



ONTARIO'S NEED FOR 1.5 MILLION MORE HOMES

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Estimated Net Housing Supply Needs from Pre-Existing Housing Shortages and Projected Population Growth from 2021-31, by Ontario Census Division.

Census Division	Projected Net Housing Supply Needs: 2021-31	Census Division	Projected Net Housing Supply Needs: 2021-31
Peel	277,000	Muskoka	6,700
Toronto	259,000	Perth	6,500
York	180,100	Leeds and Grenville	6,400
Ottawa	100,100	Frontenac	6,300
Halton	90,400	Bruce	5,200
Durham	89,900	Renfrew	4,300
Waterloo	70,800	Stormont, Dundas and Glengarry	4,200
Simcoe	69,900	Huron	4,200
Hamilton	52,400	Lennox and Addington	4,000
Middlesex	39,500	Parry Sound	3,200
Niagara	39,100	Greater Sudbury / Grand Sudbury	2,800
Essex	30,400	Lambton	2,700
Wellington	29,600	Chatham-Kent	2,400
Brant	13,300	Haliburton	1,700
Oxford	12,100	Kenora	1,600
Haldimand-Norfolk	11,000	Prince Edward	1,500
Dufferin	9,900	Nipissing	1,000
Hastings	9,800	Manitoulin	500
Peterborough	9,300	Sudbury	400
Prescott and Russell	9,000	Algoma	100
Northumberland	8,400	Rainy River	0
Kawartha Lakes	8,300	Timiskaming	-400
Grey	8,200	Thunder Bay	-700
Elgin	8,000	Cochrane	-1,000
Lanark	7,300	Total	1,506,400

ONTARIO'S NEED FOR 1.5 MILLION MORE NEW HOMES

Ten Key Points from This Report

1. Based on a recommendation from Ontario's Housing Affordability Task Force, the provincial government, along with all four major provincial parties and the federal government, have committed to a **1.5 million homebuilding target in Ontario over the next ten years** to address the province's housing crisis.
2. No details have yet been provided on how this 1.5 million target was estimated, which leads to two questions: Is the figure a reasonable estimate of Ontario's housing needs over the next decade, and, if so, where in the province are these houses needed?
3. To answer these questions, we develop a *Rest of Canada Average Benchmark* (RoCA Benchmark) method to estimate the number of homes each of Ontario's 49 Census Divisions would need to build to bring its supply up to the average of the rest of Canada by 2031, where the "rest of Canada" is all of Canada excluding Ontario and British Columbia. This RoCA Benchmark considers the size of a Census Division's population as well as the age of the residents.
4. Using the RoCA Benchmark, we find that over the next ten years, Ontario will need 1,034,900 net new homes to keep up with population growth and has a pre-existing housing shortage of 471,500 units. Added together, **the RoCA Benchmark projects Ontario will need 1.506 million net new homes in the next ten years.**
5. Not surprisingly, Ontario's most extensive housing needs are in the Greater Toronto Area. The RoCA Benchmark finds that the City of Toronto will have the largest housing demand from population growth, while Peel, York, and Durham Census Divisions have the largest pre-existing housing shortages.
6. Of the 1.5 million homes needed over the next decade, **48% of the demand will come from just 3 of 49 Census Divisions: Peel Region, York Region, and the City of Toronto.**
7. Our projected housing demand levels for the Greater Golden Horseshoe from 2021-31 are over 500,000 units higher over the next decade than the housing unit completion forecasts from Hemson's August 2020 report, which inform the provincial Growth Plan.
8. The mismatch between our demand projections and Hemson's supply forecasts is exceptionally high for Peel, Toronto, and York. Surrounding communities should expect high and increasing spillover demand over the next decade, as families in those communities 'drive until they qualify' to find attainable housing.
9. Other reports, such as the Canadian Mortgage and Housing Corporation (CMHC)'s, have estimated that Ontario will need over 2 million homes in the next decade to address the housing shortages. These estimates would appear to overestimate the province's housing needs.
10. Targets are helpful, but Ontario needs a comprehensive plan to address the bottlenecks that will limit housing construction over the next decade.

ONTARIO’S NEED FOR 1.5 MILLION MORE HOMES

Table of Contents

Acknowledgements	1
Ten Key Points From This Report	3
Introduction	5
Creating The RoCA Benchmark – Testing the Need for 1.5 Million New Homes	7
Estimating Ontario’s Existing Housing Shortage	11
Projecting Ontario’s Family Formations for the Next Ten Years	17
Ontario Needs 1.506 Million Homes Over Next Ten Years to Reach RoCA Benchmark Supply	19
1.5 Million Homes Greatly Exceeds the Forecasts that Underpin the Growth Plan	21
Surrounding Communities Should Prepare for High Levels of Spillover Housing Demand from Peel, Toronto, and York	22
An Ontario Housing Target Exceeding 2 Million Units is Likely Too High	24
Conclusion and Final Thoughts	26
Appendix A: Ontario’s 6 Regions and 49 Census Divisions	27
Appendix B: Competing Population Estimates and the Census Undercount	28
Data Sources Used in Report	34
References	35

ONTARIO'S NEED FOR 1.5 MILLION MORE HOMES

Introduction

In early 2022, Ontario's Housing Affordability Task Force released a series of 55 recommendations to increase the attainability of homes for rent and sale across the province¹. Their very first recommendation, "[s]et a goal of building 1.5 million new homes in ten years," caught the eyes of policymakers, the media, and the public. During the 2022 election campaign, all four major provincial parties committed to this goal, including the re-elected Progressive Conservative government.

The federal government provided further support for this 1.5 million new home goal. In Budget 2022, the federal government committed to "double our housing construction over the next decade." In the decade before Budget 2022, Ontario started 750,313 homes and completed 669,378². Doubling these figures would approach the provincial government's 1.5 million home target.

Despite the precision of these targets, there has been little evidence presented to date that 1.5 million new homes in the next ten years, or a doubling of housing construction over the next decade, is either necessary or sufficient to address Ontario's housing shortage and future population growth. The Task Force presented no details on how the 1.5 million figure was estimated³; the figure also differs substantially from other estimates. In 2021, the Smart Prosperity Institute published the report *Baby Needs a New Home*⁴, which estimated that Ontario needed one million net new homes over the next decade to keep up with population growth. These housing shortage estimates are more conservative than those from the Canadian Mortgage and Housing Corporation (CMHC). In their study *Canada's Housing Supply Shortages*⁵, published in June 2022, the CMHC estimated that Ontario needs to build 2.4-2.62 million new homes in the next nine years⁶ to restore housing affordability.

¹ Government of Ontario, "Report of the Ontario Housing Affordability Task Force" (Government of Ontario, February 8, 2022), <https://files.ontario.ca/mmah-housing-affordability-task-force-report-en-2022-02-07-v2.pdf>.

² Between Census 2011 and Census 2021, the number of total private dwellings in Ontario rose by only 620,465, and the number of private dwellings occupied by usual residents rose by only 603,693. These figures are lower than the number of housing starts and completions, as they take into account housing demolitions. It is not clear from either the provincial or federal government's communications if their goal is for 1.5 million gross new completions, or 1.5 million net new homes, taking into account demolitions.

³ The Task Force report frames the need for 1.5 million homes by stating "Today, Ontario is 1.2 million homes – rental or owned – short of the G7 average. With projected population growth, that huge gap is widening, and bridging it will take immediate, bold and purposeful effort. And to support population growth in the next decade, we will need one million more homes." This suggests that the Task Force believes the true need exceeds 1.5 million. Source: Government of Ontario, "Report of the Ontario Housing Affordability Task Force" (Government of Ontario, February 8, 2022), <https://files.ontario.ca/mmah-housing-affordability-task-force-report-en-2022-02-07-v2.pdf>.

⁴ Mike Moffatt, "Baby Needs a New Home," Smart Prosperity Institute (Smart Prosperity Institute, 2021), <https://institute.smartprosperity.ca/publications/growing-number-households>.

⁵ CMHC, "Housing Market Inside Canada: Government Charges on Residential Development in Canada's Largest Metropolitan Areas" (Government of Canada, n.d.), <https://www.cmhc-schl.gc.ca/en/blog/2019-housing-observer/driving-until-you-qualify-worth-it-in-montreal>.

⁶ Specifically, the CMHC found that Ontario needs to build 1,630,000 to 1,850,000 additional homes between 2021 and 2030 beyond a projected 'business as usual' scenario, which would see 769,000 homes built in the nine-year period from 2021 to 2030.

Ontarians have three different reports estimating housing needs over the next decade, with three different results. Given the lack of details provided in the Task Force report and a wide range of housing demand estimates between the three reports, it is reasonable to approach a 1.5 million new home target with a high degree of skepticism. This report aims to provide the analysis needed to test if 1.5 million is a reasonable target. Specifically, this report seeks to answer two questions:

1. Is 1.5 million new homes a reasonable forecast of Ontario's housing needs over the next decade?
2. If the answer is "yes," how will the demand for 1.5 million new homes be distributed across the province?

The answer to the first question is an unequivocal **'yes.'** Using a methodology adapted from *Baby Needs a New Home*⁷ that better accounts for pre-existing housing shortages, and updated population forecasts from the Ontario Ministry of Finance, we estimate the demand for 1.51 million net new homes over the next decade, in line with the provincial target. We obtained this figure by creating a *Rest of Canada Average* (RoCA) Benchmark, which is the average housing supply levels in Canada in 2016, outside of the two provinces with chronic housing shortages, Ontario and British Columbia, adjusted for both population size and age. This paper estimates the number of net new houses it would take for each of Ontario's 49 Census Divisions⁸ to reach the RoCA Benchmark by 2031. We find that under the RoCA Benchmark, Ontario had a pre-existing shortage of 471,500 homes in 2021 and will need an additional 1,034,900 homes to keep up with projected 2021-31 population growth and aging for a combined total of 1,506,400 net new homes needed over the next ten years.

We conduct our analysis at the Census Division level to answer the question of the geographic distribution of demand. Of the 1.5 million needed homes, 48% of the demand will come from just 3 of 49 Census Divisions: Peel, Toronto, and York. If communities in those Census Divisions cannot meet that demand due to a lack of land or infrastructure, surrounding communities will experience high spillover demand as residents *drive until they qualify* for attainable housing.

Municipal official plans need to account for this high spillover demand likely to occur from housing shortages in Toronto, Peel, and York. If the province is serious about its 1.5 million home target, it must ensure that the collective set of municipal official plans across the province is compatible with this level of home building. Without such alignment, it will be impossible to create the kinds of climate-friendly, child-friendly communities needed to ensure a high quality of life for all Ontarians.

⁷ Mike Moffatt, "Baby Needs a New Home," Smart Prosperity Institute (Smart Prosperity Institute, 2021), <https://institute.smartprosperity.ca/publications/growing-number-households>. A similar, but not identical methodology was used by Lauster and von Bergmann <https://homefreesociology.com/2022/05/06/estimating-suppressed-household-formation/>

⁸ In Ontario, a Census Division is typically a regional municipality, a county, or, in northern Ontario, a district. See Appendix A for a map of Ontario's 49 Census Divisions

Creating The RoCA Benchmark – Testing the Need for 1.5 Million New Homes

Directly testing the accuracy of the 1.5 million new homes demand forecast is impossible, as the *Housing Affordability Task Force* provided no details on how they arrived at this figure. However, we can test this figure indirectly by developing a model of housing demand built on assumptions that we believe are reasonable and see if it produces an estimate close to 1.5 million. This approach then allows us to answer our two questions:

1. Is 1.5 million new homes a reasonable forecast of Ontario’s housing needs over the next decade?
2. If the answer is “yes,” how will the demand for 1.5 million new homes be distributed across the province?

To construct our model and answer our two questions, we start by building upon our previous housing demand projections. In 2021, the Smart Prosperity Institute published the report *Baby Needs a New Home*⁹, which estimated that, between 2021 and 2031, Ontario would need to build nearly one million net new homes to keep up with population growth and underbuilding from 2016-21, as shown by Figure 1.

Figure 1: Projected Net New Household Formations and New Housing Completions¹⁰

Years	Projected Net New Household Formations	New Housing Completions (As of July 1, 2021)	Difference
2016-21	413,753	349,039	64,714
2021-26	489,947		489,947
2026-31	421,400		421,400
TOTAL	1,325,100	349,039	976,061

The challenge that *Baby Needs a New Home* was attempting to address was converting population growth projections provided by the Ontario Ministry of Finance into projections of the growth of the number of households. This conversion is not a straightforward process, as there is not a one-to-one relationship between population growth and the growth in the number of households. For example, a family welcoming a second child increases the population but does not increase the number of households. A young adult moving out of their parent's home into an apartment increases the number of households but does not increase the population. The number of households is a function of the size of the population, the age of the population, as well as the number of housing units available.

The number of housing units plays a vital role in household formation. Determining the past underbuilding of homes is inherently tricky, as the number of new households is limited by the number of homes in a community. For example, imagine a community with 100,000 occupied dwellings containing 100,000 households. The community then suffers a tragedy, where half of the homes are knocked down in a storm, but miraculously nobody is hurt. In the act of community solidarity, residents

⁹ Mike Moffatt, “Baby Needs a New Home,” Smart Prosperity Institute (Smart Prosperity Institute, 2021), <https://institute.smartprosperity.ca/publications/growing-number-households>.

¹⁰ *Ibid.*

who have their homes knocked down are given shelter by those with undamaged homes. We would all agree that this community has a housing shortage; however, the Census would show that the ratio between the number of households and the number of homes has not changed. There are now 50,000 occupied dwellings containing 50,000 households, as a household is defined as “a census family, of two or more families sharing a dwelling, of a group of unrelated persons or a person living alone.” Despite the apparent housing shortage in this community, a naïve reading of the Census data would show no mismatch between the number of Census families (50,000) and the number of homes (50,000). In short, the number of households is inherently a function of the number of homes, so they cannot be treated as independent.

A lack of housing options acts as a drag on household formation. For example, the UK’s *English Housing Survey*¹¹ found that a lack of housing affordability was creating ‘concealed households’ in England:

In 2018-19, there were 1.6 million households containing an adult who would prefer to buy or rent their own accommodation but cannot afford to do so. This equates to 7% of all households. With these households, there were 2 million adults living in these circumstances.

Any method designed to estimate the demand for housing and existing housing shortages must keep these *concealed households* in mind. In particular, it should attempt to estimate the number of young adults who do not form new households and continue to live with parents or roommates due to a lack of housing. The term *suppressed household formation* is often used in the literature to describe families that do not get formed due to a lack of attainable housing. We will adopt this terminology in our report:

Suppressed Household Formation (Definition): New households that would have been formed but are not due to a lack of attainable options. The persons who would have formed these households include, but are not limited to, many adults living with family members or roommates and individuals wishing to leave unsafe or unstable environments but cannot due to a lack of places to go.

To estimate the net number of homes Ontario will need to build between now and 2031, we need to estimate the number of suppressed household formations (to date) and account for population growth and aging. To convert a population growth projection into a projection in the growth of the number of households, Moffatt (2021a) used a methodology that incorporated a concept known as the “headship rate,” which the Parliamentary Budget Office (2016) defines as “the ratio of the number of household heads or household maintainers¹² to the population 15 years of age and older.” Persons over the age of 15 who are not the head of household “either live in a household¹³ where another person is designated

¹¹ Ministry of Housing, Communities, and Local Government, “English Housing Survey 2018-2019: ‘Sofa Surfing’ and ‘Concealed Households’” (Government of the United Kingdom), accessed August 10, 2022, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/898373/Sofa_surfing_fact_sheet.pdf.

¹² The 2016 Census defines the household head or primary household maintainer as “[t]he first person in the household identified as someone who pays the rent, or the mortgage, or the taxes, or the electricity or other services or utilities for the dwelling. When more than one member of the household contributes to the payments, the first person listed (on the census questionnaire) is chosen as the primary household maintainer. If no person in the household is identified as making any such payments, the first person listed is selected by default.”

¹³ The 2016 census defines a household as “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. The dwelling may be either a collective

as the head of the household, or are permanent residents of an institution, such as a long-term care home, and as such are not considered members of a household. Post-secondary students who live with a parent when not in school are considered to be part of that parent's household, even if they live somewhere else during the school year."¹⁴

In Moffatt (2021a), we calculated level headship rates for each of Ontario's 49 Census Divisions for eight age cohorts, based on data from the 2016 census.¹⁵ We used these to convert population growth projections for each of the 49 Census Divisions into household growth projections to estimate the net number of new households in Ontario from 2021 to 2031 by assuming that these headship rates should not change from 2016. Moffatt (2021a) then used this method to estimate the underbuilding of houses from 2016 to 2021 by comparing the growth in the estimated number of households to the number of new homes completed.

These 2016, age-specific, Census Division-specific headship rates were used in *Baby Needs a New Home* as a baseline to forecast future housing demand and 2016-21 shortages. This method of estimating housing demand is inherently conservative, as it assumes that not one of Ontario's 49 Census Divisions experienced a housing shortage before 2016, as the year was used as a baseline. If there was a 2016 housing shortage, the methodology ignored it and used a short-supply level as a benchmark to estimate future housing demand from population growth, locking shortages in for perpetuity.

However, if we use that same headship data from Census 2016, it is apparent that Ontario and British Columbia had a pre-existing housing shortage in 2016. Figure 2 shows headship rates from Census 2016, sorted by highest headship rates for 25 to 34-year-olds. Ontario had the lowest headship rate of any province for 15-to-24-year-olds, 25-to-34-year-olds, and 35-to-44-year-olds.

dwelling or a private dwelling. The household may consist of a family group such as a census family, of two or more families sharing a dwelling, of a group of unrelated persons or of a person living alone. Household members who are temporarily absent on reference day are considered part of their usual household."

¹⁴ Census 2016

¹⁵ The eight cohorts were Ages 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, and 85+.

Figure 2: Headship Rates by Age Cohort and Province, 2016¹⁶

Province	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 to 84 years	85 years and over
Quebec	12.9%	49.3%	57.1%	59.9%	61.0%	62.8%	60.8%	44.9%
New Brunswick	12.6%	47.8%	53.9%	55.1%	56.9%	60.6%	64.4%	54.9%
Nova Scotia	13.6%	47.1%	54.6%	56.4%	58.3%	61.5%	67.3%	57.3%
Saskatchewan	13.2%	46.6%	54.0%	56.1%	58.4%	61.9%	66.3%	56.9%
Prince Edward Island	10.7%	46.1%	53.0%	56.5%	57.8%	61.6%	64.0%	54.6%
Newfoundland and Labrador	10.4%	44.8%	51.5%	54.7%	55.6%	60.2%	65.3%	54.2%
Yukon	10.9%	43.9%	54.7%	61.2%	65.2%	63.9%	66.7%	51.7%
Alberta	10.7%	43.8%	52.5%	56.1%	57.5%	58.3%	59.5%	45.1%
Manitoba	10.2%	43.6%	52.9%	56.2%	58.4%	60.8%	64.2%	52.9%
Northwest Territories	8.7%	42.4%	50.0%	57.0%	61.8%	64.3%	64.0%	58.7%
Nunavut	6.5%	41.4%	53.7%	58.3%	61.4%	61.8%	61.7%	63.6%
British Columbia	10.7%	41.2%	51.7%	55.9%	57.5%	58.9%	60.8%	51.3%
Ontario	8.0%	39.2%	51.3%	55.9%	57.0%	58.3%	60.5%	52.4%

These lower headship rates for persons under the age of 45 suggest housing shortages causing a reduction in family formations. The differences in headship rates become apparent when a Canada-wide average is compared to a Canada-wide average which excludes British Columbia and Ontario, as shown in Figure 3.

¹⁶ Authors' calculation from Census 2016 data.

Figure 3: Headship Rates by Age Cohort, Canada and Canada excluding Ontario and British Columbia, 2016¹⁷

Province	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 to 84 years	85 years and over
Ontario	8.0%	39.2%	51.3%	55.9%	57.0%	58.3%	60.5%	52.4%
British Columbia	10.7%	41.2%	51.7%	55.9%	57.5%	58.9%	60.8%	51.3%
Canada	10.2%	43.2%	53.2%	56.8%	58.2%	59.9%	61.2%	50.2%
Canada, excluding Ontario and British Columbia	12.0%	46.7%	54.9%	57.9%	59.3%	61.5%	61.9%	48.0%

Instead of using Census Division-specific headship rates, as in Moffatt (2021a), we will apply the 2016 ‘Canada excluding Ontario and British Columbia’ headship rates as the baseline for each of Ontario’s 49 Census Divisions. This approach allows us to account for Census Division-level housing shortages before 2016 and is similar in concept to the Lauster and von Bergmann (2022) *Montreal Method 2*.¹⁸ This RoCA Benchmark (“Rest of Canada Average” Benchmark) allows us to estimate existing housing shortages and convert population projections into household formation projections.

RoCA Benchmark Number of Households (Definition): The number of households a community would have, given the size of their population, if their age-adjusted headship rates were equal to the 2016 “Rest of Canada” average, where the Rest of Canada excludes Ontario and British Columbia.

The first step is to estimate Ontario’s existing housing shortage by estimating the number of suppressed household formations at the Census Division level.

Estimating Ontario’s Existing Housing Shortage

To estimate the number of suppressed households, we have chosen to use data from Census 2021, as we require a dataset that contains both a population estimate and an estimate of the number of households. To ensure an apples-to-apples comparison of headship rates, it is necessary to use population, and household estimates calculated the same way as in Census 2016. This necessitates using Census data, which can be problematic as the Census undercounts the size of the population, as

¹⁷ Authors’ calculation from Census 2016 data.

¹⁸ Nathan Lauster and Jens von Bergmann, “Estimating Suppressed Household Formation,” Home: Free Sociology!, May 6, 2022, <https://homefreesociology.com/2022/05/06/estimating-suppressed-household-formation/>.

described in Appendix B. As such, the results in this section are almost certainly an undercount of the number of suppressed households.

With the caveat on population undercounts in mind, we will start by using Chatham-Kent as our example in calculating pre-existing housing shortages. First, we calculate the RoCA Benchmark expected number of households, as shown in Figure 4.

Figure 4: RoCA Benchmark Number of Households for Chatham-Kent Census Division, 2021¹⁹

Age Group	2021 Census Population	RoCA Benchmark Headship Rates	2021 RoCA Benchmark Number of Households
15 to 24 years	11,335	12.0%	1,364.9
25 to 34 years	11,115	46.7%	5,195.0
35 to 44 years	11,640	54.9%	6,393.7
45 to 54 years	12,210	57.9%	7,067.8
55 to 64 years	16,805	59.3%	9,972.3
65 to 74 years	14,240	61.5%	8,761.3
75 to 84 years	7,410	61.9%	4,589.3
85 years and over	2,945	48.0%	1,414.7
TOTAL	87,700		44,759.0

We then compare this expected number of households to the number of “private dwellings occupied by usual residents” figure from Census 2021 for that Census Division. As shown in Figure 5, Chatham-Kent had an expected number of households of 44,759, compared to 44,178 private dwellings occupied by usual residents, for an estimated housing shortage of 581 units.

Figure 5: Estimated Housing Shortage for Chatham-Kent Census Division, 2021²⁰

	Number of Households
2021 RoCA Benchmark Number of Households	44,759
2021 Census - Private dwellings occupied by usual residents	44,178
Difference (Suppressed Household Formation)	581

We use this difference as our estimate for the number of suppressed household formations caused by pre-existing housing shortages. Figure 6 provides the results for each Ontario Census Division, rounding to the nearest 100. Our results show that Peel, York, and Durham have the highest pre-existing housing shortages. In contrast, some Census Divisions, primarily in Northern Ontario, have more households

¹⁹ Authors’ calculation from Census 2021 data.

²⁰ Authors’ calculation from Census 2021 data.

than predicted by the RoCA Benchmark. Overall, the model estimates that the province had a shortage of 471,500 homes in 2021.²¹

Figure 6: Estimated Housing Shortage by Ontario Census Division, 2021²²

Census Division	Existing Housing Shortage from Suppressed Household Formations	Census Division	Existing Housing Shortage from Suppressed Household Formations
Peel	133,500	Elgin	2,000
York	96,200	Lanark	1,700
Durham	39,900	Parry Sound	1,300
Toronto	34,300	Stormont, Dundas and Glengarry	1,200
Halton	31,100	Middlesex	1,200
Simcoe	22,900	Renfrew	1,000
Hamilton	14,500	Bruce	1,000
Waterloo	13,400	Perth	1,000
Niagara	11,100	Prince Edward	900
Ottawa	10,400	Huron	800
Essex	9,900	Kenora	700
Wellington	6,800	Chatham-Kent	600
Haldimand-Norfolk	4,000	Haliburton	500
Brant	3,900	Lambton	400
Northumberland	3,700	Sudbury	300
Dufferin	3,600	Manitoulin	100
Kawartha Lakes	3,400	Nipissing	-100
Peterborough	2,800	Rainy River	-200
Hastings	2,800	Timiskaming	-500
Prescott and Russell	2,600	Frontenac	-600
Leeds and Grenville	2,400	Algoma	-900
Oxford	2,400	Cochrane	-900
Muskoka	2,300	Greater Sudbury / Grand Sudbury	-1,000
Lennox and Addington	2,200	Thunder Bay	-1,200
Grey	2,100	Total	471,500

²¹ Without rounding at the Census Division level, the estimated housing shortage is 471,267 units, or 476,584 units excluding Census Divisions showing a housing surplus.

²² Author's Calculation, from Census 2021 data.

The RoCA Benchmark is a helpful tool to analyze housing shortages, but there are many factors it does not consider when estimating concealed households. The difference between the RoCA Benchmark number of families and the number of private dwellings occupied by usual residents may be due to reasons other than economically induced suppressed family formations. Culture is one. It may be that low levels of household formation are not due to economic factors (own income, parental income, the price of housing) but rather a cultural preference to live in multigenerational households. While this could explain some of the 'concealed households' in Peel and York region, it cannot explain all or even most of them. Figure 7 compares our estimates of the number of suppressed household formations to the 2021 Census figure for the number of multigenerational households in each Census Division. The Figure 7 data suggests that cultural preferences for living in multigenerational households cannot fully explain the differences in the number of estimated concealed households. The City of Toronto and Peel Region have approximately the same number of multigenerational households, but Peel's concealed households estimate is four times higher. Essex has eight times the number of estimated concealed households as Middlesex despite having similar numbers of multigenerational households.

Another way to examine the intersection between culture and the estimated number of suppressed household formations is to compare the proportion of immigrants and non-permanent residents in a location to the estimated level of their housing shortages. Unfortunately, at the time of writing, Census 2021 data on immigration has not been released, but it is possible to use data from Census 2016. Figure 8 shows the relationship between the proportion of residents not born in Canada and housing shortages as a percentage of the 2021 RoCA Benchmark number of households for that Census Division. It shows that there are Census Divisions with high numbers of new Canadians but relatively modest estimated housing shortages (Toronto, Ottawa, and Middlesex) and Census Divisions with high levels of housing shortages despite moderate numbers of new Canadians (Simcoe, Haldimand-Norfolk, and Lennox and Addington).

Figure 7: Concealed Households and Multigenerational Households by Ontario Census Division, 2021²³

Census Division	Existing Housing Shortage from Suppressed Household Formations	Multigen households, 2021 Census	Diff.	Census Division	Existing Housing Shortage from Suppressed Household Formations	Multigen households, 2021 Census	Diff.
Peel	133,600	44,165	89,435	Elgin	2,100	895	1,205
York	96,200	29,085	67,115	Lanark	1,700	660	1,040
Durham	40,000	14,600	25,400	Stormont, Dundas and Glengarry	1,300	1,110	190
Toronto	34,300	40,515	-6,215	Parry Sound	1,300	460	840
Halton	31,200	9,115	22,085	Middlesex	1,200	4,630	-3,430
Simcoe	23,000	8,465	14,535	Perth	1,100	505	595
Hamilton	14,500	8,140	6,360	Renfrew	1,000	875	125
Waterloo	13,500	7,470	6,030	Bruce	1,000	485	515
Niagara	11,100	5,705	5,395	Prince Edward	1,000	255	745
Ottawa	10,500	9,915	585	Huron	900	380	520
Essex	9,900	4,955	4,945	Kenora	700	1,240	-540
Wellington	6,900	2,925	3,975	Chatham-Kent	600	780	-180
Haldimand-Norfolk	4,000	1,355	2,645	Lambton	500	885	-385
Brant	3,900	2,180	1,720	Haliburton	500	200	300
Northumberland	3,700	1,060	2,640	Sudbury	300	200	100
Dufferin	3,600	1,260	2,340	Manitoulin	100	180	-80
Kawartha Lakes	3,400	1,040	2,360	Nipissing	-200	785	-985
Hastings	2,900	1,765	1,135	Rainy River	-200	180	-380
Peterborough	2,900	1,695	1,205	Timiskaming	-500	220	-720
Prescott and Russell	2,700	890	1,810	Frontenac	-700	1,435	-2,135
Oxford	2,400	1,255	1,145	Algoma	-900	915	-1,815
Leeds and Grenville	2,400	995	1,405	Cochrane	-900	665	-1,565
Muskoka	2,400	695	1,705	Greater Sudbury / Grand Sudbury	-1,000	1,340	-2,340
Lennox and Addington	2,200	500	1,700	Thunder Bay	-1,200	1,180	-2,380
Grey	2,100	930	1,170	TOTAL	473,000	221,135	251,865

²³ Authors' calculation from Census 2021 data.

Figure 8: Relationship Between Immigration, Non-Permanent Residency and Estimated Housing Shortages, Sorted by Percentage of Population Who Are Immigrants or Non-Permanent Residents, 2016 Census²⁴

Census Division	Existing Housing Shortage from Suppressed Family Formations as a Percentage of RoCA Benchmark Households	Percentage of Population Who Are Immigrants or Non-Permanent Residents, Census 2016	Census Division	Existing Housing Shortage from Suppressed Family Formations as a Percentage of RoCA Benchmark Households	Percentage of Population Who Are Immigrants or Non-Permanent Residents, Census 2016
Peel	22.9%	53.2%	Thunder Bay	-1.9%	8.9%
Toronto	2.9%	50.5%	Haliburton	4.6%	8.8%
York	19.7%	48.2%	Algoma	-1.7%	8.3%
Halton	13.0%	30.5%	Grey	4.7%	8.1%
Hamilton	6.1%	25.9%	Kawartha Lakes	9.3%	8.0%
Ottawa	2.5%	25.3%	Muskoka	7.5%	7.9%
Waterloo	5.7%	24.4%	Bruce	3.0%	7.9%
Durham	14.1%	24.1%	Huron	3.1%	7.5%
Essex	5.6%	23.2%	Leeds and Grenville	5.0%	7.4%
Middlesex	0.6%	22.1%	Hastings	4.4%	7.4%
Wellington	6.9%	18.0%	Parry Sound	5.7%	7.2%
Niagara	5.3%	17.7%	Stormont, Dundas and Glengarry	2.5%	6.8%
Dufferin	13.4%	14.0%	Lennox and Addington	10.8%	6.6%
Simcoe	10.2%	13.4%	Lanark	5.0%	6.3%
Frontenac	-0.9%	13.1%	Greater Sudbury / Grand Sudbury	-1.4%	6.3%
Brant	6.4%	12.7%	Renfrew	2.1%	5.7%
Elgin	5.1%	12.3%	Rainy River	-2.0%	5.6%
Northumberland	8.9%	10.8%	Prescott and Russell	6.4%	4.8%
Prince Edward	7.6%	10.5%	Nipissing	-0.4%	4.6%
Lambton	0.8%	10.5%	Kenora	2.7%	4.2%
Haldimand-Norfolk	7.9%	10.1%	Manitoulin	1.2%	4.2%
Oxford	4.7%	10.1%	Sudbury	2.7%	3.8%
Perth	3.0%	9.2%	Timiskaming	-3.4%	3.7%
Peterborough	4.3%	9.0%	Cochrane	-2.7%	2.9%
Chatham-Kent	1.3%	9.0%			

²⁴ Authors' calculation from Census 2016 and Census 2021 data.

Even these weak results may overstate the relationship between culture and housing supply. We cannot assume that the formation of multigenerational households or other relationships between housing supply and immigration variables are due entirely to cultural factors, as much of it may be a response to high home prices. New Canadians are more likely to live in multigenerational households than persons born in Canada. New Canadians are also more likely to live in cities with high housing prices than persons born in Canada. Disentangling how much of the formation of multigenerational households is due to cultural rather than economic factors is inherently tricky.

In summary, it is crucial to recognize any model's limitations. This model may overestimate housing shortages in some Census Divisions and underestimate them in others due to cultural differences or other unexplored factors. With that in mind, we believe culture plays only a minor secondary role in these results. Culture cannot explain why Durham, Halton, and Simcoe each have estimated housing shortages roughly the same size as the City of Toronto. As such, we believe them to be reasonable estimates for planning purposes.

Next, we need to calculate the expected level of housing demand arising from population growth causing the formation of new families.

Projecting Ontario's Family Formations for the Next Ten Years

Once again, we will use Chatham-Kent Census Division as our example for calculating the number of net new households. We use the Ontario Ministry of Finance's 2022 population estimates for the year 2031, which were released on June 28th, 2022. To ensure an apples-to-apples comparison and the issue of the Census undercount (see Appendix B), we compare the 2031 population projection to the 2021 population numbers from the same Ministry of Finance release. Figure 9 shows that the estimated number of net new households between 2021 and 2031 is 1,848 for Chatham-Kent Census Division.

Figure 9: Projected Number of Net New Households for Chatham-Kent Census Division, 2021-31²⁵

Age Group	2021 Population	2031 Population Projection	Change 2021-2031	RoCA Benchmark	Net New Households
15 to 24	12,209	13,122	913	12.0%	109.9
25 to 34	11,996	11,863	-133	46.7%	-62.2
35 to 44	12,092	12,295	203	54.9%	111.5
45 to 54	12,708	12,186	-522	57.9%	-302.2
55 to 64	17,044	13,216	-3,828	59.3%	-2,271.6
65 to 74	14,094	16,414	2,320	61.5%	1,427.4
75 to 84	7,635	11,423	3,788	61.9%	2,346.1
85+	3,320	4,338	1,018	48.0%	489.0
Total	91,098	94,857	3,759		1,848.0

²⁵ Authors' calculation from Ontario Ministry of Finance Population Projections, July 2022 release.

As with the pre-existing housing shortage estimates, we then calculate the projected number of family formations for each of the 49 Census Divisions in Ontario, rounding to the nearest hundred. Using the RoCA Benchmark, we find that Ontario will need 1,034,900²⁶ net new homes over the next decade due to population growth and aging, as shown in Figure 10.

Figure 10: Projected Number of Family Formations by Ontario Census Division, 2021-31²⁷

Census Division	Projected Number of Family Formations (2021-31)	Census Division	Projected Number of Family Formations (2021-31)
Toronto	224,700	Kawartha Lakes	4,900
Peel	143,500	Northumberland	4,700
Ottawa	89,700	Muskoka	4,400
York	83,900	Bruce	4,200
Halton	59,300	Leeds and Grenville	4,000
Waterloo	57,400	Greater Sudbury / Grand Sudbury	3,800
Durham	50,000	Huron	3,400
Simcoe	47,000	Renfrew	3,300
Middlesex	38,300	Stormont, Dundas and Glengarry	3,000
Hamilton	37,900	Lambton	2,300
Niagara	28,000	Parry Sound	1,900
Wellington	22,800	Chatham-Kent	1,800
Essex	20,500	Lennox and Addington	1,800
Oxford	9,700	Haliburton	1,200
Brant	9,400	Nipissing	1,100
Haldimand-Norfolk	7,000	Algoma	1,000
Hastings	7,000	Kenora	900
Frontenac	6,900	Prince Edward	600
Peterborough	6,500	Thunder Bay	500
Prescott and Russell	6,400	Manitoulin	400
Dufferin	6,300	Rainy River	200
Grey	6,100	Sudbury	100
Elgin	6,000	Timiskaming	100
Lanark	5,600	Cochrane	-100
Perth	5,500	Total	1,034,900

²⁶ Without rounding at the Census Division level, the estimated number of family formations is 1,035,051, or 1,035,118 excluding Cochrane, which has a negative value for net family formations.

²⁷ Authors' calculation from Ontario Ministry of Finance Population Projections, July 2022 release.

In Figure 11, we add the concealed households estimates from Figure 6 to the projected number of family formations estimates from Figure 10 to find that Ontario's forecasted housing need between 2021 and 2031 is approximately 1.5 million units.

Ontario Needs 1.506 Million Homes Over Next Ten Years to Reach RoCA Benchmark Supply

Figure 11: Housing Needs by Ontario Census Division, 2021-31

Census Division	Existing Housing Shortage from Suppressed Household Formations	Projected Number of Family Formations (2021-31)	Total 2021-31 Housing Needs	Census Division	Existing Housing Shortage from Suppressed Household Formations	Projected Number of Family Formations (2021-31)	Total 2021-31 Housing Needs
Peel	143,500	133,500	277,000	Muskoka	4,400	2,300	6,700
Toronto	224,700	34,300	259,000	Perth	5,500	1,000	6,500
York	83,900	96,200	180,100	Leeds and Grenville	4,000	2,400	6,400
Ottawa	89,700	10,400	100,100	Frontenac	6,900	-600	6,300
Halton	59,300	31,100	90,400	Bruce	4,200	1,000	5,200
Durham	50,000	39,900	89,900	Renfrew	3,300	1,000	4,300
Waterloo	57,400	13,400	70,800	Stormont, Dundas and Glengarry	3,000	1,200	4,200
Simcoe	47,000	22,900	69,900	Huron	3,400	800	4,200
Hamilton	37,900	14,500	52,400	Lennox and Addington	1,800	2,200	4,000
Middlesex	38,300	1,200	39,500	Parry Sound	1,900	1,300	3,200
Niagara	28,000	11,100	39,100	Greater Sudbury / Grand Sudbury	3,800	-1,000	2,800
Essex	20,500	9,900	30,400	Lambton	2,300	400	2,700
Wellington	22,800	6,800	29,600	Chatham-Kent	1,800	600	2,400
Brant	9,400	3,900	13,300	Haliburton	1,200	500	1,700
Oxford	9,700	2,400	12,100	Kenora	900	700	1,600
Haldimand-Norfolk	7,000	4,000	11,000	Prince Edward	600	900	1,500
Dufferin	6,300	3,600	9,900	Nipissing	1,100	-100	1,000
Hastings	7,000	2,800	9,800	Manitoulin	400	100	500
Peterborough	6,500	2,800	9,300	Sudbury	100	300	400
Prescott and Russell	6,400	2,600	9,000	Algoma	1,000	-900	100
Northumberland	4,700	3,700	8,400	Rainy River	200	-200	0
Kawartha Lakes	4,900	3,400	8,300	Timiskaming	100	-500	-400
Grey	6,100	2,100	8,200	Thunder Bay	500	-1,200	-700
Elgin	6,000	2,000	8,000	Cochrane	-100	-900	-1,000
Lanark	5,600	1,700	7,300	Total	1,034,900	471,500	1,506,400

The 1.506 million home needs projection is substantially higher than the 976,000 new homes figure from *Baby Needs a New Home*. The differences are due to the following three factors:

1. *Baby Needs a New Home* lacked a method for estimating the number of concealed households. It did examine reduced household formations during the 2016-21 period but otherwise lacked a method to estimate the number of concealed households.
2. *Baby Needs a New Home* used Census Division-level headship rates to convert future population growth into future household formations. By doing so, Census Divisions that had historically suffered from housing shortages were projected to continue underbuilding in the future. *Ontario's Need for 1.5 Million More Homes* uses a common baseline across all Census Divisions, the RoCA Benchmark, to convert population growth into household formations.
3. *Baby Needs a New Home* used Ontario Ministry of Finance population projections from 2021. *Ontario's Need for 1.5 Million More Homes* uses the 2022 release, which projects faster population growth than the previous year's release.

Figure 12 shows that most of the difference in the estimates of this report and *Baby Needs a New Home* is due to the introduction of a methodology to estimate the number of concealed households:

Figure 12: Comparison of Estimates from 1.5 Million More Homes and Baby Needs a New Home²⁸

Estimate	1.5 Million More Homes	Baby Needs a New Home	Difference
Pre-Existing Shortage from Suppressed Household Formations / 2016-21 Underbuild	471,267	64,717	406,550
2021-31 Projected Family Formations Based on 2021 MoF Population Projections	1,012,170	911,347	100,823
2022 MoF Population Projection Revisions	22,948	-	22,948
Total	1,506,385	976,064	530,321

The 1.5 million figure, and our estimates at a Census Division level, are not just higher than what was in *Baby Needs a New Home*; they are also higher than those found in municipal Official Plans and the reports that inform Ontario's *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019*.²⁹

²⁸ Mike Moffatt, "Baby Needs a New Home," Smart Prosperity Institute (Smart Prosperity Institute, 2021), <https://institute.smartprosperity.ca/publications/growing-number-households>.

²⁹ Government of Ontario, "A Place to Grow: Growth Plan for the Greater Golden Horseshoe," ontario.ca (Government of Ontario, August 2020), <https://www.ontario.ca/document/place-grow-growth-plan-greater-golden-horseshoe>.

1.5 Million Homes Greatly Exceeds the Forecasts that Underpin the Growth Plan

In August 2021, Hemson Consulting Limited published their *Greater Golden Horseshoe: Growth Forecasts for 2051*³⁰, a document they prepared for Ontario’s Ministry of Municipal Affairs and Housing. The August 2021 version was an amendment to an earlier July 2021 release and included “more detailed housing-by-type forecasts.” Their housing model considers several factors that our analysis and Ministry of Finance population forecasts exclude, including “long-term structural changes in the economy,[...], and Provincial policies, plans, and investment that seek to influence the form and location of development in the GGH.”

In Figure 13, we compare the housing needs estimates from this report to the forecasts in the Hemson Report for the 15 Census Divisions, which make up the Greater Golden Horseshoe (GGH). We estimate that the GGH will need 1.2 million homes between 2021 and 2031 to support population growth, while Hemson is forecasting just 700,000 will be built. Furthermore, the demand needs estimates from this report are higher than Hemson’s forecasted completions in 14 of 15 Census Divisions.

Figure 13: Comparison of GGH Estimates from 1.5 Million More Homes and Hemson (2020)³¹

	Total 2021-31 Housing Needs (Our Estimate)	Total 2021-31 Housing Unit Completion Projections Hemson/Growth Plan (2020)	Difference
Peel	277,000	102,100	174,900
Toronto	259,000	157,800	101,200
York	180,100	88,500	91,600
Halton	90,400	54,800	35,600
Durham	89,900	65,300	24,600
Hamilton	52,400	35,000	17,400
Waterloo	70,800	54,000	16,800
Simcoe	69,900	58,000	11,900
Wellington	29,600	19,000	10,600
Niagara	39,100	32,000	7,100
Dufferin	9,900	4,000	5,900
Kawartha Lakes	8,300	4,000	4,300
Northumberland	8,400	6,000	2,400
Brant	13,300	11,000	2,300
Peterborough	9,300	11,000	-1,700
TOTAL	1,207,400	702,500	504,900

The Hemson forecasts are not simply predictions of what will happen; instead, they are used by municipalities for planning processes to ensure that their Official Plan will enable enough housing to be built to support population growth. For example, the City of Hamilton passed *Official Plan Amendment*

³⁰ Hemson Consulting LTD., “Greater Golden Horseshoe: Growth Forecasts to 2051” (Hemson Consulting Ltd., August 26, 2020), <https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf>.

³¹ Sources: Authors’ calculation, Moffatt (2021a)

No. 167 to the Urban Hamilton Official Plan³² in June 2022, which includes the household projections from Hemson’s August 2021 report. In short, the Hemson housing growth forecasts are used to determine the adequacy of Official Plans, yet those housing growth forecasts are incompatible with the province’s 1.5 million unit housing target.

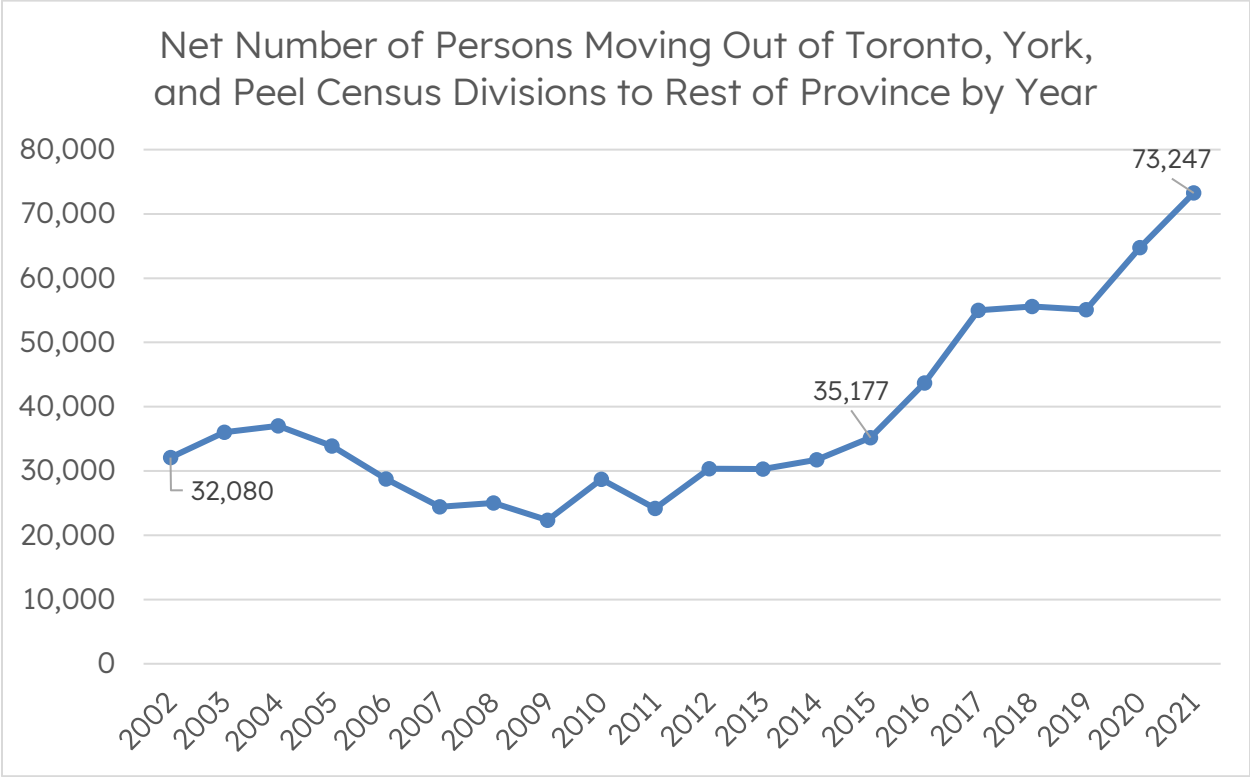
Municipalities across Ontario have submitted their Comprehensive Reviews to Ontario’s Municipal Affairs and Housing for approval. Should the Ministry approve these plans, it will be challenging for the province to build 1.5 million homes in the next ten years.

Surrounding Communities Should Prepare for High Levels of Spillover Housing Demand from Peel, Toronto, and York

The most considerable differences between our demand estimates and the Hemson forecasts are in Peel, Toronto, and York. Suppose our estimates are a prescient forecast of housing demand, and Hemson’s estimates are a prescient forecast of housing supply. In that case, the substantial imbalance between supply and demand will cause high numbers of families to *drive until they qualify* to other parts of Ontario. This outmigration would not be a new phenomenon. Figure 14 shows that, on net, 73,247 persons moved out of Toronto, York, and Peel region to other parts of Ontario in 2020-21. This level of outmigration is more than double the figure from 2014-15.

³² City of Hamilton, “Draft Urban Hamilton Official Plan Amendment No. 167,” City of Hamilton Planning Committee (City of Hamilton, May 25, 2022), <https://www.hamilton.ca/sites/default/files/media/browser/2022-06-13/22-145-not-final-v2.pdf>.

Figure 14: Net Number of Persons Moving Out of Toronto, York, and Peel Census Divisions to the Rest of the Province, by Year³³



Infrastructure and land constraints likely make it impractical for some Census Division to build the number of housing units we estimate are needed for their community. Of course, suppose those communities build less, spillover demand will occur, requiring a community to build a more substantial number than we have identified to maintain the 1.5 million housing unit target.

³³ The year on the graph refers to the population growth that occurred between July 1 of the previous year and June 30 of that year, e.g. '2021' refers to the population increase that occurred from July 1, 2020 to June 30, 2021. Source: Government of Canada, "Components of Population Change by Census Division, 2016 Boundaries," Statistics Canada (Statistics Canada, January 13, 2022), <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710014001>.

An Ontario Housing Target Exceeding 2 Million Units is Likely Too High

Ontario's 1.5 million, ten-year housing target is less ambitious than other reports suggest the province needs. The CMHC's *Canada's Housing Supply Shortages*³⁴ report concludes that Ontario needs to build 2.4-2.62 million new homes in the next nine years³⁵ to restore housing affordability.

Housing demand forecasts are inherently tricky, as different models with different assumptions can yield substantially different results, a phenomenon explored by Furth (2022).³⁶ This ability to generate different results raises the question, *could the RoCA Benchmark be tweaked to obtain estimates in line with those produced by the CMHC?*

The obvious way to tweak the Benchmark is to raise the target headship rates. Instead of trying to achieve a rest of Canada average supply, what if Ontario tried to be the best-in-class in Canada? What if Ontario created enough housing to have the highest provincial headship rate for every age category?³⁷ Quebec had the highest headship rates in five age categories in 2016, with Nova Scotia leading in the other 3, as shown in Figure 15.

³⁴ CMHC, "Housing Market Inside Canada: Government Charges on Residential Development in Canada's Largest Metropolitan Areas" (Government of Canada, n.d.), <https://www.cmhc-schl.gc.ca/en/blog/2019-housing-observer/driving-until-you-qualify-worth-it-in-montreal>.

³⁵ Specifically, the CMHC found that Ontario needs to build 1,630,000 to 1,850,000 additional homes between 2021 and 2030 beyond than projected 'business as usual' scenario, which would see 769,000 homes built in the nine year period from 2021 to 2030.

³⁶ Salim Furth, "How Big Is the Housing Shortage?," Market Urbanism (Market Urbanism, August 5, 2022), <https://marketurbanism.com/2022/08/05/how-big-is-the-housing-shortage/>.

³⁷ We exclude the Territories due to sample-size issues.

Figure 15: Headship Rates by Age Cohort and Province, 2016³⁸

Province	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 to 84 years	85 years and over
Quebec	12.9%	49.3%	57.1%	59.9%	61.0%	62.8%	60.8%	44.9%
New Brunswick	12.6%	47.8%	53.9%	55.1%	56.9%	60.6%	64.4%	54.9%
Nova Scotia	13.6%	47.1%	54.6%	56.4%	58.3%	61.5%	67.3%	57.3%
Saskatchewan	13.2%	46.6%	54.0%	56.1%	58.4%	61.9%	66.3%	56.9%
Prince Edward Island	10.7%	46.1%	53.0%	56.5%	57.8%	61.6%	64.0%	54.6%
Newfoundland and Labrador	10.4%	44.8%	51.5%	54.7%	55.6%	60.2%	65.3%	54.2%
Yukon	10.9%	43.9%	54.7%	61.2%	65.2%	63.9%	66.7%	51.7%
Alberta	10.7%	43.8%	52.5%	56.1%	57.5%	58.3%	59.5%	45.1%
Manitoba	10.2%	43.6%	52.9%	56.2%	58.4%	60.8%	64.2%	52.9%
Northwest Territories	8.7%	42.4%	50.0%	57.0%	61.8%	64.3%	64.0%	58.7%
Nunavut	6.5%	41.4%	53.7%	58.3%	61.4%	61.8%	61.7%	63.6%
British Columbia	10.7%	41.2%	51.7%	55.9%	57.5%	58.9%	60.8%	51.3%
Ontario	8.0%	39.2%	51.3%	55.9%	57.0%	58.3%	60.5%	52.4%

We can use these headship rates to create a Best in Class (BiC) Benchmark. Using the same population projections and methodology as in the rest of the report, we find that Ontario would need to build 1.85 million homes in the next ten years to hit a BiC Benchmark, as shown in Figure 16.

Figure 16: Comparison of Estimates from *RoCA* and *BiC* Benchmarks³⁹

Estimate	RoCA Benchmark	BiC Benchmark	Increase
Pre-Existing Shortage from Suppressed Household Formations	471,267	751,117	279,850
2021-31 Projected Family Formations Based on 2022 Ministry of Finance Population Projections	1,035,051	1,101,160	66,109
Total	1,506,318	1,852,277	345,959

The significant differences between the two estimates stem from their estimates of the size of pre-existing housing shortages, with their conversions of future population growth to household demand playing only a minor, secondary role.

³⁸ Authors' calculation from Census 2016 data.

³⁹ Sources: Authors' calculation.

Unless Ontario's population growth exceeds Ministry of Finance projections, a housing demand estimate of over two million units in the next nine years, or even ten years, appears to be excessively high, so the provincial target need not be as high as CMHC estimates.

Conclusion and Final Thoughts

As we saw in the previous section, housing need and demand estimates are inherently tricky. While our simple model, the RoCA Benchmark, shows that a housing target of 1.5 million homes in ten years is reasonable, we need to refine models to provide a more accurate assessment. The RoCA Benchmark contains some significant limitations, including, but not limited to:

- The estimate of pre-existing shortages from suppressed household formations relies on Census data, which likely undercount the population, particularly in places with large populations of international students (see Appendix B).
- The number of persons experiencing homelessness in each Census Division is not incorporated into the estimates.
- Culture and other factors are not incorporated into the RoCA Benchmark.

We plan to revise this method in the future and look forward to estimates provided by other analysts.

A housing target is not a housing plan. While a 1.5 million housing target is a valuable benchmark, there is much it leaves out that this report has not examined, including, but not limited to:

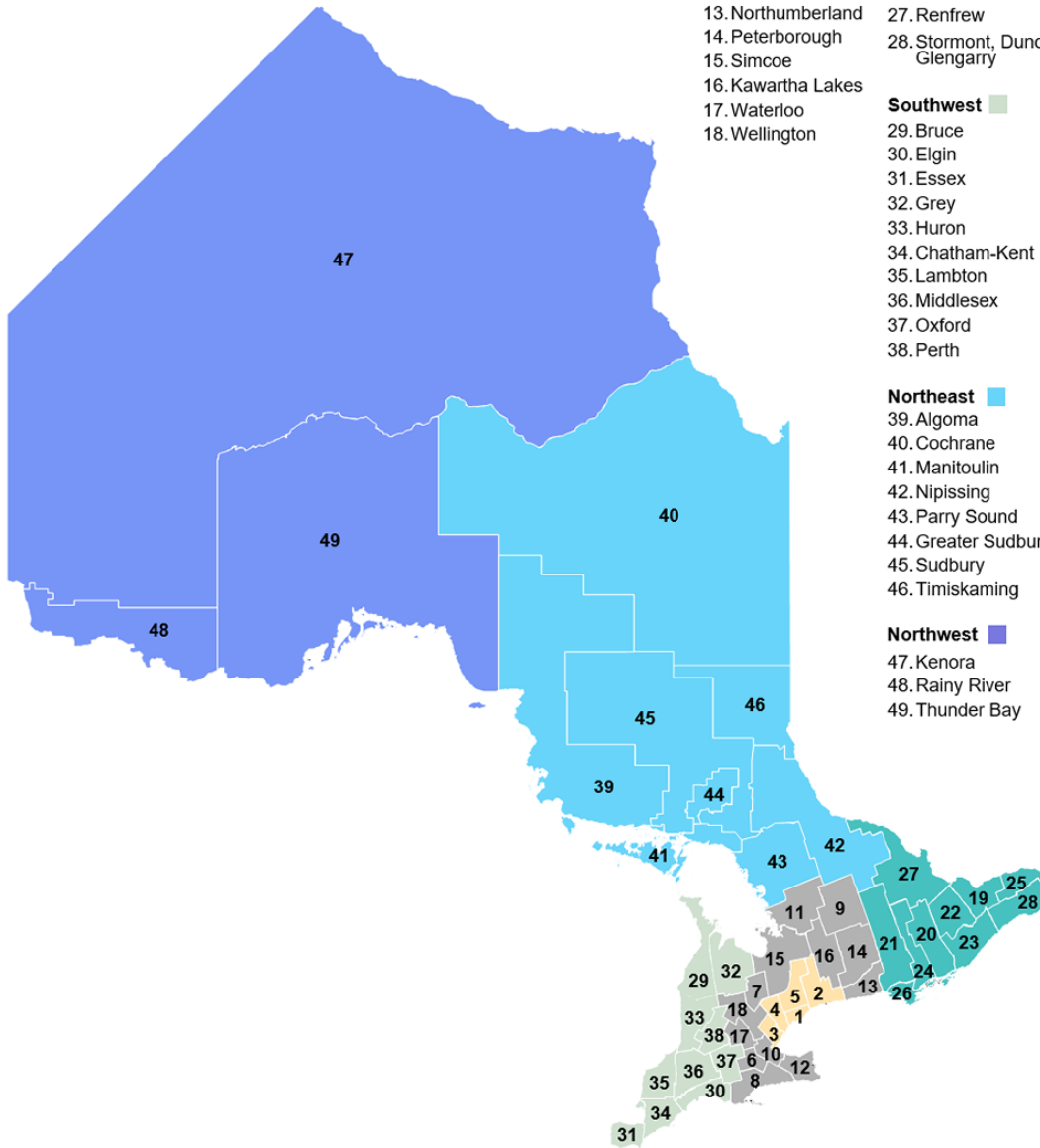
- What types of housing need to be built?
- What steps must be taken to ensure an adequate housing supply is available for Ontarians of all income levels?
- What regulatory changes need to occur to build 1.5 million homes?
- How can Ontario obtain the skilled labour necessary to build 1.5 million homes?
- What role can innovation play in allowing Ontario to increase housing supply productivity, such that doubling housing completions does not require a doubling of the labour force?
- How can we ensure that new housing is visitable and adaptable for persons with disabilities?
- How can these homes be built, in terms of both built form and location, in a way that is compatible with Canada's climate targets?

The year 2031 is rapidly approaching, and there is still much work to be done to turn a housing target into a housing plan. In a small way, we hope this report will get the province closer to the plan it needs.

Appendix A: Ontario's 6 Regions and 49 Census Divisions⁴⁰

Legend

- | | | |
|--------------|----------------------|----------------------------------|
| GTA ■ | Central ■ | East ■ |
| 1. Toronto | 6. Brant | 19. Ottawa |
| 2. Durham | 7. Dufferin | 20. Frontenac |
| 3. Halton | 8. Haldimand-Norfolk | 21. Hastings |
| 4. Peel | 9. Haliburton | 22. Lanark |
| 5. York | 10. Hamilton | 23. Leeds & Grenville |
| | 11. Muskoka | 24. Lennox & Addington |
| | 12. Niagara | 25. Prescott & Russell |
| | 13. Northumberland | 26. Prince Edward |
| | 14. Peterborough | 27. Renfrew |
| | 15. Simcoe | 28. Stormont, Dundas & Glengarry |
| | 16. Kawartha Lakes | |
| | 17. Waterloo | Southwest ■ |
| | 18. Wellington | 29. Bruce |
| | | 30. Elgin |
| | | 31. Essex |
| | | 32. Grey |
| | | 33. Huron |
| | | 34. Chatham-Kent |
| | | 35. Lambton |
| | | 36. Middlesex |
| | | 37. Oxford |
| | | 38. Perth |
| | | |
| | | Northeast ■ |
| | | 39. Algoma |
| | | 40. Cochrane |
| | | 41. Manitoulin |
| | | 42. Nipissing |
| | | 43. Parry Sound |
| | | 44. Greater Sudbury |
| | | 45. Sudbury |
| | | 46. Timiskaming |
| | | |
| | | Northwest ■ |
| | | 47. Kenora |
| | | 48. Rainy River |
| | | 49. Thunder Bay |



⁴⁰ Ontario Ministry of Finance, "Ontario Population Projections," ontario.ca (Government of Ontario, July 28, 2022), <https://www.ontario.ca/page/ontario-population-projections>.

Appendix B: Competing Population Estimates and the Census Undercount

Suppose you wanted to know how many people lived in Peel Region in 2021. There are three different data sources you could go to for an answer to that question:

- Statistics Canada’s Population Estimates Table 17-10-0139-01
- The Ontario Ministry of Finance’s Population Projections
- Census 2021

You might be surprised to learn that the three give different answers. You may even be more surprised to learn that Census 2021 gives a dramatically lower figure, as shown in Figure 17:

Figure 17: Peel Region Population, 2021, Three Estimates

Data Source	2021 Peel Population Estimate
Statistics Canada 2021 Population Estimate, Table 17-10-0139-01, Released on Jan. 13, 2022	1,571,322
Ontario Ministry of Finance Population Projection, Released on July 28, 2022	1,568,099
Census 2021	1,451,022

This phenomenon is not unique to the Peel Region. As shown in Figure 18, Census 2021 provides an Ontario population estimate that is 600,000 persons lower than the Statistics Canada or Ontario Ministry of Finance estimates. We should note that while we use the Statistics Canada estimate as the baseline in Figure 18, it is an estimate like the two others and is not necessarily more accurate. Each of these estimates will be revised over time, so the Census 2021 ‘undercount’ is relative to other population estimates, not an undercount to a known ‘correct’ value.

Figure 18: Ontario Population, 2021, Three Estimates

Data Source	2021 Ontario Population Estimate	Relative to Statistics Canada's Estimate
Statistics Canada 2021 Population Estimate, Table 17-10-0139-01, Released on Jan. 13, 2022	14,826,276	-
Ontario Ministry of Finance Population Projection, Released on July 28, 2022	14,822,201	-4,075
Census 2021	14,223,942	-602,334

This undercount in the Census, relative to other methods, is a known issue, with Statistics Canada issuing the following note after the first release of Census 2021 data⁴¹:

The 2021 Census counted 36,991,981 people in Canada during the national enumeration with reference date May 11, 2021. This count is lower than the preliminary postcensal population

⁴¹ Statistics Canada (2022b)

estimate of 38,201,103 people calculated for the same reference date. The difference between the two figures is not unexpected and is similar to that which was experienced for previous censuses. This note outlines why there are differences between census counts and population estimates.

The objective of a census is to provide detailed information on the population at a single point in time. In this respect, one of its goals is to enumerate the entire population. Inevitably, however, some people are not counted, either because their household did not receive a census questionnaire (for example, if a structurally separated dwelling is not easily identifiable) or because they were not included in the questionnaire completed for the household (for example, the omission of a boarder or a lodger). Some people may also be missed because they have no usual residence and did not spend census night in any dwelling. In contrast, a small number of people may also be counted more than once (for example, students living away from home may have been enumerated by their parents and by themselves at their student address).

To determine how many individuals were missed or counted more than once, Statistics Canada conducts postcensal coverage studies of a representative sample of individuals. Results of these studies in combination with the census counts are used to produce population estimates which take into account net undercoverage.

Although this undercount is a common phenomenon, the undercount is not equally distributed across the province. Figure 19 contains the three population estimates for each of Ontario's 49 Census Divisions, sorted by population size. Figure 20 compares the Ministry of Finance and Census estimates to those prepared by Statistics Canada for each of Ontario's 49 Census Division. Figure 21 does the same, though it calculates the differences in percentage terms rather than absolute numbers.

Figure 19: Population by Ontario Census Division, 2021, Three Estimates

Census Division	Statistics Canada	Ministry of Finance	Census	Census Division	Statistics Canada	Ministry of Finance	Census
Toronto	2,974,293	2,991,445	2,794,356	Chatham-Kent	107,923	106,632	104,316
Peel	1,571,322	1,568,099	1,451,022	Leeds and Grenville	105,924	106,248	104,070
York	1,209,914	1,207,032	1,173,334	Grey	103,209	103,215	100,905
Ottawa	1,054,800	1,053,266	1,017,449	Prescott and Russell	98,570	98,021	95,639
Durham	727,328	719,014	696,992	Elgin	97,968	97,508	94,752
Halton	619,075	618,464	596,637	Northumberland and	91,027	91,092	89,365
Waterloo	611,493	610,594	587,165	Nipissing	87,652	86,700	84,716
Hamilton	587,192	584,755	569,353	Perth	84,062	84,210	81,565
Simcoe	548,703	546,514	533,169	Kawartha Lakes	82,401	82,133	79,247
Middlesex	515,114	514,191	500,563	Cochrane	79,632	80,014	77,963
Niagara	484,840	483,932	477,941	Lanark	75,625	75,673	75,760
Essex	426,246	432,206	422,860	Bruce	75,409	75,173	73,396
Wellington	247,285	247,432	241,026	Kenora	70,981	70,611	66,000
Greater Sudbury / Grand Sudbury	169,199	168,824	166,128	Dufferin	69,391	69,552	66,257
Frontenac	164,005	164,242	161,780	Muskoka	67,771	67,174	66,674
Brant	155,348	153,903	144,771	Huron	63,912	63,680	61,366
Thunder Bay	149,645	150,709	146,862	Lennox and Addington	45,729	45,764	45,182
Hastings	147,751	148,289	145,746	Parry Sound	45,358	45,199	46,909
Peterborough	147,731	148,898	147,681	Timiskaming	33,328	33,064	31,424
Lambton	132,611	133,135	128,154	Prince Edward	26,196	25,916	25,704
Oxford	124,936	124,449	121,781	Sudbury	22,288	22,314	22,368
Haldimand-Norfolk	123,256	122,576	116,872	Rainy River	20,502	20,451	19,437
Stormont, Dundas and Glengarry	119,413	119,639	114,637	Haliburton	19,719	19,675	20,571
Algoma	118,103	118,805	113,777	Manitoulin	13,994	14,022	13,935
Renfrew	108,102	107,747	106,365	TOTAL	14,826,276	14,822,201	14,223,942

**Figure 20: Population Under/Overcount, Relative to Statistics Canada, by Census Division, 2021,
Sorted by Largest Census Undercount**

	Ministry of Finance	Census		Ministry of Finance	Census
Toronto	17,152	-179,937	Nipissing	-952	-2,936
Peel	-3,223	-120,300	Prescott and Russell	-549	-2,931
Ottawa	-1,534	-37,351	Thunder Bay	1,064	-2,783
York	-2,882	-36,580	Huron	-232	-2,546
Durham	-8,314	-30,336	Perth	148	-2,497
Waterloo	-899	-24,328	Grey	6	-2,304
Halton	-611	-22,438	Frontenac	237	-2,225
Hamilton	-2,437	-17,839	Bruce	-236	-2,013
Simcoe	-2,189	-15,534	Hastings	538	-2,005
Middlesex	-923	-14,551	Timiskaming	-264	-1,904
Brant	-1,445	-10,577	Leeds and Grenville	324	-1,854
Niagara	-908	-6,899	Renfrew	-355	-1,737
Haldimand-Norfolk	-680	-6,384	Cochrane	382	-1,669
Wellington	147	-6,259	Northumberland	65	-1,662
Kenora	-370	-4,981	Muskoka	-597	-1,097
Stormont, Dundas and Glengarry	226	-4,776	Rainy River	-51	-1,065
Lambton	524	-4,457	Lennox and Addington	35	-547
Algoma	702	-4,326	Prince Edward	-280	-492
Chatham-Kent	-1,291	-3,607	Manitoulin	28	-59
Essex	5,960	-3,386	Peterborough	1,167	-50
Elgin	-460	-3,216	Sudbury	26	80
Oxford	-487	-3,155	Lanark	48	135
Kawartha Lakes	-268	-3,154	Haliburton	-44	852
Dufferin	161	-3,134	Parry Sound	-159	1,551
Greater Sudbury / Grand Sudbury	-375	-3,071	TOTAL	-4,075	-602,334

Figure 21: Population Under/Overcount in Percentage Terms, Relative to Statistics Canada, by Census Division, 2021, Sorted by Largest Percentage Census Undercount

	Ministry of Finance	Census		Ministry of Finance	Census
Peel	-0.2%	-7.7%	Middlesex	-0.2%	-2.8%
Kenora	-0.5%	-7.0%	Bruce	-0.3%	-2.7%
Brant	-0.9%	-6.8%	Wellington	0.1%	-2.5%
Toronto	0.6%	-6.0%	Oxford	-0.4%	-2.5%
Timiskaming	-0.8%	-5.7%	Grey	0.0%	-2.2%
Rainy River	-0.2%	-5.2%	Cochrane	0.5%	-2.1%
Haldimand-Norfolk	-0.6%	-5.2%	Prince Edward	-1.1%	-1.9%
Dufferin	0.2%	-4.5%	Thunder Bay	0.7%	-1.9%
Durham	-1.1%	-4.2%	Northumberland	0.1%	-1.8%
Stormont, Dundas and Glengarry	0.2%	-4.0%	Greater Sudbury / Grand Sudbury	-0.2%	-1.8%
Huron	-0.4%	-4.0%	Leeds and Grenville	0.3%	-1.8%
Waterloo	-0.1%	-4.0%	Muskoka	-0.9%	-1.6%
Kawartha Lakes	-0.3%	-3.8%	Renfrew	-0.3%	-1.6%
Algoma	0.6%	-3.7%	Niagara	-0.2%	-1.4%
Halton	-0.1%	-3.6%	Hastings	0.4%	-1.4%
Ottawa	-0.1%	-3.5%	Frontenac	0.1%	-1.4%
Lambton	0.4%	-3.4%	Lennox and Addington	0.1%	-1.2%
Nipissing	-1.1%	-3.3%	Essex	1.4%	-0.8%
Chatham-Kent	-1.2%	-3.3%	Manitoulin	0.2%	-0.4%
Elgin	-0.5%	-3.3%	Peterborough	0.8%	0.0%
Hamilton	-0.4%	-3.0%	Lanark	0.1%	0.2%
York	-0.2%	-3.0%	Sudbury	0.1%	0.4%
Prescott and Russell	-0.6%	-3.0%	Parry Sound	-0.4%	3.4%
Perth	0.2%	-3.0%	Haliburton	-0.2%	4.3%
Simcoe	-0.4%	-2.8%	TOTAL	0.0%	-4.1%

Why is the Census missing so many people, and who are they? Several factors determine how likely a person is to be counted in the Census. A January 2021 research report by Statistics Canada⁴² finds that the following groups have higher Census undercoverage rates:

- Men have higher undercoverage rates than women
- Individuals between the ages of 20 and 34 are more likely to be undercounted than other age groups

⁴² Julien Bérard-Chagnon and Marie-Noëlle Parent, "Coverage of the 2016 Census: Level and Trends," Coverage of the 2016 Census: level and trends § (2021), https://publications.gc.ca/collections/collection_2021/statcan/91f0015m/91f0015m2020003-eng.pdf.

- Single or separated adults are more likely to be undercounted
- Individuals whose mother tongue is neither English nor French
- Recent immigrants and non-permanent residents, such as international students
- Persons living in large cities
- Persons living on reserves

Not surprisingly, the Census Divisions with the highest percentage population undercounts are those with large numbers of non-permanent residents, individuals whose mother tongue is neither English nor French or living on sizeable reserves.

Awareness of the limitations of Census data and how Census data can undercount specific groups in society is vitally important. It is also vital not to mix and match datasets when calculating how much a place grew between two years. Finally, when municipal Official Plans provide population forecasts, they should indicate if their population figures for future years incorporate Census undercounts.

Data Sources Used in Report

1. *Age of Primary Household Maintainer (9), Tenure (4), Structural Type of Dwelling (10) and Household Type Including Census Family Structure (9) for Private Households of Canada, Provinces and Territories, Census Divisions and Municipalities, 2016 Census - 25% Sample Data*, Statistics Canada <https://open.canada.ca/data/en/dataset/eb942f85-078d-4884-a5db-ad55c158e77e>
2. *Canada Mortgage and Housing Corporation, housing starts, under construction and completions, all areas, quarterly*, Statistics Canada, Table: 34-10-0135-01, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3410013501>
3. *Canada Mortgage and Housing Corporation Housing Portal*, <https://www03.cmhc-schl.gc.ca/hmip-pimh/en#Profile/1/1/Canada>
4. *Components of population change by Census Division, 2016 boundaries*, Statistics Canada, Table: 17-10-0140-01, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710014001>
5. *Estimates of the components of demographic growth, annual*, Statistics Canada, Table: 17-10-0008-01, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000801>
6. *Ontario population projections, June 23, 2021*, Ontario Ministry of Finance, <https://www.ontario.ca/page/ontario-population-projections>
7. *Population estimates on July 1st, by age and sex*, Statistics Canada, Table: 17-10-0005-01, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501>
8. *Population estimates, July 1, by Census Division, 2016 boundaries*, Statistics Canada, Table: 17-10-0139-01, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710013901>
9. *Population estimates, July 1, by Census Subdivision, 2016 boundaries*, Statistics Canada, Table: 17-10-0142-01, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710014201>
10. *Temporary Residents: Study Permit Holders – Monthly IRCC Updates*, Open Government Canada, <https://open.canada.ca/data/en/dataset/90115b00-f9b8-49e8-afa3-b4cff8facaee>
11. *Temporary Residents: Temporary Foreign Worker Program (TFWP) and International Mobility Program (IMP) Work Permit Holders – Monthly IRCC Updates*, Open Government Canada, <https://open.canada.ca/data/en/dataset/360024f2-17e9-4558-bfc1-3616485d65b9>

References

1. Bérard-Chagnon, Julien, and Marie-Noëlle Parent, Coverage of the 2016 Census: level and trends § (2021).
https://publications.gc.ca/collections/collection_2021/statcan/91f0015m/91f0015m2020003-eng.pdf.
2. “Canadian Experience Class (CEC) Immigration.” Canadavisa.com. Cohen Immigration Law, May 6, 2022. <https://www.canadavisa.com/canadian-experience-class.html>.
3. Century Initiative. Rep. *Driving Innovation and Entrepreneurship in Canada: The Benefits of Immigration*. Century Initiative, December 2021. https://uploads-ssl.webflow.com/5f931bff6aee7ca287dbada2/61b77e0e0f07f59ea83dba78_Key-Insight-Report%232-FINAL.pdf.
4. City of Hamilton. “Draft Urban Hamilton Official Plan Amendment No. 167.” City of Hamilton Planning Committee. City of Hamilton, May 25, 2022.
<https://www.hamilton.ca/sites/default/files/media/browser/2022-06-13/22-145-not-final-v2.pdf>.
5. CMHC. Rep. *Housing Market Inside Canada: Government Charges on Residential Development in Canada's Largest Metropolitan Areas*. Government of Canada, n.d. <https://www.cmhc-schl.gc.ca/en/blog/2019-housing-observer/driving-until-you-qualify-worth-it-in-montreal>.
6. Furth, Salim. “How Big Is the Housing Shortage?” Market Urbanism. Market Urbanism, August 5, 2022. <https://marketurbanism.com/2022/08/05/how-big-is-the-housing-shortage/>.
7. Government of Canada. “Government of Canada Introduces Changes to Work Permits for International Students, Making Canada More Attractive for Skilled Individuals.” Canada.ca. Government of Canada, April 21, 2008.
<https://www.canada.ca/en/news/archive/2008/04/government-canada-introduces-changes-work-permits-international-students-making-canada-more-attractive-skilled-individuals.html>.
8. Government of Canada. “Notice - New Regulations for International Students Finalized.” Canada.ca. Government of Canada, February 12, 2014. <https://www.canada.ca/en/immigration-refugees-citizenship/news/notices/notice-new-regulations-international-students-finalized.html>.
9. Government of Canada. “Study Permits: Off-Campus Work.” Canada.ca. Government of Canada, June 9, 2021. <https://www.canada.ca/en/immigration-refugees-citizenship/corporate/publications-manuals/operational-bulletins-manuals/temporary-residents/study-permits/campus-work.html>.
10. Government of Ontario. “A Place to Grow: Growth Plan for the Greater Golden Horseshoe.” ontario.ca. Government of Ontario, August 2020. <https://www.ontario.ca/document/place-grow-growth-plan-greater-golden-horseshoe>.
11. Government of Ontario. Rep. *Growth Plan for the Greater Golden Horseshoe*. Government of Ontario, May 2017. https://files.ontario.ca/appendix_-_growth_plan_2017_-_oc-10242017.pdf.
12. Government of Ontario. Rep. *Planning for Health, Prosperity, and Growth in the Greater Golden Horseshoe: 2015-2041*. Government of Ontario, December 2015.
http://ossga.com/multimedia/0/planning_for_health_prosperity_and_growth_-_expert_panel_report.pdf.

13. Government of Ontario. Rep. *Report of the Ontario Housing Affordability Task Force*. Government of Ontario, February 8, 2022. <https://files.ontario.ca/mmah-housing-affordability-task-force-report-en-2022-02-07-v2.pdf>.
14. Hemson Consulting Ltd. . Rep. *Greater Golden Horseshoe Growth Forecasts to 2041 Technical Report (November 2012) Addendum*. Hemson Consulting Ltd., June 2013. <https://www.hemson.com/wp-content/uploads/2016/03/HEMSON-Greater-Golden-Horseshoe-Growth-Forecasts-to-2041-Technical-Report-Addendum-and-Rev.-Appendix-B-Jun2013.pdf>.
15. Hemson Consulting Ltd. . Rep. *Greater Golden Horseshoe Growth Forecasts to 2041*. Hemson Consulting Ltd., November 2012. <https://hemson.com/wp-content/uploads/2016/03/HEMSON-Greater-Golden-Horseshoe-Growth-Forecasts-to-2041-Technical-Report-Nov2012.pdf>.
16. Hemson Consulting Ltd. . Rep. *Greater Golden Horseshoe: Growth Forecasts to 2051*. Hemson Consulting Ltd., June 16, 2020. <https://www.hemson.com/wp-content/uploads/2020/06/HEMSON-Schedule-3-Forecasts-FINAL-16JUN20.pdf>.
17. Hemson Consulting Ltd. . Rep. *The Growth Outlook for the Greater Golden Horseshoe*. Hemson Consulting Ltd., January 2005. <https://hemson.com/wp-content/uploads/2016/03/GrowthOutlookForGGH-17Jan2005.pdf>.
18. Hemson Consulting LTD. Rep. *Greater Golden Horseshoe: Growth Forecasts to 2051*. Hemson Consulting Ltd., August 26, 2020. <https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf>.
19. Lauster, Nathan, and Jens von Bergmann. "Estimating Suppressed Household Formation." Home: Free Sociology!, May 6, 2022. <https://homefreesociology.com/2022/05/06/estimating-suppressed-household-formation/>.
20. McArthur-Gupta, Aimee, Kareem El-Assal, and Ali Bajwa. Rep. *Can't Go It Alone: Immigration Is Key to Canada's Growth Strategy*. The Conference Board of Canada, May 3, 2019. <https://www.conferenceboard.ca/e-library/abstract.aspx?did=10150>.
21. Ministry of Housing, Communities, and Local Government. "English Housing Survey 2018-2019: 'Sofa Surfing' and 'Concealed Households.'" Government of the United Kingdom. Accessed August 10, 2022. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/898373/Sofa_surfing_fact_sheet.pdf.
22. Ministry of Public Infrastructure Renewal. Rep. *Growth Plan for the Greater Golden Horseshoe*. Government of Ontario, 2006. <http://www.hns.barrie.ca/reports/fplan-eng-web-all.pdf>.
23. Moffatt, Mike, and Mohsina Atiq. Rep. *Forecast for Failure: How a Broken Forecasting System Is at the Root of the GTAH's Housing Shortage and How It Can Be Fixed*. Smart Prosperity Institute, January 2022. <https://institute.smartprosperity.ca/sites/default/files/BILD%20Report%20-%20FINAL.pdf>.
24. Moffatt, Atiq, and Islam (2021) *Priced Out: A lack of housing options for working families in the Goods Production & Distribution District of Canada's Innovation Corridor* <https://bot.com/Resources/Resource-Library/Priced-Out>
25. Moffatt, Mike. "Baby Needs a New Home." Smart Prosperity Institute. Smart Prosperity Institute, 2021. <https://institute.smartprosperity.ca/publications/growing-number-households>.
26. Moffatt, Mike. Rep. *The Big Shift: Changes in Canadian Manufacturing Employment, 2003-2018*. Future Skills Centre, May 20, 2021. <https://fsc-ccf.ca/research/the-big-shift-changes-in-canadian-manufacturing-employment-2003-2018-executive-summary/>.

27. Office of the Auditor General of Ontario. Rep. *Value-for-Money Audit: Land-Use Planning in the Greater Golden Horseshoe*. Office of the Auditor General of Ontario, December 2021. https://www.auditor.on.ca/en/content/annualreports/arreports/en21/AR_LandUse_en21.pdf.
28. Office of the Parliamentary Budget Officer. Rep. *Household Formation and the Housing Stock: A Stock-Flow Perspective*. Government of Canada, December 13, 2016. <https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2016/Household%20Formation/Household%20Formation%20EN.pdf>.
29. Ontario Ministry of Finance. "Ontario Population Projections." ontario.ca. Government of Ontario, June 23, 2021. <https://www.ontario.ca/page/ontario-population-projections>.
30. Perrault, Jean-François. "Estimating the Structural Housing Shortage in Canada: Are We 100 Thousand or Nearly 2 Million Units Short?" Scotiabank, May 12, 2021. https://www.scotiabank.com/content/dam/scotiabank/sub-brands/scotiabank-economics/english/documents/housing-note/housing_note_2021-05-12.pdf.
31. Research and Forecasting Unit: Planning, Infrastructure and Economic Development Department. Rep. *Growth Projections for the New Official Plan: Methods and Assumptions for Population, Housing, and Employment 2018 to 2046*. City of Ottawa, November 2019. <https://engage.ottawa.ca/8204/widgets/36458/documents/33928>.
32. Tamburri, Rosanna. "Changes to Immigration Rules Are a Boon to International Student Recruitment." University Affairs, March 13, 2013. <https://www.universityaffairs.ca/news/news-article/changes-to-immigration-rules-are-a-boon-to-international-student-recruitment/>.
33. Toronto City Planning. Rep. *Right-Sizing Housing and Generational Turnover*. City of Toronto, May 2021. https://www.toronto.ca/ext/digital_comm/pdfs/city-planning/right-sizing-housing-generational-turnover.pdf.
34. Watson and Associates Economists Ltd. Rep. *Population, Housing, and Employment Growth Forecast, 2016-2046: City of Kingston*. Watson and Associates Economists Ltd., March 5, 2019. https://www.cityofkingston.ca/documents/10180/31619068/Projects_Planning_PopulationHousingEmploymentForecast_Final-Report_March2019.pdf/d39310e1-e11c-4f05-b1fb-2695b9a9ea71.



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