Not Enough Places to Live

Housing Production in Canada Has Fallen Far Short of the Needs of Our Growing Population

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Introduction

"Demographic analysis" provides a nifty set of tools that can be used to interpret the impacts of a growing and changing population, across a vast range of issues in economics and social conditions.

In this report, demographic modeling is used to calculate how much housing should have been built in Canada (since 2006), and those estimates are compared to how much housing was actually built.

The analysis has been completed for 36 major urban centres across the provinces, as well as the "rest of" area. The analysis looks at housing requirements versus supply by type of housing ("low density" includes single-detached and semi-detached housing, "medium density" is row (or town house) housing, and "high density" is apartment buildings).

A table (on page 5) summarizes the estimates for each of the individual centres across Canada plus the combined "rest of" area. Almost every large community in Canada (32 out of 36 Census Metropolitan Areas) has under-produced low-density housing. This is not just a problem for Toronto and Vancouver.

Methodology

The analysis starts with population and housing data from the 2006 Census of Canada, by age group. Calculations are made to profile housing choices by age group. The analysis then assumes that for each age group, those choices will be unchanged over time, to create a "what if" scenario.

Steps in the calculations are:

Firstly, household formation rates are calculated for each age group. These are applied to the annual population estimates by age group, to calculate how many households might exist in each of the years.

Secondly, for each age group, what percentages of households live in each of the three types of dwelling? Applying these shares from 2006 to the future estimates of households produces estimates of how many dwellings of each type will be needed in each year.

Then, the growth in the required numbers of dwellings indicates how many new dwellings need to be added in each year (again, by type of dwelling).

The estimated requirements are compared to actual housing production, using data from Canada Mortgage and Housing Corporation on housing completions.

These steps are completed for 36 major urban areas in Canada (Census Metropolitan Areas, or "CMAs"). For each province, the same calculations are made for the combined "rest of" area.

The estimates for the individual areas (36 Census Metropolitan Areas plus the "rest of" areas) are summed to generate national totals. Because CMHC does not provide the construction data for the Territories, they are excluded from the calculations of national requirements and production.

Since the estimates of population are as of July 1st each year, the housing completions data is for the same July-to-June periods (eg. the year labelled as 2007 covers the period July 1, 2006 to June 30, 2007. The final period is July 1, 2019 to June 30, 2020).

In 2006, there were about 12.4 million occupied dwellings in the 10 provinces, including just under 8.5 million within the 36 CMAs and just over 3.9 million in the "rest of" areas.

These estimates cover only the period since 2006. Some areas within Canada (notably, the Vancouver area) had longer histories of under-production of low-rise housing before 2006. This means that in some locations the total supply shortfalls are even larger than the estimates shown in this report.

Housing shortages have contributed to rapid price growth during the past decade and a half. Recent heightened consumer interest in low density housing means that the supply shortfalls are now contributing to extreme price growth. Given the large magnitudes of the supply deficits, we might see sustained pressure on pricing for some time.

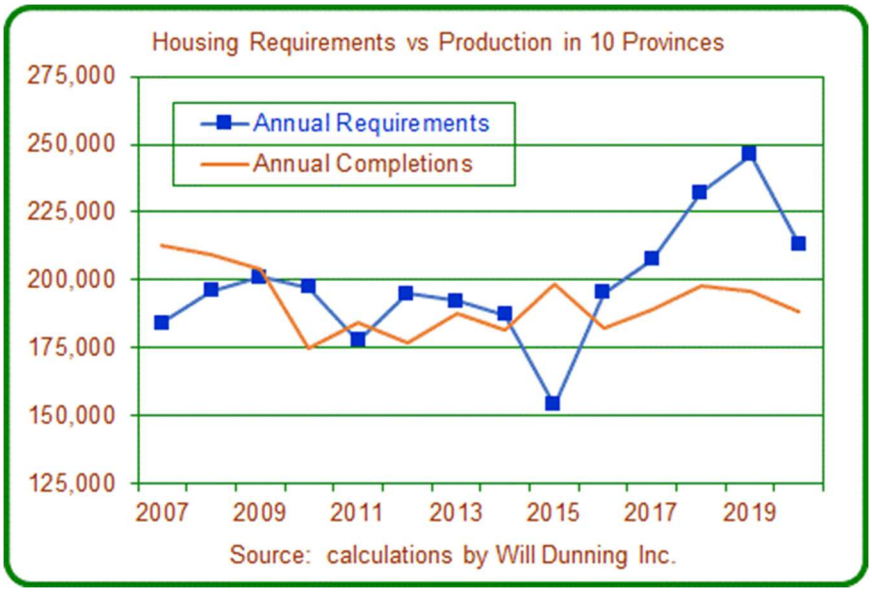
The author of this report has been analyzing Canadian housing markets since 1982. Until 1997, I worked in various position in housing market analysis for Canada Mortgage and Housing Corporation, and since then as a consultant. This includes 20 years as the sole employee of my own company. My clients have covered a very wide range of interests, including industry associations, governments, the private sector (in construction and finance), and non-governmental organizations.

This is “unsponsored research” (meaning that no one has paid me to do it or influenced it).

The Estimates

For the 14 years covered in this analysis, the total requirement is estimated at 2.78 million units, while total housing completions were 2.68 million (in both cases, the data excludes the territories). For the 10 provinces housing completions were slightly below the estimated requirements (by a total of about 97,000 dwelling units, or just under 7,000 per year). Compared to the total housing inventory (12.4 million occupied dwelling units as of 2006), the estimated total shortfall is relatively small. However, as is discussed below, the distribution of the shortfall matters. Moreover, as is discussed in the section on “Principal Residences”, the shortfall is larger than estimated, although the amount of the under-estimation is unknowable.

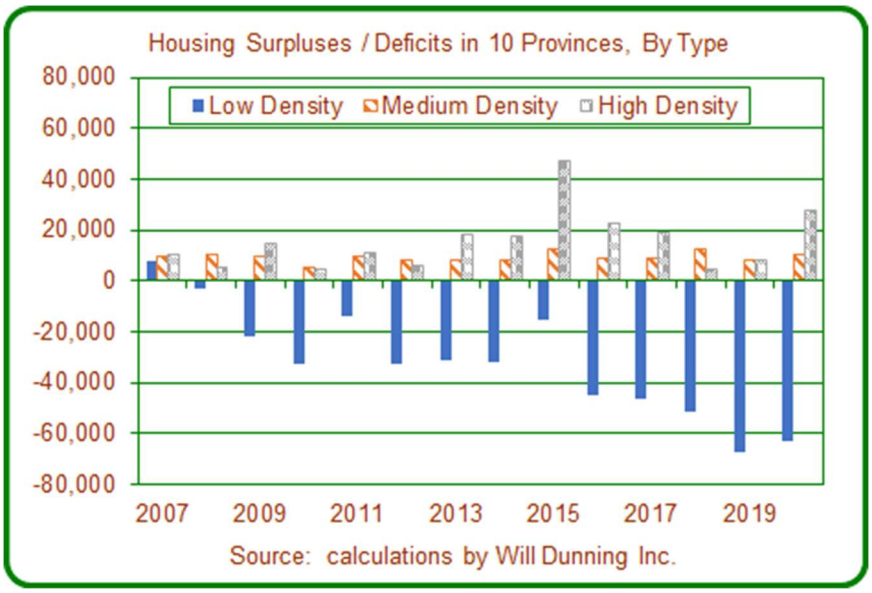
The first chart shows the totals of the annual estimates for the 10 provinces, for requirements versus supplies. These estimates indicate that in the first 3 of the 14 years, the additions to supply exceeded the requirements. Since then, there were shortfalls in 9 of the 11 years. During 2018 and 2019, the requirements increased sharply due to faster population growth: housing completions did not respond to the increased requirements.



The next chart shows the annual differences between total requirements and total completions.

For 2015, the estimates show an unusually low requirement and a large surplus. This occurred because population growth for the year (just 0.7%) was considerably slower than in the other years. For the entire period covered in this analysis, population growth in Canada averaged 1.1% per year. The final data point in these charts show a reduced requirement (and correspondingly a smaller supply shortfall) for 2020, reflecting that for the year up to July 1, 2020, the rate of population growth slowed to 1.1%, versus 1.4% in both 2018 and 2019.

Looking into the details, this chart summarizes the annual surpluses and shortfalls for the three dwelling types (low density, medium density, and high density). These estimates show:



- For low density housing there was a small surplus in the first year, followed by deficits in the remaining 13 years. The total deficit for the 14 years is 447,000 (or close to 32,000 per year). Compared to the total inventory (8.3 million occupied low-density units as of 2006), and the estimated growth requirement (1.76 million), the accumulated shortfall is quite large.
- For medium density, there were estimated surpluses in every one of the 14 years, for a combined total surplus of 130,000 units, or about 9,300 per year. This is very large compared to the inventory (691,000 dwelling units in 2006) and the estimated growth requirement (167,000).
- For high density, there were also surpluses in every year, for a total of 219,000 units (15,600 per year). This is a substantial surplus compared to the inventory (3.4 million dwellings in 2006). The surplus is about one-quarter larger than the estimated growth requirement (856,000).

The detailed table on the next page summarizes the calculations for communities across Canada.

For the 36 Census Metropolitan Areas, 9 have overall surpluses and 27 have overall deficits. The "rest of" area has an overall surplus.

But, looking at the results by type of dwelling:

- For low density homes, most of the CMAs (32 out of 36) have deficits (surpluses were estimated only for St. John's, Saguenay, Greater Sudbury, and Thunder Bay).
- For the 36 CMAs in combination, the accumulated shortfall of low density homes is 475,000. This is a very large deficit relative to the estimated requirement for 1.33 million new low density dwellings in the CMAs.
- Another way to look at this is that based on consumer choices from 2006, low-density housing "should" have been 59% of production in the CMAs, but the actual share was just 42%.
- For the "rest of" areas, there was a modest surplus of low density dwellings (28,000), which was 7% above the estimated requirement (423,000 units). The surplus might be over-estimated, due to the "principal residence" issue that is discussed later.
- For medium density (town homes) there were surpluses in almost all (34 out of 36) CMAs and the "rest of" areas. Shortfalls are estimated only for St. John's and Victoria.
- For the CMAs, the surplus (98,000) was 65% higher than the requirement (152,000).
- For "rest of" areas, the 33,000 surplus for medium density was far above the estimated requirement (16,000) for new medium density housing. That said, medium density housing is just a small share (8%) of total production in the "rest of" areas.
- For high density (apartments), there were estimated surpluses in the "rest of" areas and 21 out of 36 CMAs, and shortages in the remaining 15 CMAs.
- In the CMAs, the total surplus for high density is 172,000 (almost one-quarter above the estimated requirement of 780,000). Based on 2006 housing choices, apartments should have been 34% of total production in the CMAs, but the actual share was 46%.
- The last column in the table also shows the combined totals for low plus medium density, since "substituting" from a single-detached or semi-detached home to a town home may be a relatively easy choice for many of us. This data shows that there were shortfalls in 29 out of 36 CMAs. There were surpluses in 7 of the 36 CMAs and in the "rest of" areas.
- For the CMAs, the combined low+medium shortfall is quite large, at 377,000, as completions were far below the requirement for 1.48 million new dwellings.

Worsening shortages of housing across Canada have contributed to rapid price growth during the past decade and a half.

Now, in a time when consumers have become more interested in living in low density situations, the shortages are contributing to extreme price growth: during the past year, the House Price Index calculated by the Canadian Real Estate Association has increased by 23%. For single family homes, the rise is 28%. For apartments, the year-over-year rise is 8%. Exceptionally low interest rates have enabled home buyers to afford higher prices. The severe shortages have caused that potential to become a reality.

If Canada had produced enough new housing during the past decade and a half, Canadian housing markets would be much less heated than they are.

Summary of Estimated Surpluses and Shortfalls, by Location *Total Amounts in 14 Years (2006/07 to 2019/20)*					
Location	*Low Density*	*Medium Density*	*High Density*	*Total*	*Subtotal: Low + Medium*
St. John's, Newfoundland and Labrador	1,138	-665	1,614	2,087	473
Halifax, Nova Scotia	-9,101	655	4,548	-3,898	-8,446
Moncton, New Brunswick	-2,176	329	1,802	-45	-1,847
Saint John, New Brunswick	-450	129	576	255	-321
Saguenay, Quebec	2,042	143	1,222	3,407	2,185
Québec, Quebec	-2,908	1,536	17,893	16,521	-1,372
Sherbrooke, Quebec	-112	871	876	1,635	759
Trois-Rivières, Quebec	-81	123	2,231	2,274	43
Montréal, Quebec	-61,923	6,744	46,225	-8,954	-55,179
Ottawa - Gatineau, Quebec part	-3,547	998	6,026	3,478	-2,549
Ottawa - Gatineau, Ontario part	-17,142	8,792	-8,321	-16,670	-8,350
Kingston, Ontario	-1,253	755	-17	-515	-498
Belleville, Ontario	-352	606	-1,192	-938	254
Peterborough, Ontario	-1,207	697	-918	-1,429	-510
Oshawa, Ontario	-8,885	2,410	-2,879	-9,354	-6,475
Toronto, Ontario	-129,735	25,165	34,441	-70,129	-104,570
Hamilton, Ontario	-11,840	7,472	-5,515	-9,883	-4,368
St. Catharines - Niagara, Ontario	-4,396	3,445	-3,166	-4,117	-951
Kitchener/Cambridge/Waterloo, Ontario	-14,977	2,396	4,665	-7,915	-12,580
Brantford, Ontario	-2,490	1,178	-1,051	-2,363	-1,312
Guelph, Ontario	-4,692	1,754	940	-1,998	-2,938
London, Ontario	-5,196	953	-758	-5,001	-4,243
Windsor, Ontario	-1,958	1,058	-3,246	-4,145	-900
Barrie, Ontario	-5,532	1,301	260	-3,970	-4,231
Greater Sudbury, Ontario	99	312	-587	-176	411
Thunder Bay, Ontario	682	94	-211	564	776
Winnipeg, Manitoba	-13,393	1,858	-864	-12,398	-11,535
Regina, Saskatchewan	-8,702	1,436	2,325	-4,940	-7,266
Saskatoon, Saskatchewan	-10,923	1,546	-1,737	-11,114	-9,377
Lethbridge, Alberta	-2,130	541	-869	-2,458	-1,589
Calgary, Alberta	-38,648	4,054	10,996	-23,598	-34,594
Edmonton, Alberta	-16,773	1,904	457	-14,411	-14,869
Kelowna, British Columbia	-8,176	1,258	5,399	-1,519	-6,918
Abbotsford - Mission, British Columbia	-7,619	442	532	-6,644	-7,177
Vancouver, British Columbia	-71,162	15,783	56,710	1,331	-55,379
Victoria, British Columbia	-11,738	-219	3,770	-8,187	-11,957
Subtotal (36 Census Metropolitan Areas)	-475,252	97,853	172,178	-205,221	-377,399
Other Areas	28,460	32,548	46,868	107,876	61,009
Canada Total	-446,792	130,402	219,046	-97,345	-316,391
Source: calculations by Will Dunning Inc, using data from Statistics Canada and Canada Mortgage and Housing Corporation.					

"Principal Residences"

Strictly-speaking, the estimated housing requirements are for "principal residences" (dwellings permanently occupied as the main residence, by a home owner, renter, or as band housing). Other dwellings (including second residences, such as vacation properties, and short-term rentals) are not principal residences and shouldn't be counted against the requirements.

Therefore, the housing completions data over-estimate the supply of new principal residences. Correspondingly, the "true" production shortfalls for low-density dwellings are larger than estimated, to some degree. And, the surpluses for medium and high-density housing are over-estimated to some degree. I'm not expressing an opinion here on how large the resulting errors might be. The message, tentatively expressed, is that the total shortfall of housing production in Canada has very likely been larger than is estimated here, to some unknown degree.

Factors Inhibiting Housing Supply

This report is not intended to explain the reasons for the production shortfalls, to measure the effects of the causes, or to argue for solutions for enhancing supply. That said, here is a quick list of factors that I think are involved. I have no doubt that I've missed some.

- 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.
- Decisions by land owners about whether to sell.
- Mortgage regulations that suppress home buying: these reduce sales of new housing, which impairs future supplies.

Higher prices provide incentive for builders to offer more supply. Will the environment be conducive to that expansion?

Other Housing Flows

Other events affect the total supply of housing, including demolitions, abandonments (especially in small towns and rural areas), altering numbers of units within structures (especially adding or removing a basement apartment), conversions between residential and non-residential uses (converting commercial buildings to residential use or on the other hand converting homes to business uses). In theory, the estimates of surpluses or shortages should be adjusted for these events, but unfortunately, we don't have data that is complete and reliable. This research assumes that these other processes don't materially alter the outcomes.

Falling Household Formation Rates

If housing supply doesn't keep up with the requirements, some people who want to form new households are unable to do so, meaning that the calculated household formation rates will fall. Inadequate supply is materially affecting the ability of Canadians to organize and live their lives the way they want.

Changing Consumer Choices, Including "Substitution"

To varying extents, people today will make different choices compared to other people in earlier times. Housing production has shifted away from low density forms towards medium and especially to high density. In part, that reflects changing preferences: reduced child-bearing, as an example, will cause more people to want to live in apartments rather than in larger homes. Also, desires to be closer to work have supported movement to apartments. In some cases, substitution occurs due to economic necessity (especially the shift to town homes, away from single-detached and semi-detached homes). It is similarly possible that there has been some substitution from low and medium densities to apartments that is due to economic pressures rather than to preferences: the increasing share of apartments, for some of the newer occupants, meant giving up on a first choice, to make the best of a very challenging situation.

Current events in housing markets across the country show that many consumers are re-assessing their preferences and revising their choices, which is causing them to compete aggressively in under-supplied segments of local housing markets.

A Bit of Relief

Canada is currently experiencing slow population growth, due to sharply reduced immigration (Statistics Canada estimates that the population grew by just 0.4% in the year up to January 1st, versus growth at 1.4% prior to Covid-19). When we have the population data for July 1 this year, the estimated requirements will be sharply lower than in prior years. Meanwhile, housing completions will be similar to past years. For 2021, this will result in a large estimated surplus for housing supply. But, following a prolonged period of inadequate supply, this will make only a small dent in the very large accumulated deficit for low-density homes. It is very likely that for some time, supply-demand imbalances will continue to cause price pressures in many communities across of Canada.

It would take 3 to 5 years of moderate population growth, combined with increased construction (at least 100,000 new low-rise dwellings per year, versus the average of about 78,000 that has been seen over the past 5 years), to produce a substantive and impactful reduction of the shortage that currently exists for low density housing. In addition, to take advantage of substitution, expanding the supply of medium density housing (30,000 to 40,000 units per year, from the 5-year average of 23,000) would be beneficial.