The Housing Supply Myth

On Methodology: A Response to My Critic

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The arguments and opinions expressed in this rebuttal are my own and do not necessarily reflect the views of the Department of Geography and the Environment or Kwantlen Polytechnic University.

I recently received an e-mail from a Vancouver resident and activist linking Nathanael Lauster's critical blog entries ("Notes on the 'Myth' of Housing Supply", Nov. 29, and "Overbuilding vs. Undercounting", Nov. 30) about my housing supply working paper, and asking what I thought about them. This was the first I had seen or heard of these posts, so I was intrigued to see these counterarguments to my working paper "The Housing Supply Myth." Lauster states that my working paper is "not high quality, either theoretically or methodologically," and then proceeds to advance a series of claims about my argumentation, motives, methods, and findings, before providing his alternative analysis of the supply/demand relationship in metropolitan Vancouver and other cities to challenge my account.[1]

I begin my response with this rebuttal to Lauster's critiques of my methods and findings, since those are likely to be of the most interest to readers who have been following this debate. I plan on follow-ups to contest his representation of my argument, motives, and prescriptions for addressing the housing affordability crisis, and to discuss his intriguing charts on housing construction. I have started to look through that completions data with interest, so I thank Richard Wittstock, Principal of Domus Homes, for bringing it—via Dr. Lauster—to my attention.

Housing Affordability Methodology

I won't dwell on Lauster's critiques of how I've approached measures of housing affordability, particularly as the reality of housing cost escalation, relative to incomes, is not in dispute. I have been forthright in stating that my study is of the overall affordability picture in the 33 Canadian markets I studied, and that is a legitimate topic of inquiry. It is not illegitimate because it doesn't specifically focus on renters or those in social housing—it is just not the study Lauster would like. I happen to think that those sub-markets *would* be worthwhile topics of inquiry, either as additions to this study, or for another project.[2] As for the use of the *Demographia* data, I am aware of its shortcomings and would have no problem substituting a superior affordability measure or index in its place—especially if that measure could cover all 33 CMAs for the 2001-2016 period and, ideally, the metropolitan markets I also examined in Australia and the United States. This coverage was exactly why I chose to use the *Demographia* material: to facilitate cross-national comparisons. I would be surprised, however, if the use of alternative measures for a single Canadian-focused study yielded any appreciable differences in

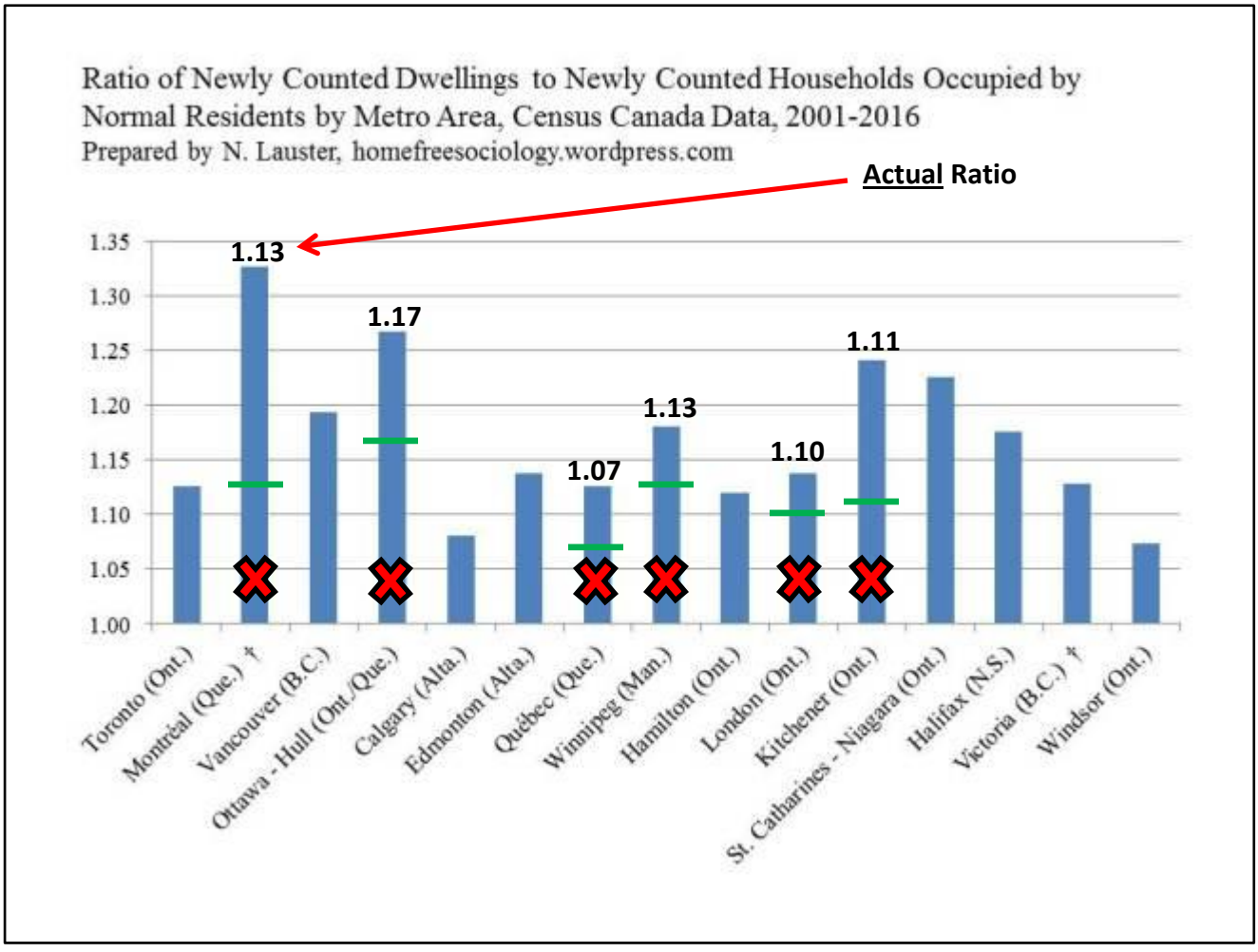
[1] Lauster says that he was loathe to give the report any further publicity, but did so because "he was quoted in its initial media roll out," and because "once the study was finally written and released it cited me—kind of—through an old press release". First off, there was no concerted '*media roll out*'; having been connected with Kerry Gold (columnist at the Globe and Mail) by a colleague enthused by my research, I shared the findings of my report-in-progress with her. This included an hour-long, explanatory review of all of my raw data, processed spreadsheets, plus the tables and charts shown in the working paper released on Nov. 24. Ms. Gold asked if she could link my tables and charts in the news story but I declined, not wanting to simply have these presented without full context. As noted in the working paper, the public interest in the news story compelled me to accelerate completion of the working paper, tidy up the text, and have it available for Nov. 24. As for the citation, there is no '*kind of*' citation: I quoted something Lauster said in an interview, and I correctly cited it.

[2] I would stress, however—as I did in the working paper—that much of the discourse around housing affordability has treated housing supply in an undifferentiated fashion (in the vein of 'we need to build more. . .and that will make housing affordable') and interrogating this argument has been the focus of my research.

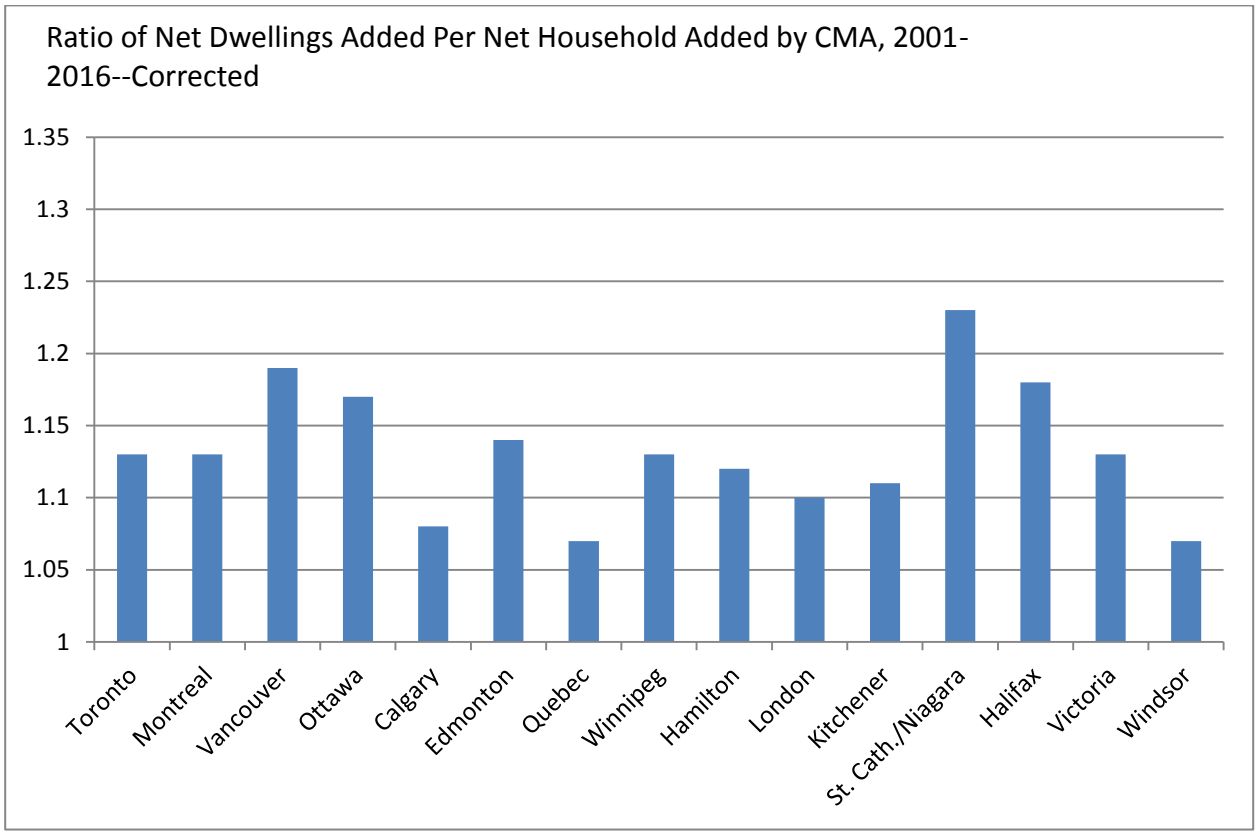
the affordability comparisons across markets and through the 2001-2016 period. I think that if Lauster is going to critique my use of the affordability measures, he should demonstrate how my selection of these figures makes a material difference to the analysis.

Census Data: Dwelling Counts and Households

Well, here's where things get interesting. Let's look at the first chart in the "Overbuilding vs. Undercounting" blog post. This is the chart that he has produced by apparently using my data for tracking the relative responsiveness of supply over the 15 year period. He misrepresents my words in the text of his blog to say that I am claiming these are number of units ***built*** per household, when my exact wording from the report is "*net number of dwellings **added** per net household added.*" This difference matters (and not just because Lauster's description is careless), as I will explain later. He hasn't argued that I've calculated these numbers incorrectly, so I am very surprised to see so many mistakes in the chart. These are identified with the red Xs below. For the reader's reference, I have provided the actual *net number of dwellings added per net household added* ratio above each



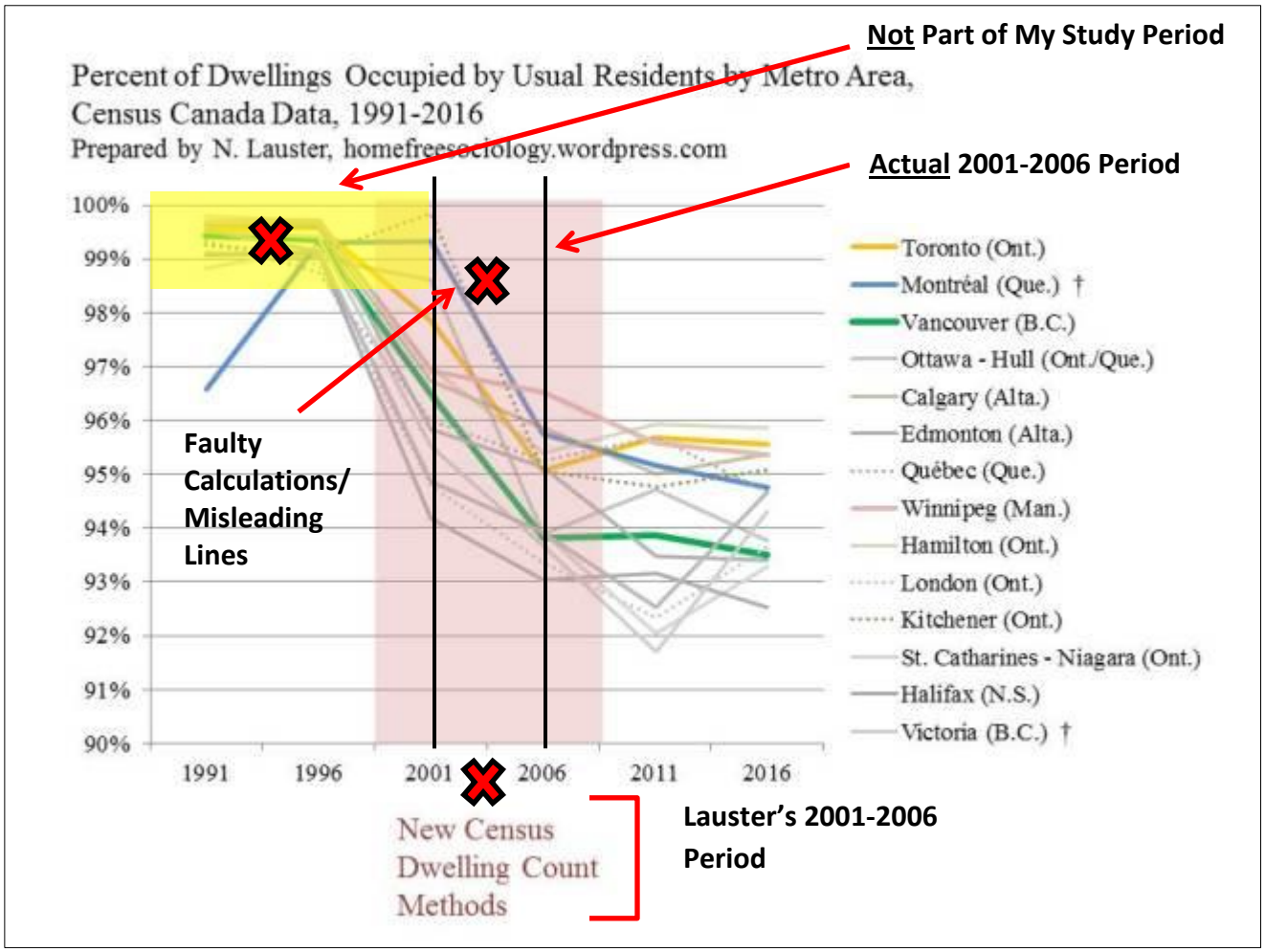
incorrectly represented market, and a green line where (as close as the source document formatting would permit) the height of each bar should be located. The result: 9 out of 15 correct. I have provided a corrected chart below to help you visualize the actual dwellings added/households added ratio for these 15 cities. Anyone interested in checking the numbers out can look up the figures in my report, or check the census links contained therein to examine the source data.



Source: Calculated from Statistics Canada, 2001; 2016.

Now Vancouver's supply situation looks a lot better: not just one figure that doesn't seem especially remarkable, but actually the *second highest* ratio for all of the 15 markets Lauster shows. In fact, it is the fifth most highly-supplied (net dwellings added per household added) market among the 33 Canadian CMAs I studied, with a ratio just .001 lower (.194 vs. .195) than that of Kelowna. Yet, as I pointed out in my report, metro Vancouver is by far the most expensive housing market in Canada—a remarkable position given its overall supply performance, even if you follow Lauster's figures and place the city mid-pack in terms of its supply/household growth ratio among Canadian CMAs. As I've stressed, this is a finding totally opposed to the notion that this market became so expensive between 2001-2016 because of an insufficient supply of housing units.

Lauster then moves on to the primary section of his critique, in which he challenges my findings on some supposed issues with the census data upon which my analysis of dwelling units and households (occupied units) is based. The focus of his critique is a drop in occupancy rates between the years of 2001-2006, which he sees as anomalous, and attributable to changes in census methodology in 2001, and again in 2006. This is key, because it provides the entire basis for Lauster's rejection of my methodology, using the census data. First off, let's look at Lauster's graph. Right off the bat, I have to point out how this graph has been constructed in a very misleading manner. Each census year on Lauster's graph is represented by a horizontal *space* on the x axis, separated from the next census year with a tick mark. Lauster then shades in his 2001-2006 census band in pink. The problem: this band



is wrong. The points where each line segment changes direction show where each census year should be located (as a *point* along the x axis), and I have placed two black lines on the graph to indicate the true 2001-2006 period.

What does this do to our understanding of this problematic 'dramatic drop' in occupancy rates between 2001-2006 that concerns Lauster? Well, the drop is still there, somewhat, for certain cities—and we'll investigate how much we can attribute this to changes in census methodology—but once you

get rid of Lauster's erroneous demarcation of the 2001-2006 period (exaggerating the 2001-2006 drop by including his calculated drops in occupancy in each shoulder period around this five-year span), you see that it is not so anomalous at all. Just looking at the period of my study, 2001-2016, you can see that for many Canadian cities the drop in occupancy rates continued after the 2006 changes in census methodology which Lauster says are the cause of the 2001-2006 difference, while occupancy rates stabilized in others, then dipped again by 2016. Clearly there was no long-lasting, systematic, effect of the census changes in 2006—if there was any effect at all to begin with.

Compounding the problem, Lauster's occupancy rates for many of these cities—and changes in them between 2001-2006—are wrong. Here's the actual 2001-2006 data for the 14 cities he tracks in his graph:

Table 1: Dwellings, Usual Residents, and Occupancy Rates, Select CMAs, 2001 and 2006

	2001 Census			2006 Census		
CMA:	Total Dwellings	Occupied-Usual Resid.	Occupancy %	Total Dwellings	Occupied-Usual Resid.	Occupancy %
Toronto	1,671,087	1,634,755	97.8	1,894,436	1,801,071	95.1
Montreal	1,473,491	1,417,360	96.2	1,593,502	1,525,629	95.7
Vancouver	786,277	758,710	96.5	870,992	817,033	93.8
Ottawa	430,740	415,940	96.6	478,242	449,031	93.9
Calgary	368,532	356,370	96.7	433,616	415,592	95.8
Edmonton	371,908	356,515	95.9	426,132	405,311	95.1
Quebec	310,826	295,105	94.9	332,306	316,533	95.3
Winnipeg	280,280	269,985	96.3	291,903	281,745	96.5
Hamilton	260,968	253,080	97.0	279,246	266,377	95.4
London	183,648	173,125	94.3	198,144	184,946	93.3
Kitchener	158,735	153,275	96.6	177,879	169,063	95.0
St. Cath./Niagara	159,032	150,870	94.9	166,526	156,386	93.9
Halifax	153,353	144,435	94.2	166,757	155,138	93.0
Victoria	141,985	135,600	95.5	155,224	145,388	93.7

Source: Statistics Canada 2001; 2006.

As you can see by comparing the table of occupancy rates for 2001 with the Lauster's graph, clearly the latter is wrong on several accounts—even though picking out many cities in his graph, particularly those shown with the gray lines, is almost impossible. Toronto and Vancouver look correct. However, any city like Montreal (represented at over 99% occupancy in 2001!) with a 2001 occupancy rate > 98% on the graph is erroneously reported. As well, not all of these 14 CMAs had drops in occupancy rates between 2001 and 2006. See below: Quebec and Winnipeg had rates that slightly increased over this

Table 2: Change in Occupancy Rates, Select CMAs, 2001 - 2006

CMA:	2001 Occupancy Rate %	2006 Occupancy Rate %	Change 2001-2006
Toronto	97.8	95.1	-2.7
Montreal	96.2	95.7	-0.5
Vancouver	96.5	93.8	-2.7
Ottawa	96.6	93.9	-2.7
Calgary	96.7	95.8	-0.9
Edmonton	95.9	95.1	-0.8
Quebec	94.9	95.3	+0.4
Winnipeg	96.3	96.5	+0.2
Hamilton	97.0	95.4	-1.6
London	94.3	93.3	-1.0
Kitchener	96.6	95.0	-1.6
St. Cath./Niagara	94.9	93.9	-1.0
Halifax	94.2	93.0	-1.2
Victoria	95.5	93.7	-1.8

Source: Calculated from Statistics Canada 2001; 2006.

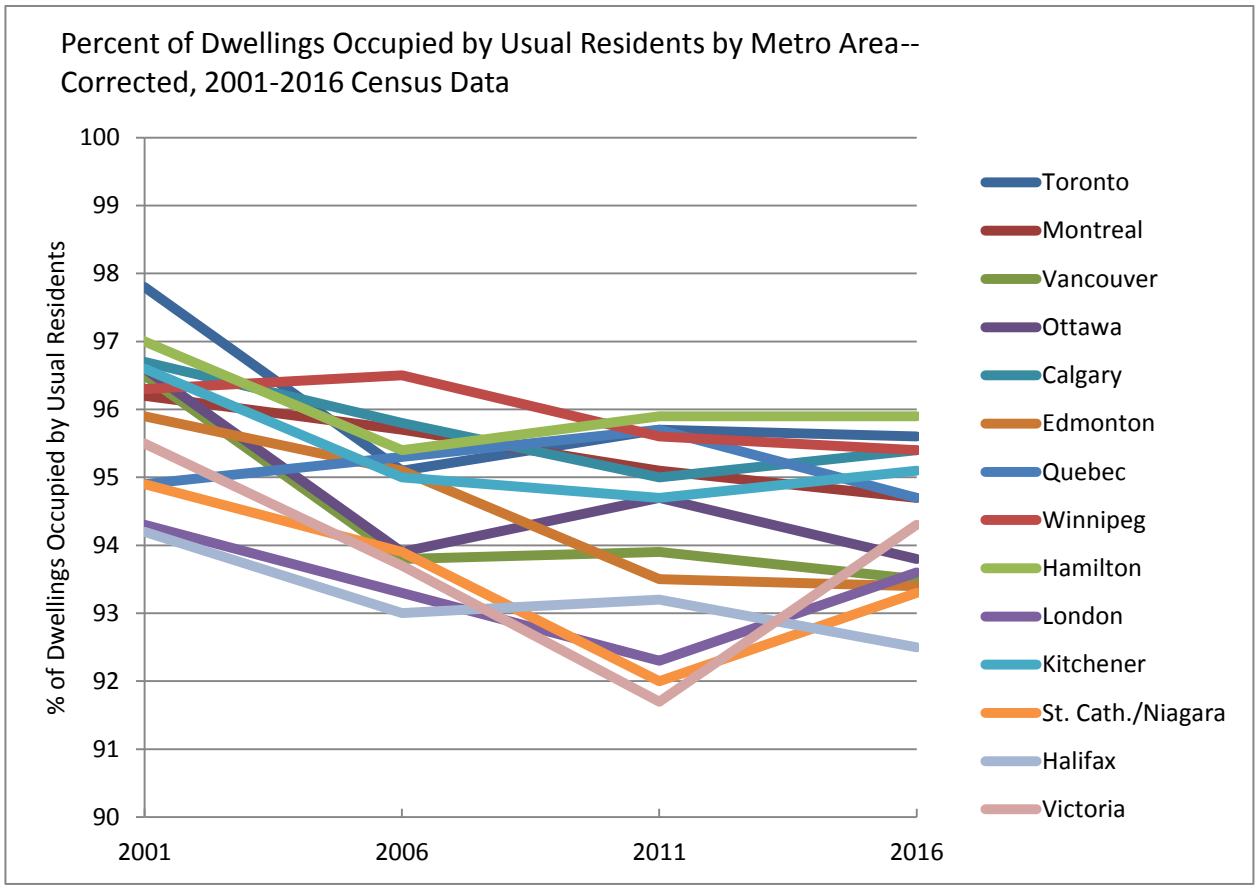
time—not shown at all on Lauster's graph, which has every CMA dropping. The net effect of Lauster's processing (I'll be kind) of the data here is to suggest that there is some big red flag that should make us question the whole use of the census data, when in reality, significant drops in occupancy were not found across the board, but were focused on just a handful of CMAs: Toronto, Vancouver, and Ottawa. To help the reader visualize this, I have included below the corrected chart that covers the period relevant to my study, 2001-2016 (for your reference, metro Vancouver's line is the darker green one, near the bottom of the chart).

So what of these census methodology changes whose purported impacts on the dwelling and occupancy counts are now entirely dubious? Helpfully, Lauster provides links to the census notes that indicate changes in methodology for 2001 (two links!) and 2006, so that we can see for ourselves the stated effect that these changes have on housing and occupancy counts. Let's look at the 2001 link first, even though we will see that what it has to say is immaterial to my study. Click on it, locate the info about data comparability and, lo and behold, we do see that there is a caution about the dwelling counts:

> For 2001, the count of total dwellings in some areas is substantially higher than reported for the 1996 Census of Canada. The increase in the total number of dwellings between 1996 and 2001 is directly linked to our efforts to improve the coverage of seasonal dwellings. . .

> ***Care should be exercised in comparing the 2001 counts of total dwellings (including both occupied and unoccupied) with dwelling counts from the 1996 and earlier population and dwelling count release***. (***emphasis added by me***)

A few takeaways: for one, the change in 2001 methodology (in which seasonal dwellings were counted as regular private dwellings due to the removal of a year-round drinking water criterion) *does* seem to create concerns about comparing 2001 housing counts with those from 1996 and earlier, at least for certain places where seasonal dwellings like cottages and cabins are a significant share of the



Source: Calculated from Statistics Canada, 2001; 2006; 2011; 2016.

housing stock. One can well imagine, moreover, that a good many of these seasonal dwellings were counted as unoccupied dwellings on census day. **Good thing my study only went back to 2001 and not 1996, so this observation is completely irrelevant to my analysis!** Why does Lauster focus on this change in census methodology since it affects comparisons with a period of time (1996-2001) that's not even part of my study? I will agree with Lauster's admiration for Statistics Canada's meticulous attention to detail, and for how this government agency is extraordinarily conscientious in cautioning people about the effects of apparently minor changes in census methodology on significant census variables, as we have seen with the 2001 data note that Lauster has so usefully linked for us.

So, with that out of the way, let's turn to the changes in 2006 census methodology which may be relevant to my study. Clicking on the 2006 link Lauster has provided, and scrolling down the page to 'Data Comparability', we read:

> Improvements to the enumeration process have resulted in a better identification of hard-to-find dwellings such as basement apartments. As a result, structures that may have been classified in previous censuses as single-detached houses because there was no outside sign of an apartment are more likely be classified as apartments– either in a duplex or a building that has fewer than five storeys, as appropriate.

That is interesting: enumeration methods may capture more dwellings like basement suites that could have been missed before. As we have seen from the 2001 census note Lauster has linked, Statistics Canada is pretty scrupulous in highlighting the potential overall impacts of such changes on key variables like total dwelling counts, occupancy counts, and counts of unoccupied dwellings. Hell, they were issuing warnings in 2001 about data comparability based on the impacts of *cottages and cabins* on the total dwelling counts! So what do they have to say about the impact of these new, 2006, enumeration methods on housing counts?:

> Concepts and definitions of dwelling variables have not changed from the 2001 Census with the exception of the Structural type of dwelling variable. ***Changes in instructions provided to enumerators and changes to the enumeration process affect the historical comparability of the Structural type of dwelling variable***. Users should take this into consideration when making historical comparisons. . .
>
> ***Comparisons of structural type of dwelling*** data for Canada between the 2001 and 2006 censuses show a ***decrease in share*** for 'single-detached house' (-2.1%), an ***increase in share*** for 'apartment or flat in a duplex' (+1.8%) and an ***increase in share*** for 'apartment in a building that has fewer than five storeys' (+0.4%). These changes are a combined result of the additional classification instructions, improvements to the enumeration process, and real changes that have occurred since the 2001 Census. The contribution of each of these three factors cannot be determined. (***emphasis added by me***)

Nothing. Statistics Canada has <u>nothing</u> to say about any impact on the overall dwelling counts and comparability of such counts across census years, <u>nor</u> do they note any impact of these revised methods of dwelling categorization on the counts of occupied and unoccupied dwellings. Yet Lauster implies that they do and executes a huge logical leap to state that these changes in the enumeration methods 'explain' the lower occupancy rates witnessed in markets such as that of metro Vancouver between 2001-2006. What is the empirical basis for this (now that Lauster's chart has been shown to be deeply flawed)? *Suppositions* that the growth in dwellings was significantly impacted by counting basement suites, and that—most significantly—people in basement suites are <u>undercounted</u> more than those in other dwelling types?

I would say that these are very shaky grounds upon which to dismiss my use of the publicly-available census data to examine the 'supply myth' of housing affordability, particularly from someone who has characterized my study as "not high quality, either theoretically or methodologically." I do not believe,

based on my detailed review of Lauster's two blog posts, that there has been any credible challenge mounted to my methodology or my findings, which have very explicitly presented figures on net additions of housing units relative to net additions of households. I take it as a compliment that **the entire critique of my research hinges on two Statistics Canada census notes: one that doesn't even apply to the period of my study, and the other which highlights the need to be cautious when comparing dwelling <u>types</u> from 2006 to previous periods**.