates.)
- High interest rates will affect housing prices in two ways, and it's not clear to me that CMHC has adequately considered these.
  - A first-round effect is that the reduction in affordability will lower the prices that people can afford to pay. Reduced sales will lower prices. We are seeing some evidence that this is already happening. Several different measures of prices are available, which give slightly different pictures of the trends.
  - This chart looks at three different measures (calculated from data from the Canadian Real Estate Association on average prices, and on its House Price Index, as well as the Teranet/National Bank





- index<sup>3</sup>). All three of these measures indicate that prices are lower than in the spring of 2022 (presumably when CMHC was finalizing its research). Within the CMHC methodology this would lower the estimate of the housing shortfall. This effect may result in further price reductions for as long as interest rates remain at the level that CMHC is assuming, therefore further reducing the estimates of the shortfall.
- The second-round impact on prices would come from economic impacts of the higher rates, on the level of employment and incomes. These would reduce the number of home buyers (plus further reduce the prices that they can afford to pay), and therefore cause further reductions in prices.
  - At this point, interest rates have not yet materially affected the employment situation or wages – it remains to be seen whether the impacts on employment and incomes, and then on housing prices, will be large or small. Therefore, it would be challenging to calculate the impact on the housing requirements. Since the economic impacts are not yet in evidence, the second-round effects on prices have probably not started yet.
  - I think it's possible there will be a prolonged period of erosion of house prices, but I don't have an opinion on what will be the rate of erosion.

Moreover, the extremely large drop in housing values in the CMHC analysis can be expected to have devastating, prolonged consequences for the Canadian economy, which will further contribute to price reductions, and therefore reduce the requirement for additional housing supplies.

To conclude: it is possible that the assumption of an interest rate “just over 5%” will in itself cause housing prices to be lower than they would otherwise be (although the magnitude is uncertain). This should lower the quantity of additional supply that is required within the CMHC methodology.

Alternatively, if future interest rates are materially lower than the >5% assumption, then within CMHC's methodology, the calculated amount of housing required should be much lower.

The methodological issues are complicated and there is a lot of room for debate. It will probably be impossible to ever reach agreement on this discussion. The reality check is a lot easier, and I think it should be convincing.

### ***The Reality Check***

The average household size in Canada has slowly trended downwards, due to aging of the population, long-term trends for reduced marriage and child-bearing, and economic progress.

There are several ways to calculate household size. For the purpose of this discussion, I'm using the total population divided by the total number of dwellings. This includes occupied and unoccupied dwellings. (Using a different definition would change the level of the estimates, but there wouldn't be much impact on the shape of the trend over time.)

In the CMHC projections, the average number of persons per dwelling in 2030 would be far below the prior figures and the trend. This large drop in household size would move us from a condition

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<sup>3</sup> The Teranet data lags a few months behind the CREA data, because it is based on closings (entries in the land registries) whereas the CREA data is based on when the offers were accepted.



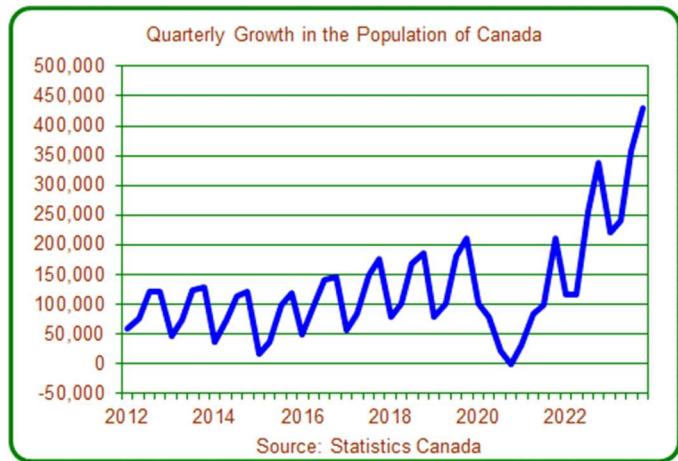
of housing shortages to one of extremely large surpluses. This would result in some combination of very large numbers of vacancies and very sharp reductions of rents and prices.

<b>Total Persons per Total Dwellings</b>			
<i>Period</i>	<i>Total Population</i>	<i>Total Dwellings</i>	<i>Ratio</i>
2001	30,007,094	12,548,588	2.39
2006	31,612,897	13,576,855	2.33
2011	33,476,688	14,569,633	2.30
2016	35,151,728	15,412,443	2.28
2021	36,991,981	16,284,235	2.27
2030 CMHC	41,431,019 (1)	> 22,000,000	< 1.9

Source: Statistics Canada, Census data  
Note: (1) the CMHC report indicates that the 2030 population will be about 12% higher than in 2021.

Based on history, a reasonable average persons per dwelling for 2030 is 2.2 or higher.

- To get to an average of 2.2 persons per dwelling in 2030 (and using CMHC’s assumption about population growth), the total number of dwellings would need to be about 18.8 million (an increase of 2.55 million, or 285,000 per year).
- For an average PPD of 2.15, about 19.3 million dwellings would be required, an increase of 3.0 million, or 330,000 per year.
- These calculations incorporate CMHC’s assumption that the population will grow by 12% during 2021 to 2030. If actual population growth is more than 12% (and it will be) the requirement will be larger. (According to Statistics Canada’s estimates, during the past 2.5 years, the population has already grown by 6.3%.)



In the past, there was commentary that Canada has over-invested in housing. I argue the contrary: housing prices have increased so much because we have under-invested. The CMHC analysis, to me, is consistent with that view. But, the CMHC scenario would result in an extreme amount of over-investment (I think that the target for 22 million dwellings in 2030 would be 10-15% more housing than is realistically needed). While this would be great on the consumption side, it would be catastrophic to the wealth of Canadians and very stressful for the financial system.

House prices appear to be eroding now, during a period when there is immense pressure from population growth, and the economy remains very strong. This suggests that during the coming years, interest rates at 5% or more would (in themselves) substantially reduce the requirement for additional housing.



### ***Another Opinion***

Three years ago, the economics department at the Bank of Nova Scotia<sup>4</sup> produced a very interesting analysis. They looked at the average household size in Canada, which was higher than the average for 5 of the G-7 countries. On that basis, they estimated a shortfall of about 1.8 million dwellings.

I think that was a great start. But, they missed an important factor: Canada has a younger population (which means that the average number of children in Canadian homes is higher than in the 5 other countries, and there are fewer single elderly people). This has caused the average household size in Canada to be naturally higher than in the other countries, and therefore the housing deficit was over-estimated. That sent me down a highly nerdy rabbit hole.<sup>5</sup> I did a further analysis that considered the age issue (and had a lot more countries, and I also considered differences in average incomes). In that report, I concluded that the deficit in Canada was about 500,000 dwelling units, not 1.8 million.

### ***My New Alternative Estimate***

Various methodologies have been used to estimate the size of the shortfall. One of them is to use “household formation rates” (by age groups) to calculate how much housing is needed<sup>6</sup>. The problem is that if there isn’t enough housing, the household formation rates are lower than they should be and therefore the housing requirements are under-calculated.

Here, I have used a modified approach, using data for 152 urban areas in Canada (Census Metropolitan Areas, generally with populations above 100,000, and Census Agglomerations):

- Not all communities in Canada are under-supplied.
- For each age group for each area, the household formation rates were calculated.
- If the age-specific formation rate is above the median for the group, I assumed that they are adequately supplied.
- If the formation rate for a community, for an age group, is below the median, I assumed that there is a shortage, and calculated how many households there would be at the median formation rate.

This methodology resulted in a total calculated shortfall of about 582,000 households (at the time of the 2021 Census). This is equal to 4.0% of the total number of households. By contrast, CMHC’s estimate of a 3.5 million shortfall is equal to 24% of the number of households in 2021.

Out of 152 communities:

- Just over one-half (81) had no shortfall or a small one (equal to less than 2% of the total number of households).

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<sup>4</sup> It can be found here: <https://www.scotiabank.com/ca/en/about/economics/economics-publications/post.other-publications.housing.housing-note.housing-note--may-12-2021-.html>

<sup>5</sup> The entrance to that rabbit hole is here:

[https://www.wdunning.com/files/ugd/ddda71\\_58e2ddb75914a1188a6377e71c696c1.pdf](https://www.wdunning.com/files/ugd/ddda71_58e2ddb75914a1188a6377e71c696c1.pdf)

<sup>6</sup> CMHC has been using that approach since at least the 1970s. I learned about it in the 1980s. I’ve used it hundreds of times, and I still use it.



- 71 had a shortage. Of these:
- 33 had a shortage of 2% to 4%, which I deem moderate.
- 38 had shortages greater than 4%.

Numerically, the 10 largest calculated shortages were in:

- Toronto CMA – about 285,000, or 11.2% below the required amount (almost one-half of the total national shortage of 582,000)
- Vancouver CMA – about 74,000, or 6.7% (12.8% of the national total)
- Calgary CMA – about 24,000, or 4.2%
- Hamilton CMA – about 18,000, or 5.7%
- Oshawa CMA – about 16,000, or 9.8%
- Edmonton CMA – about 13,000, or 2.4%
- Abbotsford CMA – about 12,000, or 15.0%
- Kitchener CMA – about 9,800, or 4.3%
- Windsor CMA – about 9,400, or 5.4%
- Kelowna CMA – about 8,500, or 8.8%.

Since the time of the Census (which has an effective date of May 11, 2021), Canada has experienced a rapid rate of population growth. For the period from May 11, 2021 to October 1, 2023, the population grew by about 2.34 million<sup>7</sup>. That population growth might have generated a requirement for about 1.1 million new dwellings (based on 2.2 persons per dwelling). During that same period, new construction has added about 555,000 dwellings to the housing inventory<sup>8</sup>. This means that the shortfall has grown, possibly by about 540,000, to a total of about 1.125 million as of October 1, 2023. This is still very far below the 3.5 million estimated by CMHC. Since October 1, the deficit has increased further, to perhaps 1.25-1.3 million.

I believe that this lower estimate can help us agree on a production target that is more achievable. Essentially, we need to produce at least 100,000 new dwellings per year in addition to whatever amounts are required by our population growth. My gut feel is that we might be able to increase production to a maximum in the range of 300,000 to 350,000 per year.

In several previous (longer) reports, I have listed factors that inhibit housing supplies.

- Naturally-occurring physical constraints.
- Land-use plans that limit uses of land that has development potential.
- Delayed approvals.
- Delayed installation of infrastructure.
- Costs imposed by governments on new construction (from a large list of fees and charges), which have increased very rapidly over time. Builders have to delay, so that attainable prices can catch-up to their increased costs. ***The federal government should resurrect the model from a half-century ago – funding infrastructure via federally-backed debt, serviced out of municipalities' revenues.***

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<sup>7</sup> Calculated from Statistics Canada post-Census estimates (these are estimates by Statistics Canada using administrative records, and the data could be revised after the next Census).

<sup>8</sup> Due to a change in CMHC data coverage at the end of 2022, total housing completions for 2023 have been estimated by the author.



- Decisions by land owners about whether to take actions – to sell or develop their lands. (This issue gets very little attention, but it ought to be investigated.)
- Mortgage regulations that suppress home buying: these reduce sales of new housing, which impairs future supplies.
- Labour supply: commentary from several communities suggest that housing construction is being constrained by shortages of skilled trades. A related concern is that in places where large increases in construction are needed, the local cost of living makes it difficult to attract labour.
- Looking forward, given the need to increase housing starts by a large amount, supplies of building materials and equipment could emerge as challenges.

A more recent issue is the sharp increase of mortgage interest rates (resulting from policies of the Bank of Canada for its Policy Rate as well as its program of Quantitative Tightening). It appears that there has been a significant reduction of pre-construction sales of new homes (although no official data exists for this). This will result in a downturn in housing starts during this year and into next year, followed by reductions in completions of new housing. This will add to the existing shortages.

### ***About the Author***

I have been analyzing Canadian housing markets since 1982. Until 1997, I was employed at Canada Mortgage and Housing Corporation, in various positions in economic and housing market analysis. For three years, I was second-in-command of a boutique consultancy. Since 2000, I have operated as a one-person consulting company. My clients have included a wide range of interests, including all levels of government within Canada, agencies, non-profit organizations, industry associations, financial institutions, home builders, investors, and asset managers. My research has been cited in the news media and in economic research, including some Bank of Canada studies. No one paid me to write this report.